

PRINCIPLES

RAY DALIO

“Ray Dalio has provided me with invaluable guidance and insights that are now available to you in *Principles*.”

—BILL GATES

“I found it to be truly extraordinary. Every page is full of so many principles of distinction and insights—and I love how Ray incorporates his history and his life in such an elegant way.”

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PRINCIPLES

RAY DALIO

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**To Barbara, the half of me who has made me whole for more than
forty years.**

INTRODUCTION

Before I begin telling you what I think, I want to establish that I'm a "dumb shit" who doesn't know much relative to what I need to know. Whatever success I've had in life has had more to do with my knowing how to deal with my *not* knowing than anything I know. The most important thing I learned is an approach to life based on principles that helps me find out what's true and what to do about it.

I'm passing along these principles because I am now at the stage in my life in which I want to help others be successful rather than to be more successful myself. Because these principles have helped me and others so much, I want to share them with you. It's up to you to decide how valuable they really are and what, if anything, you want to do with them.

Principles are fundamental truths that serve as the foundations for behavior that gets you what you want out of life. They can be applied again and again in similar situations to help you achieve your goals.

Every day, each of us is faced with a blizzard of situations we must respond to. Without principles we would be forced to react to all the things life throws at us individually, as if we were experiencing each of them for the first time. If instead we classify these situations into types and have good principles for dealing with them, we will make better decisions more quickly and have better lives as a result. Having a good set of principles is like having a good collection of recipes for success. All successful people operate by principles that help them be successful, though what they choose to be successful at varies enormously, so their principles vary.

To be principled means to consistently operate with principles that can be clearly explained. Unfortunately, most people can't do that. And it's very rare for people to write their principles down and share them. That is a shame. I would love to know what principles guided Albert Einstein, Steve Jobs, Winston Churchill, Leonardo da Vinci, and others so I could clearly understand what they were going after and how they achieved it and could

compare their different approaches. I'd like to know which principles are most important to the politicians who want me to vote for them and to all the other people whose decisions affect me. Do we have common principles that bind us together—as a family, as a community, as a nation, as friends across nations? Or do we have opposing principles that divide us? What are they? Let's be specific. This is a time when it is especially important for us to be clear about our principles.

My hope is that reading this book will prompt you and others to discover your own principles from wherever you think is best and ideally write them down. Doing that will allow you and others to be clear about what your principles are and understand each other better. It will allow you to refine them as you encounter more experiences and to reflect on them, which will help you make better decisions and be better understood.

HAVING YOUR OWN PRINCIPLES

We come by our principles in different ways. Sometimes we gain them through our own experiences and reflections. Sometimes we accept them from others, like our parents, or we adopt holistic packages of principles, such as those of religions and legal frameworks.

Because we each have our own goals and our own natures, each of us must choose our own principles to match them. While it isn't necessarily a bad thing to use others' principles, adopting principles without giving them much thought can expose you to the risk of acting in ways inconsistent with your goals and your nature. At the same time, you, like me, probably don't know everything you need to know and would be wise to embrace that fact. If you can think for yourself while being open-minded in a clearheaded way to find out what is best for you to do, and if you can summon up the courage to do it, you will make the most of your life. If you can't do that, you should reflect on why that is, because that's most likely your greatest impediment to getting more of what you want out of life.

That brings me to my first principle:

- **Think for yourself to decide 1) what you want, 2) what is true, and 3) what you should do to achieve**

#1 in light of #2 . . .

. . . and do that with humility and open-mindedness so that you consider the best thinking available to you. Being clear on your principles is important because they will affect all aspects of your life, many times a day. For example, when you enter into relationships with others, your principles and their principles will determine how you interact. People who have shared values and principles get along. People who don't will suffer through constant misunderstandings and conflicts. Think about the people you are closest to: Are their values aligned with yours? Do you even know what their values or principles are? Too often in relationships, people's principles aren't clear. This is especially problematic in organizations where people need to have shared principles to be successful. Being crystal clear about my principles is why I labored so much over every sentence in this book.

The principles you choose can be anything you want them to be as long as they are authentic—i.e., as long as they reflect your true character and values. You will be faced with millions of choices in life, and the way you make them will reflect the principles you have—so it won't be long before the people around you will be able to tell the principles you are really operating by. The worst thing you can be is a phony, because if you're a phony you will lose people's trust and your own self-respect. So you must be clear about your principles and then you must "walk the talk." If inconsistencies seem to exist, you should explain them. It's best to do that in writing because by doing so, you will refine your written principles.

While I will be sharing my own principles, I want to make clear to you that I don't expect you to follow them blindly. On the contrary, I want you to question every word and pick and choose among these principles so you come away with a mix that suits you.

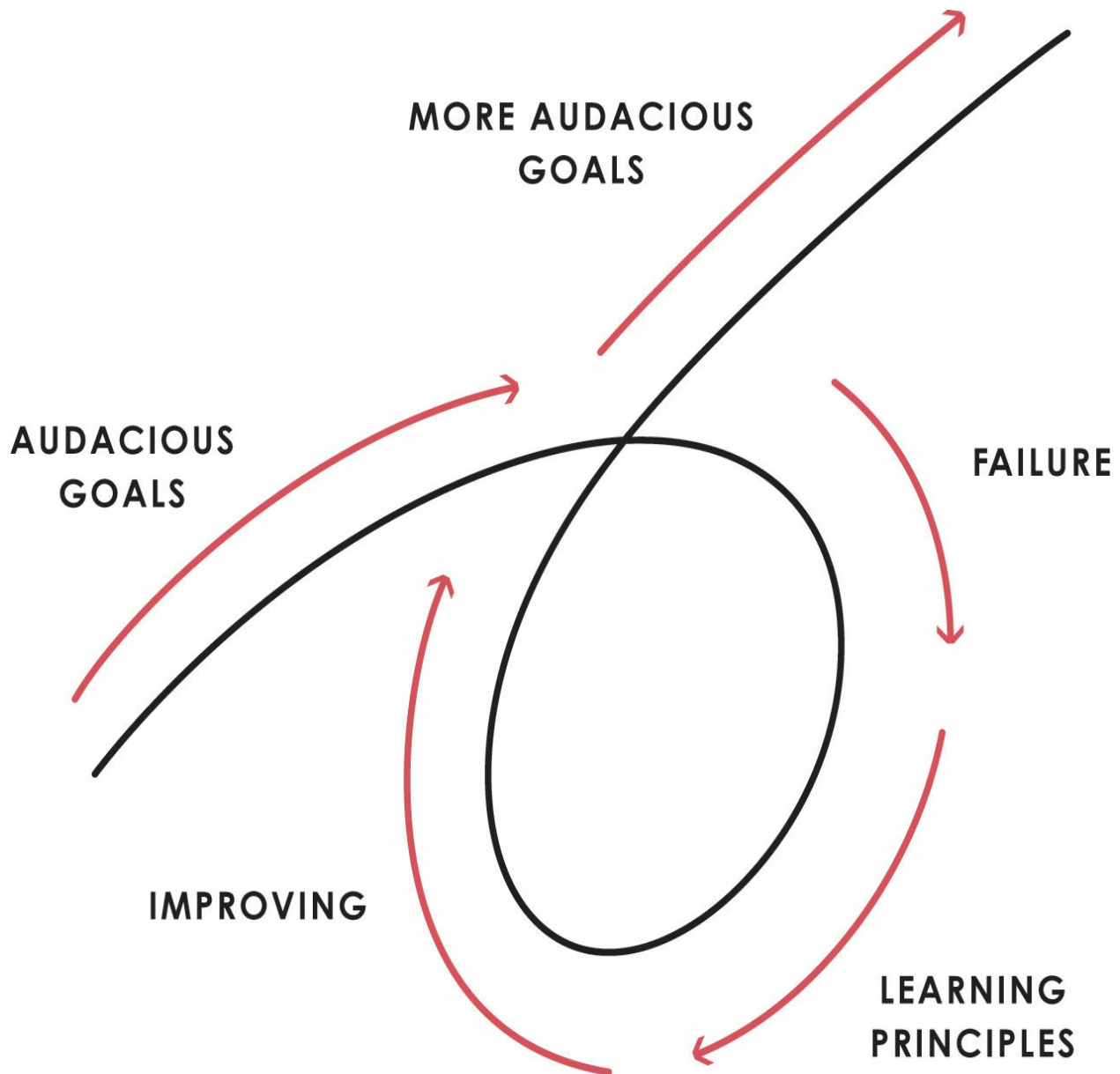
MY PRINCIPLES AND HOW I LEARNED THEM

I learned my principles over a lifetime of making a lot of mistakes and spending a lot of time reflecting on them. Since I was a kid, I've been a curious, independent thinker who ran after audacious goals. I got excited about visualizing things to go after, had some painful failures going after them, learned principles that would prevent me from making the same sort of

mistakes again, and changed and improved, which allowed me to imagine and go after even more audacious goals and do that rapidly and repeatedly for a long time. So to me life looks like the sequence you see on the opposite page.

I believe that the key to success lies in knowing how to both strive for a lot and fail well. By failing well, I mean being able to experience painful failures that provide big learnings without failing badly enough to get knocked out of the game.

This way of learning and improving has been best for me because of what I'm like and because of what I do. I've always had a bad rote memory and didn't like following other people's instructions, but I loved figuring out how things work for myself. I hated school because of my bad memory but when I was twelve I fell in love with trading the markets. To make money in the markets, one needs to be an independent thinker who bets against the consensus and is right. That's because the consensus view is baked into the price. One is inevitably going to be painfully wrong a lot, so knowing how to do that well is critical to one's success. To be a successful entrepreneur, the same is true: One also has to be an independent thinker who correctly bets against the consensus, which means being painfully wrong a fair amount. Since I was both an investor and an entrepreneur, I developed a healthy fear of being wrong and figured out an approach to decision making that would maximize my odds of being right.



- Make believability-weighted decisions.

My painful mistakes shifted me from having a perspective of “I know I’m right” to having one of “How do I know I’m right?” They gave me the humility I needed to balance my audacity. Knowing that I could be painfully wrong and curiosity about why other smart people saw things differently prompted me to look at things through the eyes of others as well as my own. That allowed me to see many more dimensions than if I saw things just through my own eyes. Learning how to weigh people’s inputs so that I chose

the best ones—in other words, so that I believability weighted my decision making—increased my chances of being right and was thrilling. At the same time, I learned to:

- Operate by principles . . .

. . . that are so clearly laid out that their logic can easily be assessed and you and others can see if you walk the talk. Experience taught me how invaluable it is to reflect on and write down my decision-making criteria whenever I made a decision, so I got in the habit of doing that. With time, my collection of principles became like a collection of recipes for decision making. By sharing them with the people at my company, Bridgewater Associates, and inviting them to help me test my principles in action, I continually refined and evolved them. In fact, I was able to refine them to the point that I could see how important it is to:

- Systemize your decision making.

I discovered I could do that by expressing my decision-making criteria in the form of algorithms that I could embed into our computers. By running both decision-making systems—i.e., mine in my head and mine in the computer—next to each other, I learned the computer could make better decisions than me because it could process vastly more information than I could, and it could do it faster and unemotionally. Doing that allowed me and the people I worked with to compound our understanding over time and improve the quality of our collective decision making. I discovered that such decision-making systems—especially when believability weighted—are incredibly powerful and will soon profoundly change how people around the world make all kinds of decisions. Our principle-driven approach to decision making has not only improved our economic, investment, and management decisions, it has helped us make better decisions in every aspect of our lives.

Whether or not your own principles are systemized/computerized is of secondary importance. The most important thing is that you develop your own principles and ideally write them down, especially if you are working with others.

It was that approach and the principles it yielded, and not me, that took me from being an ordinary middle-class kid from Long Island to being successful by a number of conventional measures—like starting a company out of my two-bedroom apartment and building it into the fifth most important private company in the U.S. (according to *Fortune*), becoming one of the one hundred richest people in the world (according to *Forbes*), and being considered one of the one hundred most influential (according to *Time*). They led me to a perch from which I got to see success and life very differently than I had imagined, and they gave me the meaningful work and meaningful relationships I value even more than my conventional successes. They gave me and Bridgewater far more than I ever dreamed of.

Until recently, I didn't want to share these principles outside of Bridgewater because I don't like public attention and because I thought it would be presumptuous to tell others what principles to have. But after Bridgewater successfully anticipated the financial crisis of 2008–09, I got a lot of media attention and so did my principles and Bridgewater's unique way of operating. Most of those stories were distorted and sensationalistic, so in 2010, I posted our principles on our website so people could judge them for themselves. To my surprise, they were downloaded over three million times and I was flooded with thank-you letters from all over the world.

I will give them to you in two books—Life and Work Principles in one book, and Economic and Investment Principles in the other.

HOW THESE BOOKS ARE ORGANIZED

Since I have spent most of my adult life thinking about economies and investing, I considered writing Economic and Investment Principles first. *But* I decided to begin with my Life and Work Principles because they're more overarching and I've seen how well they work for people, independent of their careers. Since they go so well together, they are combined here in one book prefaced by a short autobiography, *Where I'm Coming From*.

Part I: Where I'm Coming From

In this part, I share some of the experiences—most importantly, my mistakes—that led me to discover the principles that guide my decision making. To tell you the truth, I still have mixed feelings about telling my personal story, because I worry that it might distract you from the principles themselves and

from the timeless and universal cause-effect relationships that inform them. For that reason, I wouldn't mind if you decided to skip this part of the book. If you do read it, try to look past me and my particular story to the logic and merit of the principles I describe. Think about them, weigh them, and decide how much, if at all, they apply to you and your own life circumstances—and specifically, whether they can help you achieve your goals, whatever they may be.

Part II: Life Principles

The overarching principles that drive my approach to everything are laid out in Life Principles. In this section, I explain my principles in greater depth and show how they apply in the natural world, in our private lives and relationships, in business and policymaking, and of course at Bridgewater. I'll share the 5-Step Process I've developed for achieving one's goals and making effective choices; I'll also share some of the insights I've gained into psychology and neuroscience and explain how I've applied them in my private life and in my business. This is the real heart of the book because it shows how these principles can be applied to most anything by most anyone.

Part III: Work Principles

In Work Principles, you'll get a close-up view of the unusual way we operate at Bridgewater. I will explain how we've coalesced our principles into an idea meritocracy that strives to deliver meaningful work and meaningful relationships through *radical truth* and *radical transparency*. I'll show you how this works at a granular level and how it can be applied to nearly any organization to make it more effective. As you will see, we are simply a group of people who are striving to be excellent at what we do and who recognize that we don't know much relative to what we need to know. We believe that thoughtful, unemotional disagreement by independent thinkers can be converted into believability-weighted decision making that is smarter and more effective than the sum of its parts. Because the power of a group is so much greater than the power of an individual, I believe these work principles are even more important than the life principles on which they're based.

What Will Follow This Book

This print book will be followed by an interactive book in the form of an app that will take you into videos and immersive experiences so that your

learning is more experiential. The app will also get to know you through your interactions with it in order to provide you with more personalized advice.

This book and the app will be followed by another volume containing two other parts, Economic and Investment Principles, in which I will pass along the principles that have worked for me and that I believe might help you in these areas.

After that, there will be no advice I can give that will not be available in these two books, and I will be done with this phase of my life.

Think for yourself!

1) What do you want?

2) What is true?

**3) What are you going
to do about it?**

PART I

**WHERE I'M COMING
FROM**

Time is like a river that carries us forward into encounters with reality that require us to make decisions. We can't stop our movement down this river and we can't avoid those encounters. We

**can only approach them in the best
possible way.**

When we are children, other people, typically our parents, guide us through our encounters with reality. As we get older, we begin to make our own choices. We choose what we are going after (our goals), and that influences our paths. If you want to be a doctor, you go to medical school; if you want to have a family, you find a mate; and so on. As we move toward these goals, we encounter problems, make mistakes, and run up against our own personal weaknesses. We learn about ourselves and about reality and make new decisions. Over the course of our lives, we make millions and millions of decisions that are essentially bets, some large and some small. It pays to think about how we make them because they are what ultimately determine the quality of our lives.

We are all born with different thinking abilities but we aren't born with decision-making skills. We learn them from our encounters with reality. While the path I went down is unique—being born to particular parents, pursuing a particular career, having particular colleagues—I believe that the principles I learned along the way will work equally well for most people on most paths. As you read my story, try to look through it and me to the underlying cause-and-effect relationships—at the choices I made and their consequences, what I learned from them, and how I changed the ways I make decisions as a result. Ask yourself what you want, seek out examples of other people who got what they wanted, and try to discern the cause-and-effect patterns behind their achievements so you can apply them to help you achieve your own goals.

To help you understand where I'm coming from, I am giving you an unvarnished account of my life and career, placing special emphasis on my mistakes and weaknesses and the principles I learned from them.

CHAPTER 1

MY CALL TO ADVENTURE:

1949–1967

I was born in 1949 and grew up in a middle-class Long Island neighborhood, the only son of a professional jazz musician and a stay-at-home mom. I was an ordinary kid in an ordinary house and a worse-than-ordinary student. I loved playing around with my pals—touch football in the streets and baseball in a neighbor’s backyard when I was young, and chasing girls when I got older.

Our DNA gives us our innate strengths and weaknesses. My most obvious weakness was my bad rote memory. I couldn’t, and still can’t, remember facts that don’t have reasons for being what they are (like phone numbers), and I don’t like following instructions. At the same time, I was very curious and loved to figure things out for myself, though that was less obvious at the time.

I didn’t like school, not just because it required a lot of memorization, but because I wasn’t interested in most of the things my teachers thought were important. I never understood what doing well in school would get me other than my mother’s approval.

My mother adored me and worried about my poor grades. Up until middle school, she would make me go to my room and study for a couple of hours before going out to play, but I couldn’t bring myself to do it. She was always there for me. She folded and rubber-banded the newspapers I delivered and baked cookies for the two of us to eat while we watched horror movies together on Saturday nights. She died when I was nineteen. At the time, I couldn’t imagine ever laughing again. Now when I think of her I smile.

My dad worked very late hours as a musician—until about three in the morning—so he slept late on weekends. As a result, we didn’t have much of a relationship when I was young other than him constantly nagging me to

take care of chores like mowing the lawn and cutting the hedges, which I hated. He was a responsible man dealing with an irresponsible kid. Memories of how we interacted seem funny to me today. For example, one time he told me to cut the grass and I decided to do just the front yard and postpone doing the back, but then it rained for a couple of days and the backyard grass became so high I had to cut it with a sickle. That took so long that by the time I was finished, the front yard was too high to mow, and so on.

After my mother died, my dad and I became very close, especially when I started my own family. I both liked and loved him. He had a casual, fun way about him the way musicians tend to, and I admired his strong character, which I assume came from living through the Great Depression and fighting in both World War II and the Korean War. I have memories of him from when he was in his seventies, not hesitating to drive through big snowstorms, shoveling himself out whenever he got stuck like it was no big deal. After playing in clubs and cutting records for most of his life, he began a second career in his midsixties, teaching music in high school and at a local community college, which he continued until he had a heart attack at eighty-one. He lived another decade after that, as sharp as ever mentally.

When I didn't want to do something, I would fight it, but when I was excited about something, nothing could hold me back. For example, while I resisted doing chores at home, I eagerly did them outside the house to earn money. Starting at age eight, I had a newspaper route, shoveled snow off people's driveways, caddied, bussed tables and washed dishes at a local restaurant, and stocked shelves at a nearby department store. I don't remember my parents encouraging me to do these jobs so I can't say how I came by them. But I do know that having those jobs and having some money to handle independently in those early years taught me many valuable lessons I wouldn't have learned in school or at play.

In my early years the psychology of the 1960s U.S. was aspirational and inspirational—to achieve great and noble goals. It was like nothing I have seen since. One of my earliest memories was of John F. Kennedy, an intelligent, charismatic man who painted vivid pictures of changing the world for the better—exploring outer space, achieving equal rights, and eliminating poverty. He and his ideas had a major effect on my thinking.

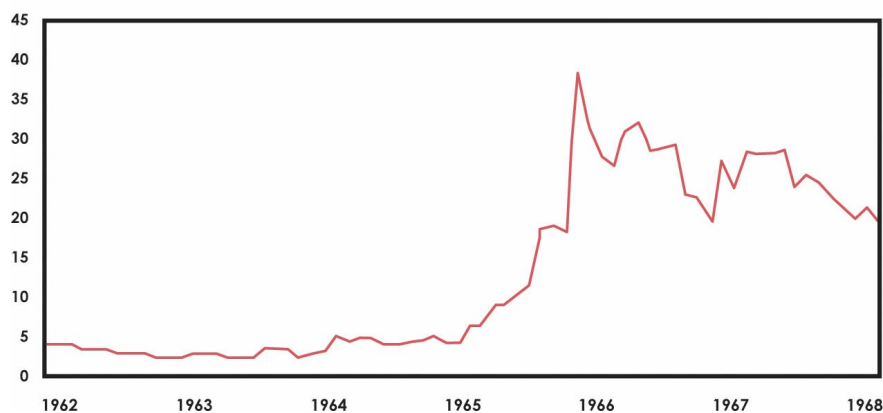
The United States was then at its peak relative to the rest of the world, accounting for 40 percent of its economy compared to about 20 percent today; the dollar was the world's currency; and the U.S. was the dominant

military power. Being “liberal” meant being committed to moving forward in a fast and fair way, while being “conservative” meant being stuck in old and unfair ways—at least that’s how it seemed to me and to most of the people around me. As we saw it, the U.S. was rich, progressive, well managed, and on a mission to improve quickly at everything. I might have been naive but I wasn’t alone.

In those years, everyone was talking about the stock market, because it was doing great and people were making money. This included the people playing at a local golf course called Links where I started caddying when I was twelve. So I took my caddying money and started playing the stock market. My first investment was in Northeast Airlines. I bought it because it was the only company I’d heard of that was selling for less than \$5 a share. I figured the more shares I bought, the more money I would make. That was a dumb strategy, but I tripled my money. Northeast Airlines was actually about to go broke and another company acquired it. I got lucky, but I didn’t know it at the time. I just thought making money in the markets was easy, so I was hooked.

In those days, *Fortune* magazine had a little tear-out coupon you could mail in to get free annual reports from Fortune 500 companies. I ordered them all. I can still remember watching the mailman unhappily lugging all those reports to our door, and I dug into every one of them. That was how I began building an investment library. As the stock market continued to climb, World War II and the Depression seemed like distant memories and investing seemed like simply a matter of buying anything and watching it go up. It would certainly go up, the common knowledge held, because managing the economy had developed into a science. After all, stocks had nearly quadrupled over the previous ten years, and some had done much better than that.

NORTHEAST AIRLINES EQUITY PRICE



As a result, “dollar-cost averaging”—investing essentially the same dollar amount in the market every month, no matter how few or many shares it could buy—was the strategy most people followed. Of course, picking the best stocks was even better, so that’s what I and everyone else tried to do. There were thousands to choose from, all neatly listed on the last few pages of the newspaper.

While I liked playing the markets, I also loved playing around with my friends, whether in the neighborhood when I was a kid, using fake IDs to get into bars when we were teens, or, nowadays, going to music festivals and on scuba-diving trips together. I’ve always been an independent thinker inclined to take risks in search of rewards—not just in the markets, but in most everything. I also feared boredom and mediocrity much more than I feared failure. For me, great is better than terrible, and terrible is better than mediocre, because terrible at least gives life flavor. The high school yearbook quote my friends chose for me was from Thoreau: “If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away.”

In 1966, my senior year of high school, the stock market was still booming and I was making money and having a blast, cutting school with my best friend Phil to go surfing, and doing what fun-loving high school boys usually do. Of course I didn’t know it then, but that year was to be the stock market’s top. After that, almost everything I thought I knew about the markets was proven wrong.

1 A surprise simultaneous attack by the North Vietnamese on more than one hundred cities and towns in South Vietnam.

CHAPTER 2

CROSSING THE THRESHOLD:

1967–1979

I came into this period with the biases I had picked up from my experiences and the people around me. In 1966, asset prices reflected investors' optimism about the future. But between 1967 and 1979, bad economic surprises led to big and unexpected price declines. Not just the economy and the markets but social sentiment deteriorated as well. Living through that taught me that while almost everyone expects the future to be a slightly modified version of the present, it is usually very different. But I didn't know that in 1967. Certain that stocks would eventually rebound, I kept buying them, even as the market fell and I lost money until I figured out what was going wrong and how to deal with it. I gradually learned that prices reflect people's expectations, so they go up when actual results are better than expected and they go down when they are worse than expected. And most people tend to be biased by their recent experiences.

That fall, I started at a local college, C. W. Post. I got in on probation because of my C average in high school. But unlike high school, I loved college because I could learn about things that interested me, not because I had to, so I got great grades. I also loved living away from home and having independence.

Learning to meditate helped too. When the Beatles visited India in 1968 to study Transcendental Meditation at the ashram of Maharishi Mahesh Yogi, I was curious to learn it, so I did. I loved it. Meditation has benefited me hugely throughout my life because it produces a calm open-mindedness that allows me to think more clearly and creatively.

I majored in finance in college because of my love for the markets and because that major had no foreign language requirement—so it allowed me to learn what I was interested in, both inside and outside class. I learned a lot

about commodity futures from a very interesting classmate, a Vietnam veteran quite a bit older than me. Commodities were attractive because they could be traded with very low margin requirements, meaning I could leverage the limited amount of money I had to invest. If I could make winning decisions, which I planned to do, I could borrow more to make more. Stock, bond, and currency futures didn't exist back then. Commodity futures were strictly real commodities like corn, soybeans, cattle, and hogs. So those were the markets I started to trade and learn about.

My college years coincided with the era of free love, mind-expanding drug experimentation, and rejection of traditional authority. Living through it had a lasting effect on me and many other members of my generation. For example, it deeply impacted Steve Jobs, whom I came to empathize with and admire. Like me, he took up meditation and wasn't interested in being taught as much as he loved visualizing and building out amazing new things. The times we lived in taught us both to question established ways of doing things—an attitude he demonstrated superbly in Apple's iconic "1984" and "Here's to the Crazy Ones," which were ad campaigns that spoke to me.

For the country as a whole, those were difficult years. As the draft expanded and the numbers of young men coming home in body bags soared, the Vietnam War split the country. There was a lottery based on birthdates to determine the order of those who would be drafted. I remember listening to the lottery on the radio while playing pool with my friends. It was estimated that the first 160 or so birthdays called would be drafted, though they read off all 366 dates. My birthday was forty-eighth.

I wasn't smart enough to be afraid of going to war because I naively thought nothing bad could happen to me, but I didn't want to go because I was charging forward with my life and to put it on hold for two years seemed like an eternity. My dad, though, was adamantly against the war and hell-bent against me going, even though he had believed in and fought in the prior two wars. He had me examined by a doctor who discovered I had hypoglycemia, which gave me an exemption. When I look back on that, I see that I got out of serving on a technicality—that my dad was essentially helping me dodge the draft—which now gives me mixed feelings. I feel guilty I didn't do my part, relieved I didn't experience the harmful consequences so many others suffered from the war, and appreciative of my dad for the love behind his effort to protect me. I have no idea what I'd do if I were faced with the same situation today.

As America's politics and economy deteriorated, the country's mood became depressed. The Tet Offensive in January 1968¹ seemed to convey the U.S. was losing the war; that same year Lyndon Johnson decided not to run for a second term and Richard Nixon was elected, beginning an even more difficult era. At the same time, France's president Charles de Gaulle was turning in his country's dollars for gold because he was concerned the U.S. was printing money to finance its spending. Watching the news and the market move together, I began to see the whole picture and understand the cause-effect relationship between the two.

Around 1970 or 1971, I noticed gold was starting to tick up in world markets. Until then, like most people, I hadn't paid much attention to currency rates because the currency system had been stable throughout my lifetime. But as currency events increasingly appeared in the news, they caught my attention. I learned that other currencies were fixed against the dollar, that the dollar was fixed against gold, that Americans weren't allowed to own gold (though I wasn't sure why), and that other central banks could convert their paper dollars into gold, which was how they were assured that they wouldn't be hurt if the U.S. printed too many dollars. I heard our government officials pooh-pooh the worries about the dollar and the excitement about gold, assuring us that the dollar was sound and that gold was just an archaic metal. Speculators were behind the rising gold prices, they said, and they would get burned once things settled down. Back then, I still assumed that government officials were honest.

In the spring of 1971, I graduated college with a nearly perfect grade point average, which got me into Harvard Business School. The summer before I started at HBS, I got a job as a clerk on the floor of the New York Stock Exchange. By midsummer, the dollar problem began to reach a breaking point. There were reports that Europeans wouldn't accept dollars from American tourists. The global monetary system was in the process of breaking down, but that wasn't clear to me quite yet.

Then, on Sunday, August 15, 1971, President Nixon went on television to announce that the U.S. would renege on its promise to allow dollars to be turned in for gold, which led the dollar to plummet. Since government officials had promised not to devalue the dollar, I listened with amazement as he spoke. Instead of addressing the fundamental problems behind the pressure on the dollar, he continued to blame speculators, crafting his words to make it sound like he was moving to support the dollar while his actions

were doing just the opposite. “Floating it,” as Nixon was doing, and then letting it sink like a stone, looked a lot like a lie to me. Over the decades since, I’ve repeatedly seen policymakers deliver such assurances immediately before currency devaluations, so I learned not to believe government policymakers when they assure you that they won’t let a currency devaluation happen. The more strongly they make those assurances, the more desperate the situation probably is, so the more likely it is that a devaluation will take place.

As I listened to Nixon speak, I wondered what those developments meant. Money as we’d known it—a claim check to get gold—no longer existed. That couldn’t be good. It seemed clear to me that the era of promise that Kennedy had personified was unraveling.

Monday morning I walked onto the floor of the exchange expecting pandemonium. There was pandemonium all right, but not the sort I expected: Instead of falling, the stock market jumped about 4 percent, a significant daily gain.

To try to understand what was happening, I spent the rest of that summer studying past currency devaluations. I learned that everything that was going on—the currency breaking its link to gold and devaluing, the stock market soaring in response—had happened before, and that logical cause-effect relationships made those developments inevitable. My failure to anticipate this, I realized, was due to my being surprised by something that hadn’t happened in my lifetime, though it had happened many times before. The message that reality was conveying to me was “You better make sense of what happened to other people in other times and other places because if you don’t you won’t know if these things can happen to you and, if they do, you won’t know how to deal with them.”

Enrolling at Harvard Business School that fall, I was excited about meeting the extraordinarily intelligent people from all over the planet who would be my classmates. And high as my expectations were, the experience was even better. I lived with people from all over the world and we partied together in an exciting, eclectic environment. There was no teacher in front of a blackboard telling us what to remember and no tests to see whether we remembered it. Instead we were given actual case studies to read and analyze. Then we gathered in groups to thrash out what we would do if we were in the shoes of the people in those situations. This was my kind of school!

Meanwhile, thanks to the wave of money printing that had followed the demise of the gold standard, the economy and the stock market were soaring. Stocks were in again in 1972, and the fashion at the time was the Nifty 50. This group of fifty stocks had fast and steady earnings growth and were widely believed to be a sure thing.

As hot as the stock market was, I was more interested in trading commodities, so that spring I begged the director of commodities at Merrill Lynch to give me a summer job. He was surprised because people from places like Harvard Business School weren't typically interested in commodities, which were considered an obscure stepchild of the Wall Street brokerage industry. Up until then, as far as I know, no Harvard Business School student had ever worked in commodity futures anywhere. Most Wall Street firms didn't even have commodity futures divisions, and Merrill Lynch's was small, tucked away on a side street, and furnished with basic metal desks.

A few months later, when I was back for my second year at HBS, the first oil shock began, with prices quadrupling in a matter of months. The U.S. economy slowed, commodity prices soared, and in 1973 the stock market took a dive. Once again, I was blindsided—but in retrospect I could see that the dominoes had fallen in a logical sequence.

In this case, the debt-financed overspending of the 1960s had continued into the early 1970s. The Fed had funded this spending with easy-credit policies, but by paying back its debts with depreciated paper money instead of gold-backed dollars, the U.S. effectively defaulted. Naturally, with all this money printing the dollar plunged in value. That allowed for more easy credit, which led to even more spending. The inflationary surge that followed the breakdown of the currency system sent commodity prices even higher. In response, in 1973, the Fed tightened monetary policy, which is what central banks do when inflation and growth are too strong. This in turn caused the worst decline in stocks and the worst weakening of the economy since the Great Depression. The Nifty 50 were particularly affected, plunging severely.

The lesson? When everybody thinks the same thing—such as what a sure bet the Nifty 50 is—it is almost certainly reflected in the price, and betting on it is probably going to be a mistake. I also learned that for every action (such as easy money and credit) there is a consequence (in this case, higher inflation) roughly proportionate to that action, which causes an

approximately equal and opposite reaction (tightening of money and credit) and market reversals.

I was beginning to see things happening over and over again, which led me to see that most everything is “another one of those”: Most everything has happened repeatedly before for logical cause-effect reasons. Of course, being able to both properly identify which ones of those are happening and to understand the cause-effect relationships behind them remained difficult. Though most everything seemed inevitable and logical in retrospect, nothing was nearly as clear in real time.

Because people chase what’s hot and avoid what’s not, stock investing fell out of favor after 1973 and commodity trading became the thing to do. With my background in commodities and my Harvard MBA, I became a sought-after property. Dominick & Dominick, a middle-sized, hundred-year-old brokerage firm, hired me as director of commodities for \$25,000 a year, which was near the top of what HBS graduate starting salaries were that year. My new boss paired me with an older, experienced guy who had lots of commodities brokerage experience, and we were assigned the task of setting up a commodities division. I was in way over my head, though I was too arrogant to realize it at the time. I probably would have learned a lot of painful lessons had the job continued, but the bad stock market took Dominick & Dominick under before we’d made much progress.

As the economy unraveled, the Watergate scandal dominated the headlines and I saw again how politics and economics intertwine, usually with economics leading. This downward spiral led people to become pessimistic, so they sold their stocks and the market continued to fall. Things couldn’t have gotten much worse but everyone was afraid they would. It was the mirror image of what I’d witnessed in 1966 when the market hit its top, and just as it was then, the consensus was wrong. When people are very pessimistic, they sell out, prices typically get very cheap, and action to improve conditions has to be taken. Sure enough, the Fed eased its monetary policy and stocks hit bottom in December 1974.

At the time, I was single and living in New York; I was having a great time partying with friends from HBS and dating a lot. My roommate was dating a Cuban woman and he set me up on a blind date with one of her friends, an exotic woman from Spain named Barbara who could barely speak English. This wasn’t a problem, because we communicated in different ways. She thrilled me for nearly two years before we moved in together, got

married, had four sons, and shared an amazing life together. She still thrills me but is too private a person for me to say more about her.

While I worked in the brokerage business, I also traded my own account. Though I had many more winning positions than losing ones, I can only recall the losing ones now. I remember one big one when I owned pork bellies. For several days the market for them was limit down—meaning that the price had fallen so low that trading had to be stopped. I later described the impact of this experience to Jack Schwager, the author of *Hedge Fund Market Wizards*:

In those days, we had the big commodity boards, which clicked whenever prices changed. So each morning, on the opening, I would see and hear the market click down 200 points, the daily limit, stay unchanged at that price, and know that I had lost that much more, with the amount of potential additional losses still undefined. It was a very tactile experience . . . [and] it taught me the importance of risk controls, because I never wanted to experience that pain again. It enhanced my fear of being wrong and taught me to make sure that no single bet, or even multiple bets, could cause me to lose more than an acceptable amount. In trading you have to be defensive and aggressive at the same time. If you are not aggressive, you are not going to make money, and if you are not defensive, you are not going to keep money. I believe that anyone who has made money in trading has had to experience horrendous pain at some point. Trading is like working with electricity; you can get an electric shock. With that pork belly trade and other trades, I felt the electric shock and the fear that comes with it.

After Dominick & Dominick closed its retail business, I moved on to a bigger, more successful brokerage firm. During my short stay there, it took over numerous other firms and changed its name several times, eventually becoming Shearson, though Sandy Weill stayed in charge through it all.

Shearson put me in charge of its futures hedging business, which included both commodity futures and financial futures. I was the person helping clients who had price risks in their businesses manage them by using futures. I developed quite an expertise in the grain and livestock markets, which often led me down to West Texas and the agricultural areas of California. The Shearson brokers, cattle producers, and grain dealers I dealt with were great

folks who brought me into their worlds, taking me to honky-tonks, dove hunts, and barbecues. We worked and had a blast together, and I built a second life with them that lasted several years—though my job at Shearson lasted only a bit more than a year.

Much as I loved the job and the people I worked with, I didn't fit into the Shearson organization. I was too wild. For example, as a joke that now seems pretty stupid, I hired a stripper to drop her cloak while I was lecturing at a whiteboard at the California Grain & Feed Association's annual convention. I also punched my boss in the face. Not surprisingly, I was fired.

But the brokers, their clients, and even the ones who fired me liked me and wanted to keep getting my advice. Even better, they were willing to pay me for it, so in 1975 I started Bridgewater Associates.

STARTING BRIDGEWATER

Actually, I *restarted* it. Just after I graduated from HBS and went to work in commodities at Dominick & Dominick, I'd set up a little business with Bob Scott, a friend from HBS. Along with a few pals in other countries, we made halfhearted attempts to sell commodities from the U.S. to other countries. We called it Bridgewater because we were "bridging the waters" and it had a good ring to it. By 1975 there wasn't much left of this commodities company, but as it did already exist on paper, I used it.

I worked out of my two-bedroom apartment. When a pal from HBS who I shared the apartment with moved out, I made his bedroom an office. I worked with another friend I played rugby with, and we hired a great young woman who worked as our assistant. That was Bridgewater.

I spent most of my time following the markets and putting myself in the shoes of my corporate clients to show them how I would handle market risks if I were them. And of course I continued to trade my own account. Pursuing a mission with friends to help clients beat the markets was much more fun than having a real job. As long as my basic living expenses were covered, I knew I'd be happy.

In 1977, Barbara and I decided to have a child, so we got married. We moved into a rented brownstone in Manhattan and I moved the company there too. The Russians were buying lots of grain at the time and wanted my advice, so I took Barbara on a combined honeymoon-business trip to the

USSR. We arrived in Moscow on New Year's Eve and rode by bus from the drab airport through a dusting of snow, past St. Basil's Cathedral to a big party with a lot of incredibly friendly, fun-loving Russians.

My business has always been a way to get me into exotic places and allow me to meet interesting people. If I make any money from those trips, that's just icing on the cake.

MODELING MARKETS AS MACHINES

I was really getting my head into the livestock, meat, grain, and oilseed markets. I loved them because they were concrete and less subject than stocks to distorted perceptions of value. While stocks could stay too high or too low because "greater fools" kept buying or selling them, livestock ended up on the meat counter where it would be priced based on what consumers were willing to pay. I could visualize the processes that led to those sales and see the relationships underlying them. Since livestock eat grain (mostly corn) and soymeal, and since corn and soybeans compete for acreage, those markets are closely related. I learned just about everything imaginable about them—what the planted acreage and typical yields were in each of the major growing areas; how to convert rainfall levels in different weeks of the growing season into yield estimates; how to project harvest sizes, carrying costs, and livestock inventories by weight group, location, and rates of weight gain; and how to project dressing yields, retailer margins, consumer preferences by cut of meat, and the amounts to be slaughtered in each season.

This wasn't academic learning: People with practice in the business showed me how the agricultural processes worked, and I organized what they told me into models I used to map the interactions of those parts through time.

For example, by knowing how many cattle, chickens, and hogs were being fed, how much grain they ate, and how fast they gained weight, I could project both when and how much meat would come to market and when and how much corn and soymeal would be consumed. Likewise, by seeing how much acreage was planted with corn and soybeans in all the growing areas, doing regressions that showed how rainfall affected the yields in each of these areas, and applying weather forecasts and rainfall data, I could project the timing and quantity of corn and soybean production. To me it all looked

like a beautiful machine with logical cause-effect relationships. By understanding these relationships, I could come up with decision rules (or principles) I could model.

These early models were a far cry from the ones we use now; they were back-of-the-envelope sketches, analyzed and converted into computer programs with the technology I could afford at the time. At the very beginning, I did regressions on my handheld Hewlett-Packard HP-67 calculator, plotted charts by hand with colored pencils, and recorded every trade in composition notebooks. When the personal computer came along, I could input the numbers and watch them be converted into pictures of what would happen on spreadsheets. Knowing how cattle, hogs, and chickens progressed through their stages of production, how they competed for meat-eater dollars, what meat-eaters would spend and why, and how the profit margins of meatpackers and retailers would influence their behaviors (for example, which cuts of meat they would push in advertisements), I could see how the machine produced cattle, hog, and chicken prices that I could bet on.

As basic as those early models were, I loved building and refining them—and they were good enough to make me money. The approach to price determination I was using was different from the one I had learned in my economics classes where supply and demand were both measured in terms of quantities sold. I found it much more practical to measure demand as the amount spent (instead of as the quantity bought) and to look at who the buyers and sellers were and why they bought and sold. I will explain this approach in *Economic and Investment Principles*.

This different approach was one of the key reasons I caught economic and market moves others missed. From that point on, whenever I looked at any market—commodities, stocks, bonds, currencies, whatever—I could see and understand imbalances that others who defined supply and demand in the traditional way (as units that equaled each other) missed.

Visualizing complex systems as machines, figuring out the cause-effect relationships within them, writing down the principles for dealing with them, and feeding them into a computer so the computer could “make decisions” for me all became standard practices.

Don’t get me wrong. My approach was far from perfect. I vividly remember one “can’t lose” bet that personally cost me about \$100,000. That was most of my net worth at the time. More painful still, it hurt my clients too. The most painful lesson that was repeatedly hammered home is that you

can never be sure of anything: There are always risks out there that can hurt you badly, even in the seemingly safest bets, so it's always best to assume you're missing something. This lesson changed my approach to decision making in ways that will reverberate throughout this book—and to which I attribute much of my success. But I would make many other mistakes before I fully changed my behavior.

BUILDING THE BUSINESS

While making money was good, having meaningful work and meaningful relationships was far better. To me, meaningful work is being on a mission I become engrossed in, and meaningful relationships are those I have with people I care deeply about and who care deeply about me.

Think about it: It's senseless to have making money as your goal as money has no intrinsic value—its value comes from what it can buy, and it can't buy everything. It's smarter to start with what you really want, which are your real goals, and then work back to what you need to attain them. Money will be one of the things you need, but it's not the only one and certainly not the most important one once you get past having the amount you need to get what you really want.

When thinking about the things you really want, it pays to think of their relative values so you weigh them properly. In my case, I wanted meaningful work and meaningful relationships equally, and I valued money less—as long as I had enough to take care of my basic needs. In thinking about the relative importance of great relationships and money, it was clear that relationships were more important because there is no amount of money I would take in exchange for a meaningful relationship, because there is nothing I could buy with that money that would be more valuable. So, for me, meaningful work and meaningful relationships were and still are my primary goals and everything I did was for them. Making money was an incidental consequence of that.

In the late 1970s, I began sending my observations about the markets to clients via telex. The genesis of these *Daily Observations* (“Grains and Oilseeds,” “Livestock and Meats,” “Economy and Financial Markets”) was pretty simple: While our primary business was in managing risk exposures, our clients also called to pick my brain about the markets. Taking those calls

became time-consuming, so I decided it would be more efficient to write down my thoughts every day so others could understand my logic and help improve it. It was a good discipline since it forced me to research and reflect every day. It also became a key channel of communication for our business. Today, almost forty years and ten thousand publications later, our *Daily Observations* are read, reflected on, and argued about by clients and policymakers around the world. I'm still writing them, along with others at Bridgewater, and expect to continue to write them until people don't care to read them or I die.

In addition to providing clients with these observations and advice, I began to manage their exposures by buying and selling on their behalf. Sometimes I was paid a fixed fee each month and sometimes I received a percentage of the profits. Among my consulting clients during this period was McDonald's, which was a huge beef buyer, and Lane Processing, then the largest chicken producer in the country. I made them both a lot of money—especially Lane Processing, which did even better from its speculations in the grain and soy markets than it did from raising and selling chickens.

Around this time, McDonald's had conceived of a new product, the Chicken McNugget, but they were reluctant to bring it to market because of their concern that chicken prices might rise and squeeze their profit margins. Chicken producers like Lane wouldn't agree to sell to them at a fixed price because they were worried that their costs would go up and *they* would be squeezed.

As I thought about the problem, it occurred to me that in economic terms a chicken can be seen as a simple machine consisting of a chick plus its feed. The most volatile cost that the chicken producer needed to worry about was feed prices. I showed Lane how to use a mix of corn and soymeal futures to lock in costs so they could quote a fixed price to McDonald's. Having greatly reduced its price risk, McDonald's introduced the McNugget in 1983. I felt great about helping make that happen.

I identified similar types of price relationships in the cattle and meat markets. For example, I showed cattle feeders how they could lock in strong profit margins by hedging good price relationships between their cost items (feeder cattle, corn, and soymeal) and what they were going to sell (fed cattle) six months later. I developed a way of selling different cuts of fresh meat for future delivery at fixed prices far below frozen meat prices but that still produced big profit margins. Combining my clients' deep understanding

of the way the “machines” of their own businesses operated with my knowledge of the way markets functioned worked to our mutual advantage, while making the markets more efficient overall. My ability to visualize these complex machines gave us a competitive edge against those who were shooting from the hip, and eventually changed the way these industries operated. And, as always, it was a kick to be working with people I liked.

On March 26, 1978, my wife gave birth to our first son, Devon. To have a child was the most difficult decision I ever made, because I couldn’t know what the experience would be like and it would be irrevocable. It turned out to be my best decision. While I won’t delve too much into my family life in this book, I pursued it with the same sort of intensity with which I pursued my career, and I linked them. To give you an idea about how interwoven they were in my mind, Devon was named after one of the oldest breeds of cattle known to man, among the first breeds imported into the U.S. and renowned for its high fertility.

² His inability to meet his obligations, especially his margin calls at brokerage houses, could have led to cascading defaults.

CHAPTER 3

MY ABYSS:

1979–1982

From 1950 until 1980, debt, inflation, and growth moved up and down together in steadily larger waves, with each bigger than the one before, especially after the dollar's link to gold was broken in 1971. In the 1970s, there were three such waves. The first came in 1971, as a result of the dollar's devaluation. The second, which came between 1974 and 1975, took inflation to its highest level since World War II. The Fed tightened the money supply, driving interest rates to record highs, which caused the worst stock market and economic downturn since the 1930s. The third and largest wave came in 1979–82 and was one of the greatest economic/market crescendos and reversals since 1929–32. Interest rates and inflation soared and crashed; stocks, bonds, commodities, and currencies went through one of their most volatile periods ever; and unemployment hit its highest level since the Great Depression. It was a time of extreme turbulence for the global economy, for the markets, and for me personally.

In 1978–80 (as in 1970–71 and in 1974–75) different markets began to move in unison because they were more influenced by swings in money and credit growth than by changes in their individual supply-demand balances. These big moves were exacerbated by the oil shock that followed the fall of the Shah of Iran. That oil market volatility led to the creation of the first oil futures contract, which gave me trading opportunities (by then, there were futures markets in interest rates and currencies as well, and I was making bets in all of them).

Because all markets were being driven by these factors, I immersed myself in macroeconomics and historical data (especially interest rates and currency data) to improve my understanding of the machine at play. As inflation began to rise in 1978, I realized the Fed would likely act to tighten the monetary

supply. By July 1979, inflation was clearly out of control, and President Jimmy Carter appointed Paul Volcker chairman of the Federal Reserve. A few months later, Volcker announced that the Fed would limit the growth of the money supply to 5.5 percent. According to my calculations at the time, 5.5 percent money growth would break the inflation spiral—but it would also strangle the economy and markets and likely cause a catastrophic debt crisis.

A SILVER ROLLER COASTER

Just before Thanksgiving, I met with Bunker Hunt, then the richest man in the world, at the Petroleum Club in Dallas. Bud Dillard, a Texan friend and client of mine who was big in the oil and cattle businesses, had introduced us a couple of years before, and we regularly talked about the economy and markets, especially inflation. Just a few weeks before our meeting, Iranian militants had stormed the U.S. embassy in Tehran, taking fifty-two Americans hostage. There were long lines to buy gas and extreme market volatility. There was clearly a sense of crisis: The nation was confused, frustrated, and angry.

Bunker saw the debt crisis and inflation risks pretty much as I saw them. He'd been wanting to get his wealth out of paper money for the past few years, so he'd been buying commodities, especially silver, which he had started purchasing for about \$1.29 per ounce, as a hedge against inflation. He kept buying and buying as inflation and the price of silver went up, until he had essentially cornered the silver market. At that point, silver was trading at around \$10. I told him I thought it might be a good time to get out because the Fed was becoming tight enough to raise short-term interest rates above long-term rates (which was called “inverting the yield curve”). Every time that happened, inflation-hedged assets and the economy went down. But Bunker was in the oil business, and the Middle East oil producers he talked to were still worried about the depreciation of the dollar. They had told him they were also going to buy silver as a hedge against inflation so he held on to it in the expectation that its price would continue to rise. I got out.

On December 8, 1979, Barbara and I had our second son, Paul. Everything was changing very fast, but I loved the intensity of it all.

By early 1980, silver had gone to nearly \$50, and as rich as he was, Bunker became a lot richer. While I had made a lot of money on silver's rise

to \$10, I was kicking myself for missing the ride to \$50. But at least, by being out, I didn't lose money. There are anxious times in every investor's career when your expectations of what should be happening aren't aligned with what is happening and you don't know if you're looking at great opportunities or catastrophic mistakes. Because I had a strong tendency to be right but early, I was inclined to think that was the case. It was, but to have missed the \$40 move up was inexcusable to me.

When the plunge finally did happen, in March 1980, silver crashed back down below \$11. It ruined Hunt, and he nearly brought down the whole U.S. economy as he fell.² The Fed had to intervene to control the ripple effects. All of this pounded an indelible lesson into my head: Timing is everything. I was relieved that I was out of that market, but watching the richest man in the world—who was also someone I empathized with—go broke was jarring. Yet it was nothing compared to what was to come.

EXPANDING THE TEAM

Later that same year, a great guy named Paul Colman joined Bridgewater. We had become good friends from our dealings in the cattle and beef industry, and I respected his intellect and values, so I convinced him we should conquer that world together. He brought his wonderful wife and kids up from Guymon, Oklahoma, and our families became inseparable. We ran the business in a scrappy, seat-of-the-pants way. Because the office part of the brownstone where I lived and worked was generally such a mess—with chicken bones or other scraps from working through the previous night's dinner littering my desk—we held all our client meetings at the Harvard Club. Paul would hide a clean blue oxford shirt and tie amid the mess so I'd have something to wear. In 1981, we decided we wanted to raise our families in more of a country setting, so we all moved up to Wilton, Connecticut, to run Bridgewater from there.

Colman and I worked by challenging each other's ideas and trying to find the best answers; it was a constant back-and-forth, which we both enjoyed, especially at a time when there was so much to figure out. We would debate about the markets and the forces behind them late into the night, plug data into the computer before we went to bed, and see what it spit out in the morning.

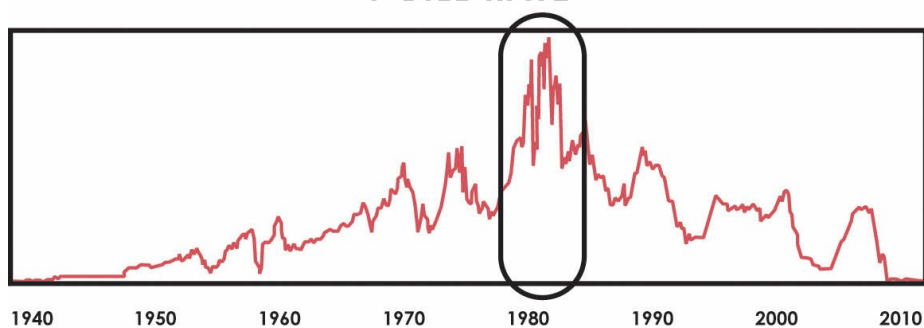
MY BIG DEPRESSION CALL

The economy was in even worse shape in 1979–81 than it was during the financial crisis of 2007–08 and the markets were more volatile. In fact, some would say this was the most volatile period ever. The charts opposite going back to 1940 show the volatility of interest rates and gold.

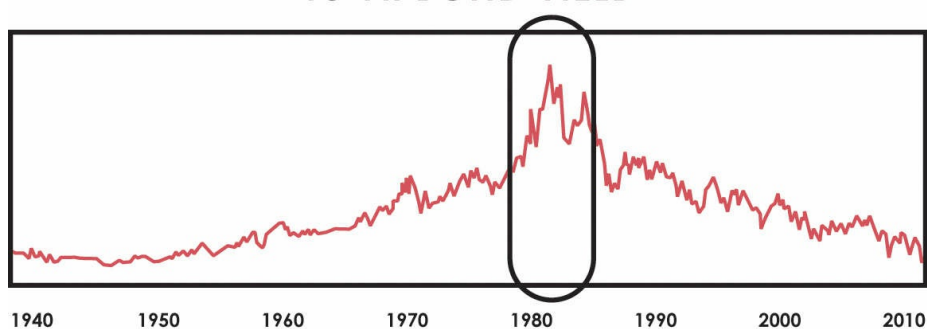
As you can see, there had been nothing like it prior to 1979–82. It was one of the most pivotal times in the last hundred years. The political pendulum throughout the world swung to the right, bringing Margaret Thatcher, Ronald Reagan, and Helmut Kohl to power. “Liberal” had ceased to mean being in favor of progress and had come to mean “paying people not to work.”

As I saw it, the Fed was stuck between a rock and a hard place. They either had to a) print money to relieve debt problems and keep the economy going (which had already pushed inflation to 10 percent in 1981 and was causing people to dump bonds and buy inflation-hedged assets), or b) break the back of inflation by becoming bone-crushingly tight (which would break the back of debtors because debt was at the highest levels since the Great Depression). The worsening problem showed up in both progressively higher levels of inflation and progressively worse levels of economic activity. Both appeared to be coming to a head. Debts continued to rise much faster than the incomes borrowers needed to repay them, and American banks were lending huge amounts—much more than they had in capital—to emerging countries. In March 1981, I wrote a *Daily Observation* entitled “The Next Depression in Perspective” and concluded it by saying, “The enormity of our debt implies that the depression will be as bad or worse than that witnessed in the thirties.”

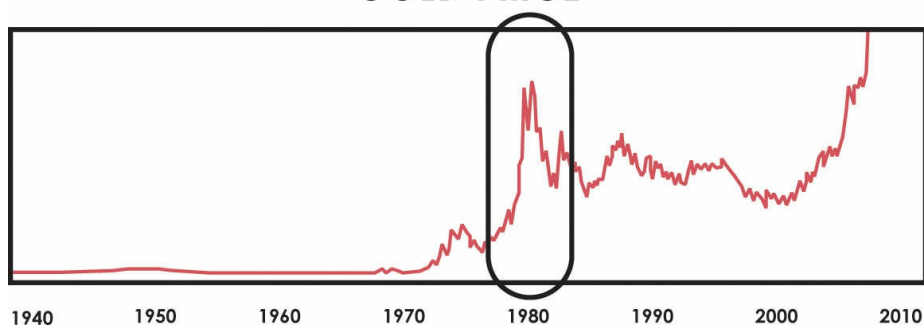
T-BILL RATE



10 YR BOND YIELD



GOLD PRICE



This view was extremely controversial. To most people, “depression” was a scary word used by kooky and sensationalist people, not something thoughtful people took seriously. But I had studied debt and depressions back to 1800, done my calculations, and was confident that the debt crisis led by emerging countries was coming. I had to share my thinking with my clients. Because my views were so controversial I asked others to track my reasoning and point out to me where it was bad. No one could find any flaws in my logic, though they were all reluctant to endorse my conclusion.

Because I believed that the choice was between accelerating inflation and deflationary depression, I was holding both gold (which performs well in

accelerating inflation) and bonds (which perform well in deflationary depressions). Up until that point, gold and bonds had moved in opposite directions, depending on whether inflation expectations rose or fell. Holding those positions seemed much safer than holding alternatives like cash, which would lose value in an inflation environment, or stocks, which would crash in a depression.

At first, the markets went against me. But my experience with silver and other trades had taught me that I had a chronic problem with timing, so I believed I was just early and what I was expecting would happen soon. That didn't take long to happen. By the fall of 1981, the tight Fed policies were having a devastating effect, my bond bets were beginning to pay off, and my kooky views were starting to look right on. In February 1982, the Fed temporarily added liquidity to avoid a cash crunch. In June, as the scramble for liquidity intensified, the Fed responded by printing money, increasing liquidity to its highest level since Paul Volcker's appointment. But it still wasn't enough.

THE GREATEST WHIPSAW EVER

In August 1982, Mexico defaulted on its debt. By then, it was clear to most everyone that a number of other countries were about to follow. This was a huge deal, because U.S. banks had lent about 250 percent of their capital to other countries just as at risk as Mexico. Business loan activity in the U.S. ground to a halt.

Because I was one of the few people who had seen these things coming, I started to get a lot of attention. Congress was holding hearings on the crisis and invited me to testify; in November I was the featured guest on *Wall Street Week with Louis Rukeyser*, the must-watch show for anyone in the markets. In both appearances, I confidently declared that we were headed for depression and explained why.

After Mexico's default, the Fed responded to the economic collapse and debt defaults by making money more readily available. This caused the stock market to jump by a record amount. While that surprised me, I interpreted it as a knee-jerk reaction to the Fed's move. After all, in 1929 a 15 percent rally was followed by the greatest crash of all time. In October, I laid out my prognosis in a memo. As I saw it, there was a 75 percent chance the Fed's

efforts would fall short and the economy would move into failure; a 20 percent chance it would initially succeed at stimulating the economy but still ultimately fail; and a 5 percent chance it would provide enough stimulus to save the economy but trigger hyperinflation. To hedge against the worst possibilities, I bought gold and T-bill futures as a spread against eurodollars, which was a limited-risk way of betting on credit problems increasing.

I was dead wrong. After a delay, the economy responded to the Fed's efforts, rebounding in a noninflationary way. In other words, inflation fell while growth accelerated. The stock market began a big bull run, and over the next eighteen years the U.S. economy enjoyed the greatest noninflationary growth period in its history.

How was that possible? Eventually, I figured it out. As money poured out of these borrower countries and into the U.S., it changed everything. It drove the dollar up, which produced deflationary pressures in the U.S., which allowed the Fed to ease interest rates without raising inflation. This fueled a boom. The banks were protected both because the Federal Reserve loaned them cash and the creditors' committees and international financial restructuring organizations such as the International Monetary Fund (IMF) and the Bank for International Settlements arranged things so that the debtor nations could pay their debt service from new loans. That way everyone could pretend everything was fine and write down those loans over many years.

My experience over this period was like a series of blows to the head with a baseball bat. Being so wrong—and especially so publicly wrong—was incredibly humbling and cost me just about everything I had built at Bridgewater. I saw that I had been an arrogant jerk who was totally confident in a totally incorrect view.

So there I was after eight years in business, with nothing to show for it. Though I'd been right much more than I'd been wrong, I was all the way back to square one.

At one point, I'd lost so much money I couldn't afford to pay the people who worked with me. One by one, I had to let them go. We went down to two employees—Colman and me. Then Colman had to go. With tears from all, his family packed up and returned to Oklahoma. Bridgewater was now down to just one employee: me.

Losing people I cared so much about and very nearly losing my dream of working for myself was devastating. To make ends meet, I even had to

borrow \$4,000 from my dad until we could sell our second car. I had come to a fork in the road: Should I put on a tie and take a job on Wall Street? That was not the life I wanted. On the other hand, I had a wife and two young children to support. I realized I was facing one of life's big turning points and my choices would have big implications for me and for my family's future.

FINDING A WAY PAST MY INTRACTABLE INVESTMENT PROBLEM

Making money in the markets is tough. The brilliant trader and investor Bernard Baruch put it well when he said, "If you are ready to give up everything else and study the whole history and background of the market and all principal companies whose stocks are on the board as carefully as a medical student studies anatomy—if you can do all that and in addition you have the cool nerves of a gambler, the sixth sense of a clairvoyant and the courage of a lion, you have a ghost of a chance."

In retrospect, the mistakes that led to my crash seemed embarrassingly obvious. First, I had been wildly overconfident and had let my emotions get the better of me. I learned (again) that no matter how much I knew and how hard I worked, I could never be certain enough to proclaim things like what I'd said on *Wall Street Week*: "There'll be no soft landing. I can say that with absolute certainty, because I know how markets work." I am still shocked and embarrassed by how arrogant I was.

Second, I again saw the value of studying history. What had happened, after all, was "another one of those." I should have realized that debts denominated in one's own currency can be successfully restructured with the government's help, and that when central banks simultaneously provide stimulus (as they did in March 1932, at the low point of the Great Depression, and as they did again in 1982), inflation and deflation can be balanced against each other. As in 1971, I had failed to recognize the lessons of history. Realizing that led me to try to make sense of all movements in all major economies and markets going back a hundred years and to come up with carefully tested decision-making principles that are timeless and universal.

Third, I was reminded of how difficult it is to time markets. My long-term estimates of equilibrium levels were not reliable enough to bet on; too many

things could happen between the time I placed my bets and the time (if ever) that my estimates were reached.

Staring at these failings, I realized that if I was going to move forward without a high likelihood of getting whacked again, I would have to look at myself objectively and change—starting by learning a better way of handling the natural aggressiveness I’ve always shown in going after what I wanted.

Imagine that in order to have a great life you have to cross a dangerous jungle. You can stay safe where you are and have an ordinary life, or you can risk crossing the jungle to have a terrific life. How would you approach that choice? Take a moment to think about it because it is the sort of choice that, in one form or another, we all have to make.

Even after my crash, I knew I had to go after the terrific life with all its risks, so the question was how to “cross the dangerous jungle” without getting killed. In retrospect, my crash was one of the best things that ever happened to me because it gave me the humility I needed to balance my aggressiveness. I learned a great fear of being wrong that shifted my mind-set from thinking “I’m right” to asking myself “How do I know I’m right?” And I saw clearly that the best way to answer this question is by finding other independent thinkers who are on the same mission as me and who see things differently from me. By engaging them in thoughtful disagreement, I’d be able to understand their reasoning and have them stress-test mine. That way, we can all raise our probability of being right.

In other words, I just want to be right—I don’t care if the right answer comes from me. So I learned to be radically open-minded to allow others to point out what I might be missing. I saw that the only way I could succeed would be to:

1. Seek out the smartest people who disagreed with me so I could try to understand their reasoning.
2. Know when not to have an opinion.
3. Develop, test, and systemize timeless and universal principles.
4. Balance risks in ways that keep the big upside while reducing the downside.

Doing these things significantly improved my returns relative to my risks, and the same principles apply in other aspects of life. Most importantly, this experience led me to build Bridgewater as an idea meritocracy—not an

autocracy in which I lead and others follow, and not a democracy in which everyone's vote is equal—but a meritocracy that encourages thoughtful disagreements and explores and weighs people's opinions in proportion to their merits.

Bringing these opposing opinions into the open and exploring them taught me a lot about how people think. I came to see that people's greatest weaknesses are the flip sides of their greatest strengths. For example, some people are prone to take on too much risk while others are too risk averse; some are too focused on the details while others are too big-picture. Most are too much one way and not enough another. Typically, by doing what comes naturally to us, we fail to account for our weaknesses, which leads us to crash. What happens after we crash is most important. Successful people change in ways that allow them to continue to take advantage of their strengths while compensating for their weaknesses and unsuccessful people don't. Later in the book I will describe specific strategies for change, but the important thing to note here is that beneficial change begins when you can acknowledge and even embrace your weaknesses.

Over the years that followed, I found that most of the extraordinarily successful people I've met had similar big painful failures that taught them the lessons that ultimately helped them succeed. Looking back on getting fired from Apple in 1985, Steve Jobs said, "It was awful-tasting medicine, but I guess the patient needed it. Sometimes life hits you in the head with a brick. Don't lose faith. I'm convinced that the only thing that kept me going was that I loved what I did."

I saw that to do exceptionally well you have to push your limits and that, if you push your limits, you will crash and it will hurt a lot. You will think you have failed—but that won't be true unless you give up. Believe it or not, your pain will fade and you will have many other opportunities ahead of you, though you might not see them at the time. The most important thing you can do is to gather the lessons these failures provide and gain humility and radical open-mindedness in order to increase your chances of success. Then you press on.

My final lesson was perhaps the most important one, because it has applied again and again throughout my life. At first, it seemed to me that I faced an all-or-nothing choice: I could either take on a lot of risk in pursuit of high returns (and occasionally find myself ruined) or I could lower my risk and settle for lower returns. But I needed to have both low risk and high

returns, and by setting out on a mission to discover how I could, I learned to go slowly when faced with the choice between two things that you need that are seemingly at odds. That way you can figure out how to have as much of both as possible. There is almost always a good path that you just haven't discovered yet, so look for it until you find it rather than settle for the choice that is then apparent to you.

As difficult as this was, I eventually found a way to have my cake and eat it too. I call it the "Holy Grail of Investing," and it's the secret behind Bridgewater's success.

CHAPTER 4

MY ROAD OF TRIALS:

1983–1994

Coming out of my crash, I was so broke I couldn't muster enough money to pay for an airplane ticket to Texas to visit a prospective client, even though the fees I'd earn were many times the cost of the fare—so I didn't make that trip. Still, I gradually added clients, revenue, and a new team. With time, my upswings increased in magnitude and my downswings were both tolerable and educational. I never thought of what I was doing as building (or rebuilding) a company; I was just getting the things I needed to play my game.

Computers were among the most valuable things I acquired, because of how they helped me think. Without them, Bridgewater would not have been nearly as successful as it turned out to be.

The first microcomputers (what would later be known as personal computers) had come on the market during the late 1970s, and I had been using them as econometricians did, applying statistics and computing power to economic data to analyze the workings of the economic machine. As I wrote in a December 1981 article, I believed (and still believe) that “theoretically . . . if there was a computer that could hold all of the world's facts and if it was perfectly programmed to mathematically express all of the relationships between all of the world's parts, the future could be perfectly foretold.”

But I was a long way from doing that. Though my early systems provided valuable insights into where prices would eventually reach equilibrium, they hadn't helped me develop robust trading strategies; they just showed me that a particular bet would eventually pay off. For example, I'd run through my analysis and end up with a view that the price of some commodity should be, say, 75 cents or so. If it was currently 60 cents, I'd know I wanted to buy it,

but I wouldn't be able to predict that the price would drop to 50 cents before climbing back to 75, and I wouldn't know when to buy and sell. Rarely, but still too often, the system would be dead wrong and I would lose a lot.

“He who lives by the crystal ball is destined to eat ground glass” is a saying I quoted a lot in those days. Between 1979 and 1982, I had eaten enough glass to realize that what was most important wasn't knowing the future—it was knowing how to react appropriately to the information available at each point in time. In order to do that, I would have to have a vast store of economic and market data to draw on—and as it happened, I did.

From very early on, whenever I took a position in the markets, I wrote down the criteria I used to make my decision. Then, when I closed out a trade, I could reflect on how well these criteria had worked. It occurred to me that if I wrote those criteria into formulas (now more fashionably called algorithms) and then ran historical data through them, I could test how well my rules would have worked in the past. Here's how it worked in practice: I would start out with my intuitions as I always did, but I would express them logically, as decision-making criteria, and capture them in a systematic way, creating a mental map of what I would do in each particular situation. Then I would run historical data through the systems to see how my decision would have performed in the past and, depending upon the results, modify the decision rules appropriately.

We tested the systems going as far back as we could, typically more than a century, in every country for which we had data, which gave me great perspective on how the economic/market machine worked through time and how to bet on it. Doing this helped educate me and led me to refine my criteria so they were timeless and universal. Once I vetted those relationships, I could run data through the systems as it flowed at us in real time and the computer could work just as my brain worked in processing it and making decisions.

The result was Bridgewater's original interest rate, stock, currencies, and precious metals systems, which we then combined into one system for managing our portfolio of bets. Our system was like an EKG on the economy's vital signs; as they changed, we changed our positions. However, rather than blindly following the computer's recommendations, I would have the computer work in parallel with my own analysis and then compare the two. When the computer's decision was different from mine, I would examine why. Most of the time, it was because I had overlooked something.

In those cases, the computer taught me. But sometimes I would think about some new criteria my system would've missed, so I would then teach the computer. We helped each other. It didn't take long before the computer, with its tremendous processing power, was much more effective than me. This was great, because it was like having a chess grandmaster helping me plot my moves, except this player operated according to a set of criteria that I understood and believed were logical, so there was no reason for us to ever fundamentally disagree.

The computer was much better than my brain in “thinking” about many things at once, and it could do it more precisely, more rapidly, and less emotionally. And, because it had such a great memory, it could do a better job of compounding my knowledge and the knowledge of the people I worked with as Bridgewater grew. Rather than argue about our conclusions, my partners and I would argue about our different decision-making criteria. Then we resolved our disagreements by testing the criteria objectively. The rapidly expanding power of computers during that era was like a constant stream of gifts from the gods to us. I remember when RadioShack came out with an inexpensive handheld chess computer; we sent one to each of our clients with the message, “A Systemized Approach from Bridgewater.” That little computer chess game could kick my ass on level two out of its nine levels. It was fun to put it up against each of my clients so they could see how hard it was to beat computerized decision making.

Of course, we always had the freedom to override the system, which we did less than 2 percent of the time—mostly to take money off the table during extraordinary events that weren't programmed, like the World Trade Center going down on 9/11. While the computer was much better than our brains in many ways, it didn't have the imagination, understanding, and logic that we did. That's why our brains working with the computer made such a great partnership.

These decision-making systems were much better than the forecasting systems I'd been using before, mostly because they incorporated our ongoing reactions to developments, allowing us to deal with a wider range of possibilities. They could also include timing rules. In a January 1987 piece called “Making Money vs. Making Forecasts,” I explained that:

Truth be known, forecasts aren't worth very much, and most people who make them don't make money in the markets. . . . This is because nothing

is certain and when one overlays the probabilities of all of the various things that affect the future in order to make a forecast, one gets a wide array of possibilities with varying probabilities, not one highly probable outcome. . . . We believe that market movements reflect economic movements. Economic movements are reflected in economic statistics. By studying the relationships between economic statistics and market movements, we've developed precise rules for identifying important shifts in the economic/market environment and in turn our positions. In other words, rather than forecasting changes in the economic environment and shifting positions in anticipation of them, we pick up these changes as they're occurring and move our money around to keep in those markets which perform best in that environment.

Over the last three decades of building these systems we have incorporated many more types of rules that direct every aspect of our trading. Now, as real-time data is released, our computers parse information from over 100 million datasets and give detailed instructions to other computers in ways that make logical sense to me. If I didn't have these systems, I'd probably be broke or dead from the stress of trying so hard. We certainly wouldn't have done as well in the markets as we have. As you will see later, I am now developing similar systems to help us make management decisions. I believe one of the most valuable things you can do to improve your decision making is to think through your principles for making decisions, write them out in both words and computer algorithms, back-test them if possible, and use them on a real-time basis to run in parallel with your brain's decision making.

But I'm getting ahead of myself. Let's go back to 1983.

RESURRECTING BRIDGEWATER

By late 1983, Bridgewater had six employees. Up until then, I hadn't done any marketing; the business we got came from word of mouth and from people reading my daily telexes and seeing my public appearances. But clearly there was a growing demand for our research, and I realized we could sell it to supplement our consulting and trading income. So I hired a seventh employee, a former door-to-door Bible salesman named Rob Fried, and we

hit the road, lugging around a projector and a huge stack of slides, hawking a \$3,000-per-month research package with my daily telexes, weekly conference calls, biweekly and quarterly research reports, and quarterly meetings. Over the next year, Rob brought in a number of institutions and institutional investment managers, including General Electric, Keystone Custodian Funds, the World Bank, Brandywine, Loomis Sayles, Provident Capital Management, the Singer Company, Loews Corporation, GTE Corporation, and Wellington Management.

At that point, our business consisted of three main areas: consulting for fees, managing companies' risks for incentive fees, and selling the research packages. We worked with all sorts of corporate, financial, and government institutions that had market exposures—banks, diversified international businesses, commodities producers, food producers, public utilities, and more. For example, we would build a plan to help a multinational company deal with the currency exposure it faced from operating in different countries.

My approach was to immerse myself in a business until I got to a point where I felt that the strategies I was handing off were the ones I would use were I running the company myself. I would break each company down into distinct logical components and then come up with a plan for managing each part, using a variety of financial tools, especially derivative instruments. The most important components to separate were the profits coming from the core business and those that were speculative profits and losses coming from price changes. We would do this to show them what a “risk-neutral” position would look like, which is to say, the properly hedged position one would take if one didn't have a view of the markets. I would advise them to deviate from this position only when they wanted to speculate, which they should only do in measured ways and with full knowledge of the effects it could have on their core business. This approach was eye-opening for most of the firms we worked with. It gave them clarity and control, and yielded them better results. Sometimes they wanted us to speculate for them, which we would do for a share of the profits.

This approach to establishing a “risk-neutral” benchmark position and deviating from it with measured bets was the genesis of the style of investment management we would later call “alpha overlay,” in which passive (“beta”) and active (“alpha”) exposures are separated. The return of a market (such as the stock market) itself is called its beta. Alpha is the return that comes from betting against others. For example, some people outperform

the stock market and others underperform it; they are said to have positive or negative alpha. With alpha overlay, we were offering a way of making bets independent of underlying market performance. Approaching the market in this way taught me that one of the keys to being a successful investor is to only take bets you are highly confident in and to diversify them well.

One of our clients in the mid-1980s was Alan Bond, an audacious entrepreneur who was one of the richest people in Australia. A self-made man, he was famous for being the first non-American to win the America's Cup yacht race in its then 132-year history. Like Bunker Hunt, he eventually bet badly and was forced to declare bankruptcy. I advised him and his team on their way up and stayed on through his downfall, so I watched the tragedy unfold from up close. His was a classic case of confusing business with speculation and only hedging when it was too late.

Bond borrowed U.S. dollars to buy assets like breweries in Australia. He did that because U.S. interest rates were lower than they were in Australia. Though he didn't realize it, he was speculating that the U.S. dollar, in which he would have to pay back his loans, would not rise. When the U.S. dollar did rise against the Australian dollar in the mid-1980s and his Australian-dollar beer-sales earnings weren't enough to pay his debts, his team called me for advice. I calculated what Bond Corp's position would be if they hedged on currencies and saw that doing so would lock in losses that would ruin them, so I advised them to wait. When the Australian dollar rallied, I advised them to put the hedges in place, but they didn't because they believed the currency problem had gone away. Before long, the Australian dollar plunged to new lows and they called me in for an emergency meeting. There wasn't much they could do without locking in ruinous losses, so they again did nothing, and this time the Australian dollar didn't rally. Seeing one of the richest and most accomplished men on the planet lose everything made a huge impression on me.

We also did one-off consulting projects related to the markets. In 1985, I worked with Paul Tudor Jones, a good friend and a great trader, to design a U.S. dollar futures contract (a tradable index tracking the price of the U.S. dollar against a basket of foreign currencies) that traded (and still trades) on the New York Cotton Exchange. I also worked with the New York Futures Exchange to help design and market their CRB futures contract (a tradable index that tracks the price of a basket of commodities).

Unlike most people who work in the markets, I never had any desire to build investment products, especially conventional ones, just because they would sell well. All I wanted was to trade the markets and build relationships, doing for our clients exactly what I would do if I were in their shoes. But I also loved building brand-new things, especially if they were great and revolutionary. By the mid-1980s, a couple of things were clear to me: First, we were making good calls in the interest-rate and currency markets, and the institutional investment managers who were buying our research were using it to make money. Second, we were successfully managing companies' interest-rate and currency exposures. With those two things going as well as they were, I figured we could become successful institutional investment managers ourselves. So I made the pitch to the people who ran the World Bank's pension fund, most importantly Hilda Ochoa, who was its chief investment officer at the time. Despite the fact that we had no assets under management and no track record, she gave us a \$5 million U.S. bond account to manage.

That was a huge turning point for us, as it was the start of Bridgewater as we know it today. The strategy we used for the World Bank shifted between holding cash and holding twenty-year U.S. Treasury bonds, because these positions would give us leveraged bets on the direction of interest rates. When our systems indicated that the pressures on interest rates would cause them to fall, we would hold twenty-year Treasury bonds, and when the system pointed to rates rising, we would stay in cash. We did very well, and before long other large institutional investors gave us money to manage as well. Mobil Oil and Singer were our next two accounts and others followed in rapid succession. We went on to become the top-performing U.S. bond manager in the world.

VENTURING BEHIND THE “CLOSED DOOR” OF CHINA

Part of what was great about consulting was that it gave me opportunities to travel. The more unusual a place, the more interesting I found it. This curiosity drew me to Beijing in 1984. The only images I'd seen of China when I was growing up were of masses of people waving Mao's Little Red Book, so having an opportunity to go behind what was still a mostly “closed

door” was alluring. I got the invitation because I had a small office in Hong Kong whose director was an advisor to CITIC, the “window company” that was the only business in China allowed to deal with the outside world. Beijing was filled with wonderful and incredibly hospitable people who introduced us to the tradition of drinking shots of Moutai while shouting *Ganbei!* (Bottoms up!) and generally showed us a great time. This first trip, which I made with my wife and a few other people, began an incredibly rewarding thirty-plus-year journey that has had a profound impact on my family and me.

There were no financial markets in China at the time; eventually a small group put together by seven Chinese companies (including CITIC) known as the Securities Executive Education Council began to develop them. They started in 1989, just before the Tiananmen Square incident, which set them back because such market developments were still seen as too capitalist. They operated out of a small hotel room and hardly had any financing. I can still picture the big garbage bin under the metal stairway going up to their office. I really respected the risks these young people were taking by doing this at such an unsettled time, so I made a small donation to give them a hand and was excited to share my knowledge with them. From nothing, these people built China’s markets and the government’s securities regulatory arm.

In 1994, I set up a company called Bridgewater China Partners. By then, I was convinced that China was poised to become the greatest economy in the world in the twenty-first century, but hardly anyone was investing in China yet; good deals could still be struck. I could bring money to the table by introducing my institutional investment clients to opportunities, and I could provide know-how by introducing Chinese companies to American ones. In exchange, we would get a stake in these companies. Essentially, I was setting up the first U.S.-based private equity firm in China.

I launched the company by bringing a small group of institutional investor clients, who together managed \$70 billion in assets, to China for a visit. When we got back, we agreed to move forward by setting up a jointly owned merchant bank in Beijing. While I knew that entering a territory where few had been before would require a lot of experimentation and learning, I soon realized I had sorely underestimated the complexity of the task we had set for ourselves and the amount of time it would take. I found myself constantly on the phone at three in the morning, trying to make sense of the shaky accounting and questionable controls at the companies we were interested in

—with all my Bridgewater responsibilities awaiting me when the sun came up.

After about a year of this, I could see that running both Bridgewater and Bridgewater China Partners wasn't going to be possible, so I closed its doors. Nobody made or lost any money, because I hadn't been comfortable enough with what I was seeing to make any investments. I'm sure that if I had devoted all my time to it, we would have had great success, but then Bridgewater would not be what it is today. Despite passing up this great opportunity, I don't regret my choice. I learned that if you work hard and creatively, you can have just about anything you want, but not everything you want. Maturity is the ability to reject good alternatives in order to pursue even better ones.

While I stepped away from that opportunity, China remained an important part of my own and my family's lives. We loved it, especially the people. In 1995, my wife, Barbara, our eleven-year-old son, Matt, and I decided together that Matt would spend a year in Beijing, attending an all-Chinese school and living with our friend Madame Gu, who had stayed with us in America during the Tiananmen Square days and whom Matt had visited in China with us when he was three. Standards of living in China were very different from what Matt was accustomed to in Connecticut. For example, the apartment Madame Gu and her husband lived in had hot water for showers only twice a week, and the school Matt attended didn't have heat until well into the winter, so the students wore their coats in the classrooms. Matt didn't speak Chinese and none of his classmates spoke English.

All of this was not just a huge adventure for Matt; it was completely unprecedented and required special permission from the Chinese government. I was excited for Matt because I knew he would see a different world and broaden his mind. Barbara needed a little convincing and a couple of visits to a child psychologist for reassurance, but she had lived all around the world herself and knew how it had benefited her, so she was ultimately receptive to the idea, even if she was less excited about being separated from her son. Matt's difficult but life-changing journey profoundly affected his values and goals. Because he fell in love with China (he says that he became part Chinese that year) and because he learned the value of empathy relative to the value of material wealth, he started a charity called China Care to help Chinese special-needs orphans when he was just sixteen. He ran it for twelve years (and, to a much lesser degree, still does), while shifting his efforts to

reconceive what computing can be in the emerging world, which he is executing through his company Endless. I in turn learned a lot from Matt, especially about the joys of philanthropy, and we both learned the deep pleasures of great personal relationships. Over the years, I (and in turn Bridgewater) have also built meaningful relationships with many wonderful people in China, and we have helped its financial institutions grow from fledgling organizations to sophisticated giants.

China wasn't the only country whose people and governments Bridgewater would become involved with. Through their representatives, Singapore's, Abu Dhabi's, and Australia's government investment funds, and Russian and European policymakers, came knocking on our door. The experiences I have had, the perspectives I gained, and the help I was able to provide all added up to a package of rewards as large as any of the others that I got out of my career.

My contact with Singapore's people and institutions also thrilled me. There was and still is no leader I admire more than Lee Kuan Yew, who transformed Singapore from a mosquito-infested backwater to a model economy. That says a lot, as I have gotten to know and admire several world leaders. One of my most thrilling moments was a dinner I had with him at my house in New York, shortly before his death in 2015. Lee requested the dinner to discuss the state of the world economy. I invited former Fed chairman Paul Volcker (another hero of mine), former Treasury secretary Bob Rubin (whose breadth of experiences gave great perspective), and Charlie Rose (one of the most curious and insightful people I know). Besides answering his questions, we probed Lee on world affairs and world leaders. Since he had personally known virtually all of the world's leaders over the last fifty years, we asked Lee about the qualities that distinguished the great ones from the bad ones and what he thought of those who were leading at the time. He rated Angela Merkel as the best leader in the West and considered Vladimir Putin one of the best leaders worldwide. He explained that leaders must be judged within the context of the circumstances they encounter and then went on to share his view of how difficult it is to lead Russia and why he thought Putin was doing it well. He also reflected on his unique relationship with Deng Xiaoping, whom he regarded as the best leader of all.

I love getting to know interesting people from interesting places and seeing the world through their eyes. This is true whether they are rich or poor. Seeing life through the eyes of the indigenous people I got to know in

Papua New Guinea was as illuminating for me as gaining the perspectives of the political and economic leaders, world-changing entrepreneurs, and cutting-edge scientists I've spent time with. I'll never forget the blind holy man I met in a mosque in Syria, who explained the Quran and his connection to God to me. Encounters like these have taught me that human greatness and terribleness are not correlated with wealth or other conventional measures of success. I've also learned that judging people before really seeing things through their eyes stands in the way of understanding their circumstances—and that isn't smart. I urge you to be curious enough to want to understand how the people who see things differently from you came to see them that way. You will find that interesting and invaluable, and the richer perspective you gain will help you decide what you should do.

MY FAMILY AND MY EXTENDED FAMILY

My family, my extended family of co-workers, and my work have all been extremely important to me. Juggling work and family has been as much a challenge to me as to anyone else, especially since I wanted both to be great, so I combined them whenever I could. For example, I took my kids on business trips. When at first I brought my son Devon and later Matt to my Chinese business meetings, our hosts were always very kind—they would give them cookies and milk. One great memory from Abu Dhabi was when my clients/friends took my son Paul and me to the desert to eat a freshly killed and roasted goat with our bare hands. I asked Paul, who was dressed in the traditional gown they'd given him, how he liked it and he said, "What could be better than to sit on the floor, dressed in pajamas, eating with my hands, with nice people?" We all laughed. I remember another time when my eldest son, Devon, then about 10 years old, brought back silk scarves from China he'd bought for \$1 and sold for \$20 in a shopping mall just before Christmas—which was just the first sign of his business savvy.

By the mid-1980s, Bridgewater had grown to about ten people, so I rented a big old farmhouse. Bridgewater occupied part of it and my family occupied the rest. It was extremely informal and family-like: Everyone parked in the driveway, we met around the kitchen table, and my kids would leave the door open while they sat on the toilet. The people I worked with would wave as they walked by.

Eventually, the farm was put up for sale so I bought a barn on the property and renovated it. My wife, our kids (eventually there were four), and I lived in a small apartment inside the barn, and I made the unfinished hayloft usable as an office by putting in electric baseboard heat, which I chose because it was cheapest to install. It was a great space for parties and there was enough land for us to play soccer and volleyball and have outdoor barbecues. For our company Christmas party, we'd have a big potluck dinner with my family. After a few drinks, Santa would show up and we'd all sit on his lap for a photo and find out who had been naughty or nice. The night always ended with a lot of dancing. We also had an annual "Sleaze Day" when everybody would dress up sleazy. You get the idea: Bridgewater was a small community of friends who worked hard and partied hard.

Bob Prince joined Bridgewater in 1986 when he was still in his twenties, and more than thirty years later we are still close partners as co-chief investment officers. From the very start, Bob and I "played great jazz together" whenever we'd go back and forth on ideas. We still love doing that and will until one of us dies. He is also a great teacher, both to clients and co-workers. Over time, he became like my brother as well as one of the most critical builders and pillars of Bridgewater.

Soon, Bridgewater began to look like a real company. We outgrew the barn and moved into a small office in a strip mall; there were twenty of us by the end of the 1980s. But even as we grew, I never thought of anybody I worked with as an employee. I had always wanted to have—and to be around people who also wanted to have—a life full of meaningful work and meaningful relationships, and to me a meaningful relationship is one that's open and honest in a way that lets people be straight with each other. I never valued more traditional, antiseptic relationships where people put on a façade of politeness and don't say what they really think.

I believe that all organizations basically have two types of people: those who work to be part of a mission, and those who work for a paycheck. I wanted to surround myself with people who needed what I needed, which was to make sense of things for myself. I spoke frankly, and I expected those around me to speak frankly. I fought for what I thought was best, and I wanted them to do so as well. When I thought someone did something stupid, I said so and I expected them to tell me when I did something stupid. Each of us would be better for it. To me, that was what strong and productive

relationships looked like. Operating any other way would be unproductive and unethical.

MORE BIG TWISTS AND TURNS IN THE ECONOMY AND MARKETS

1987 and 1988 were filled with more of those big twists and turns that helped shape me and my approach to life and investing. We were one of the few investment managers who were short stocks ahead of “Black Monday,” October 19, 1987, then the largest single-day percentage decline in the history of the stock market. We got a lot of attention because we were up 22 percent when most others were down a lot. The media dubbed us as among the “Heroes of October.”

Naturally, I was feeling pretty good going into 1988. I had grown up in an era of high volatility and had learned that the best way to play it was to get a hold of a big move and ride it. We used our indicators to catch shifting fundamentals and our technical trend-following filters to confirm that price movements were consistent with what the indicators were suggesting. When they both pointed in the same direction, we had a strong signal; when they were at odds, we had little or no signal. But as it turned out there was hardly any volatility in 1988, and so our technical filters whipsawed us and we ended up giving back a bit more than half our 1987 gains. That stung, but it also taught us some important lessons and prompted Bob and me to replace our technical trend-following filter with better value measures and risk controls.

Until then our systems had been completely discrete—we would flip from a fully long position to a fully short one when we crossed a predetermined threshold (much as we switched from bonds to cash for the World Bank). But we weren’t always equally confident in our views, and we’d also get killed paying transaction costs when we crossed back and forth. That drove Bob crazy. I can remember him running laps around the office building to calm himself down. So at the end of the year, we moved to a more variable system that allowed us to size our bets in relation to how confident we were. These and other improvements Bob made to our systems have paid off many times since.

Not everyone at Bridgewater saw things as Bob and I did. Some in the company doubted that systemization could work, especially when the systems didn't do well, which, like normal decision making, happened every now and then. It took a lot of reasoning to persuade some of the people I worked with to press on. But even if I couldn't convince them, they couldn't change my mind, because they couldn't show me why our approach of clearly specifying, testing, and systemizing our logic wasn't preferable to making decisions less systematically.

All great investors and investment approaches have bad patches; losing faith in them at such times is as common a mistake as getting too enamored of them when they do well. Because most people are more emotional than logical, they tend to overreact to short-term results; they give up and sell low when times are bad and buy too high when times are good. I find this is just as true for relationships as it is for investments—wise people stick with sound fundamentals through the ups and downs, while flighty people react emotionally to how things feel, jumping into things when they're hot and abandoning them when they're not.

Despite our relatively poor investment performance, 1988 was a great year for Bridgewater, because by reflecting on and learning from our poor performance, we made systematic improvements. I have come to realize that bad times coupled with good reflections provide some of the best lessons, and not just about business but also about relationships. One has many more supposed friends when one is up than when one is down, because most people like to be with winners and shun losers. True friends are the opposite.

I got a lot out of my bad times, not just because they gave me mistakes to learn from but also because they helped me find out who my real friends were—the friends who would be with me through thick and thin.

THE NEXT FOOTHOLD FOR BRIDGEWATER

As the 1980s came to an end, we were still a very small company, with just two dozen employees. Bob introduced me to Giselle Wagner in 1988. She would be my partner in running the noninvestment side of the business for twenty years. Dan Bernstein and Ross Waller joined in 1988 and 1989, respectively, both fresh out of Dartmouth College. At that time, and for quite a while longer, I tended to hire people just out of school who didn't have

much experience but were smart, determined, and committed to the mission of making the company great.

I didn't value experience as much as character, creativity, and common sense, which I suppose was related to my having started Bridgewater two years out of school myself, and my belief that having an ability to figure things out is more important than having specific knowledge of how to do something. It seemed to me, young people were creating sensible innovation that was exciting. Older folks who did things in the old ways held no appeal. I should add, though, that putting responsibility in the hands of inexperienced people doesn't always work out so well. Some painful lessons that you'll read about later taught me that it can be a mistake to undervalue experience.

By now, the initial \$5 million from the World Bank had grown to \$180 million in investments that we were managing for a variety of clients, but we were still trying to grab a larger foothold in the institutional investment business. When Rusty Olson, CIO of Kodak's pension fund, approached us to solve an investment problem, we jumped at the chance. Rusty was a remarkable innovator and a man of great character who'd started at Kodak in 1954 and took over its pension fund in 1972; he was widely respected as a leader in the pension fund world. We'd been sending him our research for a while, and in 1990 he wrote us looking for our opinion on a big concern of his. The Kodak portfolio was heavily invested in equities and Rusty was worried about what would happen in an environment in which the value of his assets fell badly. He had been trying to come up with a way to hedge himself against this risk without reducing his expected return.

Rusty's fax arrived on a Friday afternoon and we leaped into action. Getting a client this prestigious and innovative would make a big difference to us. We knew we could do a uniquely great job for Kodak, because we knew a lot about bonds and financial engineering, and we had a historical perspective unmatched in the industry. Bob Prince, Dan Bernstein, and I worked nonstop through the weekend, analyzing the Kodak portfolio and the strategy Rusty was considering. Then we wrote him a long memo laying out our thoughts.

Just as I had deconstructed the business of a chicken producer in the 1970s and many other companies since, we broke down Kodak's pension fund into its constituent parts to better understand the "machine." Our proposed solutions drew on the portfolio-engineering ideas that would later become core to Bridgewater's unique way of managing money. Rusty invited Bob

and me to Rochester, and we came home with the \$100 million account. That was a game changer. Not only did it bring us a lot of credibility, it provided us with a reliable source of revenue at a time when we needed it.

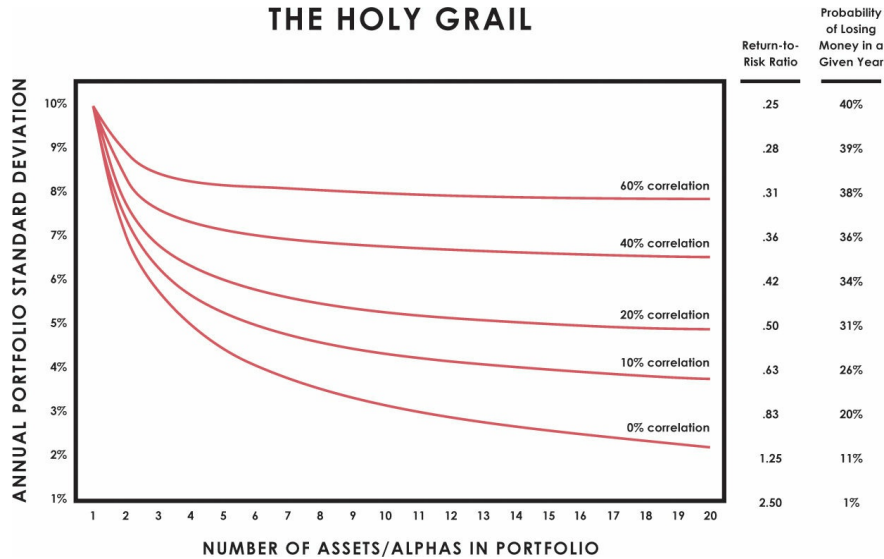
DISCOVERING THE “HOLY GRAIL OF INVESTING”

From my earlier failures, I knew that no matter how confident I was in making any one bet I could still be wrong—and that proper diversification was the key to reducing risks without reducing returns. If I could build a portfolio filled with high-quality return streams³ that were properly diversified (they zigged and zagged in ways that balanced each other out), I could offer clients an overall portfolio return much more consistent and reliable than what they could get elsewhere.

Decades earlier, the Nobel Prize–winning economist Harry Markowitz had invented a widely used model that allowed you to input a set of assets along with their expected returns, risks, and correlations (showing how similarly those assets have performed in the past) and determine an “optimal mix” of those assets in a portfolio. But his model didn’t tell you anything about the incremental effects of changing any one of those variables, or how to handle being uncertain about those assumptions. By then I was terribly fearful about what would happen if my assumptions were wrong, so I wanted to understand diversification in a very simple way. I asked Brian Gold, a recently graduated math major from Dartmouth who’d joined Bridgewater in 1990, to do a chart showing how the volatility of a portfolio would decline and its quality (measured by the amount of return relative to risk) would improve if I incrementally added investments with different correlations. I’ll explain it in more detail in my *Economic and Investment Principles*.

That simple chart struck me with the same force I imagine Einstein must have felt when he discovered $E=mc^2$: I saw that with fifteen to twenty good, uncorrelated return streams, I could dramatically reduce my risks without reducing my expected returns. It was so simple but it would be such a breakthrough if the theory worked as well in practice as it did on paper. I called it the “Holy Grail of Investing” because it showed the path to making a fortune. This was another key moment in our education.

THE HOLY GRAIL



The principle we'd discovered applies equally well to all ways of trying to make money. Whether you own a hotel, run a technology company, or do anything else, your business produces a return stream. Having a few good uncorrelated return streams is better than having just one, and knowing how to combine return streams is even more effective than being able to choose good ones (though of course you have to do both). At the time (and still today), most investment managers did not take advantage of this. They managed investments in a single asset class: equity managers managed equities, bond managers managed bonds, and so on. Their clients gave them money with the expectation that they would receive the overall return of the asset class (e.g., the S&P 500 stock market index) plus some added returns from the bets managers took by over- and under-weighting particular assets (e.g., buying more Microsoft stock than was in the index). But individual assets within an asset class are generally about 60 percent correlated with each other, which means they go up or down together more than half the time. As the Holy Grail chart showed, an equity manager could put a thousand 60 percent-correlated stocks into their portfolios and it wouldn't provide much more diversification than if they'd picked only five. It would be easy to beat those guys by balancing our bets in the way the chart indicated.

Thanks to my process of systematically recording my investment principles and the results they could be expected to produce, I had a large collection of uncorrelated return streams. In fact, I had something like a thousand of them. Because we traded a number of different asset classes, and

within each one we had programmed and tested lots of fundamental trading rules, we had many more high-quality ones to choose from than a typical manager who was tracking a smaller number of assets and was probably not trading systematically.

I worked with Bob and Dan to pull our best decision rules from the pile. Once we had them, we back-tested them over long time frames, using the systems to simulate how the decision rules would have worked together in the past.

We were startled by the results. On paper, this new approach improved our returns by a factor of three to five times per unit of risk, and we could calibrate the amount of return we wanted based on the amount of risk we could tolerate. In other words, we could make a ton more money than the other guys, with a lower risk of being knocked out of the game—as I'd nearly been before. I called it the “killer system” because it would either produce killer results for us and our clients or it would kill us because we were missing something important.

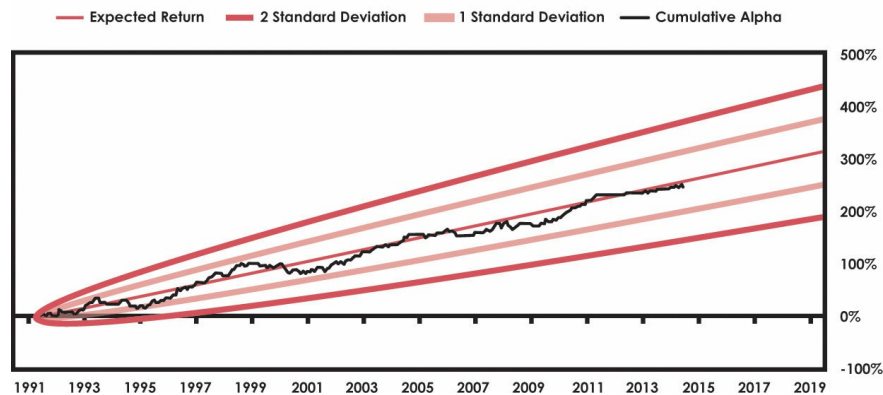
The success of this approach taught me a principle that I apply to all parts of my life: Making a handful of good uncorrelated bets that are balanced and leveraged well is the surest way of having a lot of upside without being exposed to unacceptable downside.

As excited as we were about this new approach, we proceeded cautiously. We gave the system a 10 percent weight initially and it made money in nineteen of the twenty months in our test period. As we got more confident, I decided to reach out to a select group of investors I knew well about investing in the strategy with \$1 million trial accounts. I knew that asking these institutional investors to invest such relatively modest amounts would make it hard for them to turn us down. I called the new product “Top 5%” at first, because it comprised the best 5 percent of our decision rules; later I changed the name to Pure Alpha to convey that it consisted purely of alphas. Because Pure Alpha didn't have any betas, it didn't have any bias to go up or down along with any market. Its returns depended only on how good we were in outperforming others.

Our totally new “alpha overlay” approach allowed investors to receive the return of their chosen asset class (the S&P 500 stock market, a bond index, commodities—whatever) plus the return from the portfolio of bets that we were making across all asset classes. As unprecedented as our approach was, we explained our logic carefully, showing why it was actually much less

risky than traditional approaches. We also showed them how we expected the cumulative performance to unfold and what the expected range of performance around that would be. For our clients, it was a bit like being presented with the design of a plane that had never flown before but looked radically better than any other plane on paper. Would anyone be courageous enough to get on board?

GROSS CUMULATIVE ALPHA VS. EXPECTATIONS (IN)



Some clients got the concepts and were excited to change the rules; others either didn't understand or worked for organizations that refused to try cutting-edge things. Frankly, we were thrilled that any of them were willing to try. For over twenty-six years now, that new type of plane has flown exactly as we anticipated, making money in twenty-three of these years (having only modest losses in the other three) and making more money in total for our clients than any other hedge fund ever. While the investment management concepts that underlie Pure Alpha eventually changed our industry, the journey from conception to general acceptance took many years of learning and grinding work by a group of dedicated partners.

GETTING OUR KILLER SYSTEM OUT INTO THE WORLD

Pure Alpha represented the best way we knew to actively manage money, but we also knew that if we wanted to manage a meaningful amount of institutional money, we had to accept the reality that only a limited number of innovative clients would try the approach. So while we tried to convince clients to adopt our way, by the end of the 1990s and into the early 2000s,

Pure Alpha made up only around 10 percent of our total assets under management.

Even though we couldn't trade stocks and commodities in our pure bond accounts, we applied the portfolio structuring principles we'd discovered and used with Pure Alpha to give our bond clients higher returns at lower levels of risk. This included trading foreign government bonds, emerging market debt, inflation-linked bonds, corporate bonds, and the currency exposures that came with the foreign investments. In our most unconstrained bond portfolios, we would make about fifty different types of bets, way more than traditional bond managers traded. Doing so gave us a big edge and landed us at the top of many investment performance tables year after year.

Our Pure Alpha product was just the first of a number of innovative designs we brought to our clients. In 1991, we had become the first currency overlay managers for institutional investors. At the time, institutional investors were placing larger portions of their portfolios into global equity and bond markets. While investing internationally added valuable diversity, it also added unmanaged currency exposure. This was a big problem because the currency exposures added risk without adding any expected return. We had traded currencies for years and had developed expertise in portfolio engineering, so we were in a prime position to solve this problem. Eventually we became the largest active currency manager in the world.

We also produced several other new and effective ways of managing money that flew exactly as they were designed. With each one, we gave clients clearly stated performance expectations expressed in a chart that showed an accumulated profit line and the expected variations around that line. We could do this because the systemization of our decision-making process allowed us to stress-test the performance of our decision making under a wide variety of conditions.

SYSTEMIZING OUR LEARNING FROM MISTAKES

Of course we continued to make mistakes, though they were all within our range of expectations. What was great is that we made the most of our mistakes because we got in the habit of viewing them as opportunities to learn and improve. One of our most memorable mistakes happened in the early 1990s, when Ross, who was in charge of trading at the time, forgot to

put in a trade for a client and the money just sat there in cash. By the time the mistake was discovered, the damage was several hundred thousand dollars.

It was a terrible and costly error, and I could've done something dramatic like fire Ross to set a tone that mistakes would not be tolerated. But since mistakes happen all the time, that would have only encouraged other people to hide theirs, which would have led to even bigger and more costly errors. I believed strongly that we should bring problems and disagreements to the surface to learn what should be done to make things better. So Ross and I worked to build out an "error log" in the trading department. From then on, anytime there was any kind of bad outcome (a trade wasn't executed, we paid significantly higher transaction costs than expected, etc.), the traders would make a record of it and we would follow up. As we consistently tracked and addressed those issues, our trade execution machine continually improved.

Having a process that ensures problems are brought to the surface, and their root causes diagnosed, assures that continual improvements occur.

For that reason I insisted that an issue log be adopted throughout Bridgewater. My rule was simple: If something went badly, you had to put it in the log, characterize its severity, and make clear who was responsible for it. If a mistake happened and you logged it, you were okay. If you didn't log it, you would be in deep trouble. This way managers had problems brought to them, which was worlds better than having to seek them out. The error log (which we now call the issue log) was our first management tool. I learned subsequently how important tools are in helping to reinforce desired behaviors, which led us to create a number of tools I will describe later.

This culture of bringing problems and disagreements to the surface generated a lot of discomfort and conflict, especially when it came to exploring people's weaknesses. Before long, things came to a boil.

MY "INTRACTABLE" PEOPLE PROBLEM

One winter day in 1993, Bob, Giselle, and Dan proposed taking me out to dinner with the stated purpose of "giving Ray feedback about how he affects people and company morale." They sent me a memo first, the gist of which was that my way of operating was having a negative effect on everyone in the company. Here's how they put it:

What does Ray do well?

He is very bright and innovative. He understands markets and money management. He is intense and energetic. He has very high standards and passes these to others around him. He has good intentions about teamwork, building group ownership, providing flexible work conditions to employees, and compensating people well.

What Ray doesn't do as well:

Ray sometimes says or does things to employees which makes them feel incompetent, unnecessary, humiliated, overwhelmed, belittled, oppressed, or otherwise bad. The odds of this happening rise when Ray is under stress. At these times, his words and actions toward others create animosity toward him and leave a lasting impression. The impact of this is that people are demotivated rather than motivated. This reduces productivity and the quality of the environment. The effect reaches far beyond the single employee. The smallness of the company and the openness of communication means that everyone is affected when one person is demotivated, treated badly, not given due respect. The future success of the company is highly dependent on Ray's ability to manage people as well as money. If he doesn't manage people well, growth will be stunted and we will all be affected.

Ugh. That hurt and surprised me. I never imagined that I was having that sort of effect. These people were my extended family. I didn't want them to feel "incompetent, unnecessary, humiliated, overwhelmed, belittled, oppressed, or otherwise bad." Why didn't they tell me directly? What was I doing wrong? Were my standards too high? For Bridgewater to continue to be a one-in-ten-thousand-type company we had to have exceptional people and hold them to extremely high standards. Was I demanding too much?

This looked to me like another one of those fork-in-the-road cases in which I had to choose between one of two seemingly essential but mutually exclusive options: 1) being radically truthful with each other including probing to bring our problems and weaknesses to the surface so we could deal with them forthrightly and 2) having happy and satisfied employees. And it reminded me that when faced with the choice between two things you need that are seemingly at odds, go slowly to figure out how you can have as much of both as possible. There is almost always a good path that you just

haven't figured out yet, so look for it until you find it rather than settle for the choice that is then apparent to you.

My first step was to make sure I knew exactly what the problems were and how to handle them. So I asked Bob, Giselle, and Dan what they thought was going on. I learned that they personally, and many others who knew me well, weren't as demoralized by me as some others because they understood my heart was in a good place. If they hadn't known that they would have quit, because, as they put it, "I wasn't paying them enough money to put up with my crap."

They knew that I wanted the best for them and Bridgewater, and to get that I needed to be radically truthful with them and I needed them to be radically truthful with me. This wasn't only because it produced better results, but also because being truthful with each other was fundamental to how I believed we should be with each other. We agreed that being this way was essential, but since it was making some people feel bad, something had to change.

While those people I had contact with understood me, liked me, and in some cases even loved me, those who had less contact with me were offended by my directness. It was clear that I needed to be better understood and to understand others better. I realized then how essential it is that people in relationships must be crystal clear about their principles for dealing with each other.

That began our decades-long process of putting our principles into writing, which evolved into the Work Principles. Those principles were both agreements for how we would be with each other and my reflections on how we should handle every situation that came up. Since most types of situations arose repeatedly with slight variations, these principles were continually refined. As for our agreements with each other, the most important one was our need to do three things:

1. Put our honest thoughts out on the table,
2. Have thoughtful disagreements in which people are willing to shift their opinions as they learn, and
3. Have agreed-upon ways of deciding (e.g., voting, having clear authorities) if disagreements remain so that we can move beyond them without resentments.

I believe that for any organization or for any relationship to be great, these things are required. I also believe that for a group decision-making system to be effective, the people using it have to believe that it's fair.

Having our work principles written out and getting in sync about them in the same way we had with our investment principles were essential for our understanding each other, especially since our unique way of operating—this radical truth and radical transparency—that led to our unique results is counterintuitive and emotionally challenging for some.

Trying to understand how we could get our meaningful work and meaningful relationships through this straightforwardness led me to speak with neuroscientists, psychologists, and educators over the decades that followed. I learned a lot, which I can summarize as follows. There are two parts of each person's brain: the upper-level logical part and the lower-level emotional part. I call these the "two yous." They fight for control of each person. How that conflict is managed is the most important driver of our behaviors. That fighting was the biggest reason for the problems Bob, Giselle, and Dan raised. While the logical part of people's brains could easily understand that knowing one's weaknesses is a good thing (because it's the first step toward getting around them), the emotional part typically hates it.

3 By "return streams," I mean the returns that come from executing a particular decision rule—think of them as lines on a chart that track the value of an investment through time, and the decision to either let it continue to grow in value or sell.

4 This approach is what I call the "5-Step Process." I'll dive into it in more detail later on.

5 I'll explore more on the topic of working with computer-aided decision-making systems in Chapter Five of *Life Principles, Learn How to Make Decisions Effectively*.

6 With advances in digital technology, we continue to innovate our methods for recording and distributing this content.

7 You can find the references to books by Robert Kegan, Edward Hess, and Adam Grant in the bibliography.

8 Treasury secretary Hank Paulson's moves, especially putting government money into systemically important banks, were also crucial.

CHAPTER 5

THE ULTIMATE BOON:

1995–2010

By 1995, Bridgewater had grown to forty-two employees and \$4.1 billion under management, which was more than I'd ever hoped for, especially considering that Bridgewater had been down to just me only a dozen years before. While things were much better and more stable, we were still doing basically the same things I'd been doing from the start—wrestling with the markets, thinking independently and creatively about how to make our bets, making mistakes, bringing those mistakes to the surface, diagnosing them to get at their root causes, designing new and better ways of doing things, systematically implementing the changes, making new mistakes, and so on.⁴ This iterative, evolutionary approach allowed us to continually refine the investment systems that I'd begun building in 1982. Back then, we showed that a few bright guys with computers could beat the big, well-equipped establishment players. Now we were becoming the well-equipped establishment ourselves.

As the number of decision rules and the amount of data in our systems grew more complex, we hired young programmers who were better than us in converting our instructions into code and smart new grads right out of college to help with our investment research. One of these new whiz kids, Greg Jensen, joined Bridgewater as a college intern in 1996. Because he shined, I grabbed him as my research assistant. Over the decades that followed, he contributed a lot, grew into the co-chief investment officer role with Bob Prince and me, and became a co-CEO. He also became like a godson to me.

We also invested in more and more powerful computers.⁵ Having our systems running through these machines freed us to get above the daily movements of the markets and consider things from a higher level, where we

could make novel, creative connections that produced innovations for our clients.

DISCOVERING INFLATION-INDEXED BONDS

Around this time, I had dinner with David White, the man in charge of the Rockefeller Foundation's money. David asked me how I would engineer the foundation's portfolio to produce a return that was 5 percent above the U.S. inflation rate. I answered that a portfolio of leveraged foreign inflation-indexed bonds with the currency hedged back to U.S. dollars should deliver exactly that. (The bonds needed to be foreign because there were no U.S. inflation-indexed bonds at the time, and they needed to be hedged to the dollar so there would be no currency risk.)

Thinking about this later, I realized that we could create an entirely new and radically different asset class, so Dan Bernstein and I researched such a portfolio more closely. According to our analysis, this new asset class would perform even better than we'd thought. In fact, it would be uniquely effective because we could engineer it to have the same expected return as equities but with less risk and with a negative correlation with bonds and equities over long time frames. We showed this research to our clients and they loved it. Before long, we became the first global inflation-indexed bond manager in the world. In 1996, U.S. Treasury deputy secretary Larry Summers began looking into whether the U.S. should issue its own inflation-indexed bonds, and because we were the only manager with a portfolio of such bonds, he called us in as experts.

Dan and I traveled down to Washington to meet with Summers, his Treasury colleagues, and a number of representatives from well-known Wall Street firms. We were late (punctuality isn't one of my strengths) and the doors to the big meeting room at Treasury were locked. I wasn't going to let that stop me, so I knocked until someone opened it. It was a large room with a table in the middle and a press gallery off to the side. There was only one seat open at the table and it had Dan's nameplate in front of it—we'd agreed that he'd be our one allowed representative since he'd done a lot of the prep work. I had forgotten that, so I walked over to the press gallery, grabbed a chair, and carried it next to Dan's so I had a seat at the table too. Dan describes that meeting as an analogy for what it was like for us in the 1990s

in general: We had to barge our way into things. Larry Summers has since said that the advice he got from us was the most important in shaping this market. When the Treasury did create the bonds, they followed the structure we recommended.

DISCOVERING RISK PARITY

By the mid-1990s, I had enough money to set up a trust for my family, so I began to think about what the best asset allocation mix for preserving wealth over generations would look like. In my years as an investor, I had seen all sorts of economic and market environments and all kinds of ways that wealth could be created and destroyed. I knew what drove asset returns, but I also knew that no matter what asset class one held, there would come a time when it would lose most of its value. This included cash, which is the worst investment over time because it loses value after adjusting for inflation and taxes. I also knew how difficult it was to anticipate the swings that cause those losses. I've devoted my life to it and I've made my share of bad calls; anticipating these swings wasn't something I'd bet on others doing well when I wasn't around. Finding investors who have done well in all economic environments—when inflation rises and when it falls, when there are booms and when there are busts—is like finding needles in a haystack, and they don't live forever so that's not a viable path. I didn't want the wealth I had created to protect my family to be wiped out after I was gone. That meant I had to create a mix of assets that could be good in all economic environments.

I knew which shifts in the economic environment caused asset classes to move around, and I knew that those relationships had remained essentially the same for hundreds of years. There were only two big forces to worry about: growth and inflation. Each could either be rising or falling, so I saw that by finding four different investment strategies—each one of which would do well in a particular environment (rising growth with rising inflation, rising growth with falling inflation, and so on)—I could construct an asset-allocation mix that was balanced to do well over time while being protected against unacceptable losses. Since that strategy would never change, practically anyone could implement it. And so, with help from Bob and Dan, I created a portfolio mix that I could comfortably put my trust

money in for the next hundred or more years. I called it the “All Weather Portfolio” because it could perform well in all environments.

Between 1996 and 2003 I was the only “client” investing in it because we didn’t sell it as a product. But in 2003, the head of Verizon’s pension fund, a longtime client, told us he was looking for an approach to investing that would do well across all environments. After Verizon made its investment, others quickly followed, and a dozen years later we were managing nearly \$80 billion. It was another industry-shaping concept. Seeing its success, other investment managers followed with their own versions. It is now generically called “risk parity” investing.

TO REMAIN A BEAUTIFUL BOUTIQUE OR BECOME A GREAT INSTITUTION?

With our people and culture producing these industry-shaping investment products, Bridgewater really took off. By 2000, we were managing more than \$32 billion, almost eight times what we had been managing just five years before. Our head count had doubled, so we moved out of our strip mall office into a larger space situated in a nature preserve on the banks of the Saugatuck River. But while we continued to grow, it was never clear sailing. Building the business while managing investments required me to do two challenging jobs simultaneously and develop two distinct skill sets, while being a good father, husband, and friend. The demands of these roles changed over time, so the skills and abilities I needed changed as well.

Most people assume that the challenges that go along with growing a large business are greater than those of growing a smaller one. That is not true. Going from a five-person organization to a sixty-person organization was just as challenging as going from a sixty-person organization to a seven-hundred-person organization—and from a seven-hundred-person organization to a 1,500-person one. Looking back, I can’t say that the challenges were easier or harder at any of the various phases we went through. They were just different. For example, when I had no one to manage, I had the challenge of having to do almost everything myself. When I learned and earned enough to pay others, I had the challenge of managing them. Similarly, the challenges of wrestling with market and economic swings were constantly changing. I didn’t think about it then, but it’s obvious to me now that while one gets

better at things over time, it doesn't become any easier if one is also progressing to higher levels—the Olympic athlete finds his sport to be every bit as challenging as the novice does.

Very soon we faced another critical choice: What kind of company did we want to have? Should we continue to grow or stay about the same size?

By 2003, I had come to believe that we needed to grow Bridgewater into a real institution instead of remaining a typical boutique-sized investment manager. Doing this would make us better in many ways—better technology, better security controls, a deeper talent pool—all of which would make us more stable and permanent. This meant hiring more people in technology, infrastructure, and other areas, as well as additional HR and IT staff to train and support them.

Giselle argued strongly that we should not grow. She believed that introducing a lot of new people would threaten our culture, and that the time and attention that hiring, training, and managing them required would dilute our focus. While I agreed with her points, I didn't like the alternative of not allowing ourselves to become all we could be. I felt about this fork-in-the-road choice the way I felt about most others—that whether or not we could have our cake and eat it too was merely a test of our creativity and character. For example, I could envision ways in which technology would help us get the most out of people. After a fair amount of wrestling with these questions, we decided to go ahead.

FLESHING OUT PRINCIPLES

Ever since Bob, Giselle, and Dan had presented me with the “Ray Feedback Memo” in the 1990s, I had been much more explicit in writing down and sharing my work principles in the same way I had written down my investment principles. At first, this took the form of shared philosophy statements and emails to the entire company. Then, whenever something new came along that required me to make a decision, I would reflect on my criteria for making that decision and write it down as a principle so people could make the connections between the situation, my principle for handling these situations, and my actions. More and more, we saw everything as “another one of those”—another of a certain type of situation like hiring, firing, determining compensation, dealing with dishonesty—that had

principles for handling them. By having them explicitly written out, I could foster the idea meritocracy by having us together reflect on and refine those principles—and then adhere to them.

The number of principles started small and grew over time. By the mid-2000s, Bridgewater was beginning to grow rapidly, and we had a number of new managers trying to learn and adapt to our unique culture—and who were increasingly asking me for advice. I was also beginning to have people from outside Bridgewater ask me how they could create idea meritocracies of their own. So in 2006, I prepared a rough list of about sixty Work Principles and distributed them to Bridgewater’s managers so they could begin to evaluate them, debate them, and make sense of them for themselves. “It’s a rough draft,” I wrote in the covering memo, “but it is being put out now for comments.”

This began an ongoing evolutionary process of encountering many situations, forming principles about how to deal with them, and getting in sync with other Bridgewater leaders and managers about them. Over time, I encountered most everything there is to encounter in running a company, so I had a few hundred principles that covered most everything. That collection of principles, like our collection of investment principles, became a kind of decision-making library. Those principles are the basis of what you’ll find in *Work Principles*.

But it wasn’t enough to codify and teach our philosophy; we had to live it. As the company grew bigger, how that happened evolved. In Bridgewater’s early days, everyone knew each other, so being radically transparent was easy—people could attend the meetings they wanted to and communicate with each other informally. But as we grew, that became logistically impossible, which was a real problem. How could people engage productively with the idea meritocracy if they didn’t know everything that was going on? Without transparency, people would spin whatever happened to suit their own interests, sometimes behind closed doors. Problems would be hidden instead of brought to the surface where they could be resolved. To have a real idea meritocracy, there must be transparency so that people can see things for themselves.

To make sure this happened, I required that virtually all our meetings be recorded and made available to everyone, with extremely rare exceptions such as when we were discussing very private matters like personal health or proprietary information about a trade or decision rule. At first I sent these

tapes of management meetings unedited to the entire company, but that was a huge burden on people's time. So I built a small team to edit the tapes, focusing on the most important moments, and over time we added questions to create "virtual reality" case studies that could be used for training.⁶ Over time, these tapes became part of a "boot camp" for new employees as well as a window into an ongoing stream of situations connected to the principles for handling them.

All this openness led to some very frank discussions about who did what and why, and as a result we were able to deepen our understanding of our different ways of thinking. This was enlightening to all of us in showing how differently people's brains worked. If nothing else, I could better appreciate people I'd once wanted to strangle! Moreover, I recognized that managers who do not understand people's different thinking styles cannot understand how the people working for them will handle different situations, which is like a foreman not understanding how his equipment will behave. That insight led us to explore psychometric testing as a way of learning how people think differently.

DISCOVERING PSYCHOMETRIC TESTING

Early in my kids' lives, I'd had them tested by a brilliant psychologist named Sue Quinlan. Her assessments proved spot-on and provided a great road map for how they would develop over the years. Because that testing process had been so successful, I worked with her and others to try to identify the best tests for determining what the people I worked with were like. In 2006, I took the Myers-Briggs Type Indicator (MBTI) assessment for the first time and found its description of my preferences to be remarkably accurate.

Many of the differences it described, such as those between "intuiting people," who tend to focus on big-picture concepts, and "sensing people," who pay more attention to specific facts and details, were highly relevant to the conflicts and disagreements we were having at Bridgewater. I began to look for other tests that could help us deepen our understanding of each other. This was slow going at first, largely because most of the psychologists I met were surprisingly squeamish about exploring differences. But eventually I found a few great people, especially a psychologist named Bob Eichinger, who pointed me to a number of other very useful tests.

In early 2008, I had most of Bridgewater's managers take the Myers-Briggs assessment. The results astounded me. I couldn't believe that some of them actually thought in the ways the test described, yet when I asked them to rate how well it described them on a scale of one to five, more than 80 percent of them gave it a four or five.

CREATING BASEBALL CARDS

Even after we were armed with the Myers-Briggs data and other tests we'd taken, I found that we were still having a hard time connecting the dots between the outcomes that we were seeing and what we knew about the people producing them. Over and over again, the same people would walk into the same meetings, do things the same ways, and get the same results without seeking to understand why. (Recently I came across a study that revealed a cognitive bias in which people consistently overlook the evidence of one person being better than another at something and assume that both are equally good at a task. This was exactly what we were seeing.) For example, people who were known not to be creative were being assigned tasks that required creativity; people who didn't pay attention to details were being assigned to detail-oriented jobs, and so on. We needed a way to make the data that showed what people were like even clearer and more explicit, so I began making "Baseball Cards" for employees that listed their "stats." The idea was that they could be passed around and referred to when assigning responsibilities. Just as you wouldn't have a great fielder with a .160 batting average bat third, you wouldn't assign a big-picture person a task requiring attention to details.

At first, this idea met a lot of resistance. People were concerned that the Baseball Cards wouldn't be accurate, that producing them would be too time-consuming, and that they would only succeed in pigeonholing people unfairly. But over time, everyone's attitudes toward this approach of openly exploring what people are like shifted 180 degrees. Most people found that having this information out in the open for everyone to see was more liberating than constraining because when it became the norm, people gained the sort of comfort that comes with just being themselves at work that family members have with each other at home.

Because this way of operating was so unusual, a number of behavioral psychologists came to Bridgewater to evaluate it. I urge you to read their assessments, which were overwhelmingly favorable.⁷ The Harvard psychologist Bob Kegan called Bridgewater “a form of proof that the quest for business excellence and the search for personal realization need not be mutually exclusive—and can, in fact, be essential to each other.”

I should also explain that my personal circumstances at the time also drew me to psychology and neurology. While for the most part I am keeping my family members’ lives out of this book to protect their privacy, I will tell you this one story about my son Paul as it is relevant and he is open about it.

After graduating from NYU’s Tisch film school, Paul headed out to Los Angeles to take a job. One day he went to the front desk of the hotel where he was staying while he looked for an apartment and smashed their computer. He was arrested and thrown in jail, where he was beaten up by guards. Ultimately, he was diagnosed with bipolar disorder, released into my custody, and admitted to the psychiatric ward of a hospital.

That was the beginning of a three-year roller-coaster ride that took Paul, Barbara, and me to the peaks of his manias and the depths of his depressions, through the twists and turns of the health care system, and into discussions with some of the most brilliant and caring psychologists, psychiatrists, and neuroscientists at work today. There is nothing to prompt learning like pain and necessity, and this gave me plenty of both. At times I felt as though I was holding Paul by the hand as he was dangling over a cliff—from one day to the next, I never knew whether I could hold on or if he would slip from my grip. I worked intensely with his caregivers to understand what was going on and what to do about it. Thanks both to the help he received and his own great character, Paul worked through this and is now better off than if he hadn’t fallen into his abyss, because he developed strengths he didn’t have but needed. Paul was once wild—staying out till all hours, disorganized, smoking marijuana and drinking—but he now faithfully takes his meds, meditates, goes to bed early, and avoids drugs and alcohol. He had loads of creativity but lacked discipline. Now he has plenty of both. As a result, he is more creative now than he was before and is happily married, the father of two boys, an accomplished filmmaker, and a crusader helping those who struggle with bipolar disorder.

His radical transparency about being bipolar and his commitment to helping others with it inspires me. His first feature film, *Touched with Fire*,

which received lots of acclaim, gave many people who might have lost their lives to bipolar disorder both the hope and the path forward they needed. I remember watching him shoot one scene based on a real conversation between us in which he was manic and I was struggling to reason with him. I could simultaneously see the actor playing Paul at his worst while the real Paul was at his best, directing the scene. As I watched, my mind flashed over his whole journey—from the depths of his abyss, through his metamorphosis into the strong hero standing in front of me, someone on a mission to help others going through what he had gone through.

That journey through hell gave me a much deeper understanding of how and why we see things differently. I learned that much of how we think is physiological and can be changed. For example, Paul's wild swings were due to the inconsistent secretions of dopamine and other chemicals in his brain, so he could change by controlling those chemicals and the activities and stimuli affecting them. I learned that creative genius and insanity can be quite close to each other, that the same chemistry that creates insights can cause distortions, and that being stuck in one's own head is terribly dangerous. When Paul was "crazy," he always believed his own illogical arguments, no matter how strange they sounded to others. While more extreme in the case of someone with bipolar disorder, this is something I've seen most everyone do. I also learned how people can control how their brains work to produce dramatically better effects. These insights helped me to deal with people more effectively, as I will explain in detail in Chapter Four, *Understand That People Are Wired Very Differently*.

MAKING BRIDGEWATER ROCK-SOLID AND CUTTING-EDGE

At our annual town hall meeting in June 2008, I said that seen through my eyes Bridgewater was then, and always had been, "both terrible and terrific at the same time." After about five years of rapid growth toward building Bridgewater as an institution, we had encountered our newest set of problems. This was nothing new. Since I started Bridgewater we always had some problems because we were always doing bold new things, making mistakes, and evolving quickly. For example, technology had changed so quickly during the years we'd built the company that we had literally

switched from using slide rules to spreadsheet software to advanced artificial intelligence. With so much changing so fast, it had seemed pointless to focus on getting everything “just right” when something newer and better was sure to come along. So we built our technology in a light and flexible way, which made sense at the time but also created a number of hairballs that badly needed untangling. That same approach of moving quickly and flexibly had been true throughout the company, so several departments had become overstretched as we grew. It had always been fun being cutting-edge, but we were having a hard time becoming rock-solid, especially in the noninvestment side of the business. The organization needed to be renovated in several ways—but it wasn’t going to be easy.

In 2008 I was working about eighty hours a week doing my two full-time jobs (overseeing our investments and overseeing the company), and in my opinion not doing well enough at either. I felt that I, and the company more broadly, were slipping from being pervasively excellent. From the get-go I had toggled acceptably between investment management and business management. But now that we were a bigger company, the business management side was demanding much more time than I had to give it. I conducted a time-and-motion study of all of my investment and management responsibilities; it showed it would take me about 165 hours a week to achieve the level of excellence that I would be satisfied with in overseeing both our investments and management. That was obviously impossible. Since I wanted to delegate as much as possible, I asked whether the things I was doing could be done excellently by others, and if so, who those others were. Everyone agreed that most of those areas couldn’t adequately be delegated. I clearly hadn’t done a good enough job of finding and training others to whom I could delegate my responsibilities.

To me, the greatest success you can have as the person in charge is to orchestrate others to do things well without you. A step below that is doing things well yourself, and worst of all is doing things poorly yourself. As I reflected on my position, I could see that despite all of my and Bridgewater’s amazing achievements, I had not achieved this highest level of success. In fact, I was still struggling to achieve the second-highest level (doing things well myself), even though Bridgewater was extremely successful.

At the time, there were 738 people working at Bridgewater, with fourteen department heads. I oversaw the department heads, along with a Management Committee I’d created because I knew I couldn’t trust myself to know what

was best without others probing me. I had structured the reporting lines so that I both reported to the Management Committee and held its members accountable for their oversight of the company. I wanted them to also own the responsibility of producing pervasive excellence and I wanted to be at their service in helping them achieve it.

In May 2008, I wrote an email to the five members of the Management Committee, copying the company, telling them that “I am escalating to let you know that I have reached my limits and that the quality of my work, and my work-life balance, are both suffering unacceptably.”

THE FINANCIAL AND ECONOMIC CRISIS OF 2008

Recognizing that I was stretched wouldn't by itself be enough to slow the flow of things coming at me, especially in the investment area at what proved to be a time of historic turbulence.

Because too often I had been painfully surprised by different types of events that hadn't happened to me before but happened in other times or other places—like the currency devaluation of 1971, or the debt crisis in the early 1980s—I'd developed our economic and market principles to be timeless and universal. In other words, I knew that we needed to understand all important economic and market movements, not just those that happened to me, and to make sure the principles we were using to position ourselves would have worked in all past times and all other countries.

As a result, back in the early 2000s, we had included a “depression gauge” in our systems that specified the actions we should take if a certain configuration of events began to play out in a way indicating a heightened risk of a debt crisis and depression. In 2007, this gauge indicated that a bubble of debt was nearing its bursting point because the costs of debt service were outpacing projected cash flows. Because interest rates were so close to 0 percent, I knew that central banks could not ease monetary policy enough to reverse the downturn the way they had in prior recessions. This was the exact configuration that had led to past depressions.

My mind and gut flashed back to my 1979–82 experience. I was now both thirty years more knowledgeable and a whole lot less confident. While the dynamic in the economy seemed clear to me, I was much less sure I was right. I remembered how clearly it had seemed to me that the debt bust I'd

been expecting in 1982 would sink the economy—and how painfully wrong I had turned out to be.

That experience also drove me to learn a lot more about debt crises and their effects on the markets, and I researched and traded through a number of them, including the Latin American debt crisis in the 1980s, the Japanese debt crisis of the 1990s, the blowup of Long-Term Capital Management in 1998, the bursting of the dot-com bubble in 2000, and the fallout from the attacks on the World Trade Center and Pentagon in 2001. With the help of my teammates at Bridgewater, I took history books and old newspapers and went day by day through the Great Depression and the Weimar Republic, comparing what happened then with what was happening in the present. The exercise only confirmed my worst fears: It seemed inevitable to me that large numbers of individuals, companies, and banks were about to have serious debt problems and that the Federal Reserve couldn't lower interest rates to cushion the blow, as was the case in 1930–32.

My fear of being wrong pushed me to seek out other smart folks to poke holes in my view. I also wanted to walk key policymakers through my thinking, both to stress-test it and to make them aware of the situation as I saw it, so I went to Washington to speak with people in both the U.S. Treasury and the White House. Though they were polite, what I was presenting seemed too far-fetched to them, especially when by all outward indications the economy seemed to be booming. Most of them didn't go very deep into our reasoning or calculations before they dismissed them, with one exception: Ramsen Betfarhad, Vice President Dick Cheney's deputy assistant of domestic policy. He worked through all our numbers and was concerned by them.

Because everything we saw lined up and we couldn't find anyone who could refute our views, we prepared our clients' portfolios by balancing our positions in a way that there would be considerable upside and limited downside in the portfolios if we were right and putting in a backup plan in case we were wrong. Though we thought we were well prepared, we were as worried about being right as we were about being wrong. The prospect of the world economy going over a waterfall was scary to all of us because of what it might mean to those who weren't protected.

As in 1982, when conditions deteriorated and circumstances increasingly transpired as we'd predicted, policymakers began to pay more attention to us. Betfarhad had me come to the White House to meet with him. Tim Geithner,

president of the New York Fed, asked to see me as well. I brought Bob, Greg, and a young analyst named Bob Elliott to a lunch meeting with Geithner. We walked him through the numbers and he literally turned white. When he asked me where we'd gotten them from, I told him they were publicly available. We'd just put them together and looked at them in a different way.

Two days after our meeting with Geithner, Bear Stearns collapsed. That didn't trigger much worry for most people or for the markets, though it was a sign of what was to come. It wasn't until six months later in September, when Lehman Brothers collapsed, that everyone else connected the dots. At that point the dominoes fell fast, and though they couldn't contain all the damage, policymakers, most importantly Fed chairman Ben Bernanke, reacted brilliantly to create "a beautiful deleveraging" (i.e., a way of lowering debt burdens while keeping economic growth positive and inflation low).⁸

To make this long story short, we navigated this period well for our clients, anticipating market moves and avoiding losses. Our flagship fund made over 14 percent in 2008, a year when many other investors recorded losses of more than 30 percent. We would have done even better had we not feared being wrong, which led us to balance our bets instead of arrogantly and foolishly putting more chips at stake. But I had no regrets because I had learned that it wasn't smart to bet that way. While in this case we would have made more money if we were less balanced, we certainly wouldn't have survived and succeeded long enough to be in such a position if we'd approached our investments in that way.

The 2008 debt crisis was another one of those like the one in 1982, which were both like many more before them and many more that will come. I enjoyed reflecting back on my painful mistakes and the value of the principles they gave me. When the next big one comes along in twenty-five years or so, or who knows when, it will probably come as a surprise and cause a lot of pain unless those principles are properly encoded in algorithms put into our computers.

HELPING POLICYMAKERS

Our economic and market principles were very different from most others, which accounted for our different results. I will explain these differences in *Economic and Investment Principles* and won't digress into them now.

As former Fed chairman Alan Greenspan put it, “The models failed at a time when we needed them most . . . JP Morgan had the American economy accelerating three days before [the Lehman Brothers’ collapse]—their model failed. The Fed model failed. The IMF model failed . . . So that left me asking myself: What happened?” Bill Dudley, president of the New York Fed, homed in on the problem when he said, “I think there’s a fundamental problem in terms of how macroeconomists look at the economic outlook, growth, and inflation . . . If you look at the big macro models, they don’t have a financial sector typically in them. They don’t admit the possibility that the financial sector could essentially melt down, and therefore the monetary policy impulse could be completely impaired. So I think the lesson of the crisis is to do a lot more work to make sure that the finance people are talking to the macroeconomist people and building models that are more robust.” He was right. We “finance people” see the world very differently from the way economists do. As a result of our success, policymakers reached out to us more, which led me to have a lot more contact with senior economic policymakers in the U.S. and around the world. Out of respect for the privacy of our conversations, I won’t say much about them except to note that they became much more open to our nontraditional ways of looking at economies and markets, and more skeptical about traditional economic thinking, which had failed to either signal or avert the crisis.

Most of our exchanges were one-sided; I generally answered their questions and didn’t ask any that would put them in the awkward position of having to avoid answering for fear of compromising confidential information. I met with these leaders without making judgments and without regard for their particular ideologies. I approached them like a doctor, just wanting to make the most beneficial impact.

They wanted my help because my global macroeconomic perspective as an investor was very different from theirs as policymakers. We were both products of our environments. Investors think independently, anticipate things that haven’t happened yet, and put real money at stake with their bets. Policymakers come from environments that nurture consensus, not dissent, that train them to react to things that have already occurred, and that prepare them for negotiations, not placing bets. Because they don’t benefit from the constant feedback about the quality of their decisions that investors get, it’s not clear who the good and bad decision makers among them are. They also have to be politicians. Even the most clear-sighted and capable policymakers

must constantly divert their attention from the immediate problems they are dealing with to fight the objections of other policymakers, and the political systems they must navigate are often dysfunctional.

While the economic machine is more powerful than any political system in the long run (ineffective politicians will be replaced and incapable political systems will change), the interaction between the two is what drives economic cycles in the here and now—and it's often not pretty to watch.

MAKING GREAT RETURNS

Our returns in 2010 were the best ever—nearly 45 and 28 percent in our two Pure Alpha funds and close to 18 percent in All Weather—almost exclusively because the systems we had programmed to take in information and process it were doing it superbly. These systems worked far better than we could with just our brains. Without them, we would have had to manage money the old and painful way: by trying to weigh in our heads all the markets and all the influences on them and then bring them together into a portfolio of bets. We would have had to hire and supervise a bunch of different investment managers, and because we couldn't have blind faith in them, we'd have had to understand how each one made their decisions, which would mean watching what they were doing and why so we could know what to expect from them, while dealing with all their different personality issues. Why would I want to do that? It seemed to me that that way of investing or managing an organization was obsolete, like reading a map instead of following a GPS. Of course, building our system was hard work—it had taken us over thirty years to do it.

Having too much money to manage can hurt performance, since the costs of getting in and out of positions can be high because being too big can push the markets. Making over 40 percent in 2010 had put us in the position of having to return a lot of money to clients who actually wanted to give us more to manage. We were always careful to stay safely short of being too big, lest we kill the goose that lays the golden eggs.

Our clients didn't want their money back—they wanted us to grow it. So we were presented with the puzzle of how to maximize our capacity without hurting our performance. We hadn't looked at that before, because we'd never had that much money. We quickly discovered that if we just tweaked

what we did and created a new fund that managed money the same way as Pure Alpha but invested it solely in the most liquid markets, our expected returns would be the same and the expected risk (i.e., volatility) only slightly higher.

We programmed this new approach into our computers, back-tested it to see how it worked in all countries and time frames, and explained it to our clients in detail so they could thoroughly understand the logic behind it. As much as I love and have benefited from artificial intelligence, I believe that only people can discover such things and then program computers to do them. That's why I believe that the right people, working with each other and with computers, are the key to success.

Toward the end of the year, we opened "Pure Alpha Major Markets" and clients invested \$15 billion in it. Since then its returns have been as expected—that is, about the same as Pure Alpha's (actually better, but only slightly). Our clients were delighted. In fact, this new option was so popular that by 2011 we had to close it to new investment too.

GOING FROM BELOW THE RADAR TO ABOVE IT

Success is a double-edged sword—as I learned after we anticipated the financial crisis and Bridgewater and I began to receive unwanted public attention. Our unusual performance, our unusual way of looking at economics and markets, and our unusual culture made us a continuing subject of interest. I wanted to stay under the radar so I avoided interacting with the press. That didn't stop the press from writing about me and Bridgewater, which they typically did in a sensationalistic way—either painting me as a superhero investor who walked on water or as a leader of a cult, and sometimes both.

Getting a lot of attention for being successful is a bad position to be in. Australians call it the "tall poppy syndrome," because the tallest poppies in a field are the ones most likely to have their heads whacked off. I didn't like the attention and I especially didn't like the mischaracterizations of Bridgewater as a cult, because I felt it was hurting our ability to recruit great people. At the same time, I realized that because we didn't let the media see how we truly operated inside Bridgewater, those sensational portrayals were unavoidable.

So I decided in late 2010 to make public my *Principles*—which explained exactly what we were doing and why. I put it on our website so it could be read freely and understood by people outside the company.

Doing that was a hard decision, but it turned out to be a great one. Most people got it and many beyond Bridgewater benefited from reading them. More than three million people have downloaded *Principles*; some even had it translated into their own languages at their own expense. I've received a large number of thank-you notes from people who said that reading *Principles* had changed their lives.

PREPARING BRIDGEWATER TO SUCCEED WITHOUT ME

Since I was a kid, I've learned by doing. I'd just dive in after things I wanted and try to survive long enough to learn from my mistakes and improve. If I changed fast enough to become sustainable at whatever I was doing, then I would build on that to flourish. I've always had great faith in my ability to figure things out, and over time my need to figure things out made me better at doing so. As a result, I tended to hire people who were the same way—who would dive right into challenges, figure out what to do about them, and then do it. I figured that if they had great character, common sense, and creativity, and were driven to achieve our shared mission, they would discover what it took to be successful if I gave them the freedom to figure out how to make the right decisions. I knew that micromanaging and handcuffing them wouldn't work because neither of us would like it. If I was the one telling them what to do, I wouldn't be getting any leverage from them. Besides, I didn't want to work with people who needed that.

But starting in the 1990s, I began to recognize the emotional barriers most people had to looking at their problems and weaknesses forthrightly. Rather than embracing ambiguous situations and difficult challenges, they tended to get uncomfortable when facing them. It is the rare bird who has the right mix of common sense, creativity, and character to shape change. Almost everyone needs help before they can get there. So I wrote down my principles and the logic behind them and shared them, hoping they could be used by those who thought they were good and debated openly by those who didn't. I figured

that over time we would all get in sync about how particular situations should be handled.

But while almost all of us quickly agreed on the principles intellectually, many still struggled to convert what they had agreed to intellectually into effective action. This was because their habits and emotional barriers remained stronger than their reasoning. The training and the virtual-reality tapes helped a lot, but they still weren't enough.

No matter how much effort we put into screening new hires and training them to work in our idea meritocracy, it was inevitable that many of them would fall short. My approach was to hire, train, test, and then fire or promote quickly, so that we could rapidly identify the excellent hires and get rid of the ordinary ones, repeating the process again and again until the percentage of those who were truly great was high enough to meet our needs.

But for this to work, we needed people with high standards who wouldn't hesitate to eliminate people who couldn't cut it. Many new employees (and some older ones) still were reluctant to probe hard at what people were like, which made things worse. It's tough to be tough on people.

Of course, most of the people who come to Bridgewater are adventurous types; they know what they're getting into. They understand that the chances their job will not work out are higher than normal, but they embrace the risk because the upside of succeeding is huge relative to the downside of having it not work out. In the worst case they learn a lot about themselves, have an interesting experience, and leave for other jobs; in the best case, they become a part of an exceptional team achieving exceptional things.

New hires typically go through an acclimation period of about eighteen to twenty-four months before becoming comfortable with the truthfulness and transparency that is such an essential part of the Bridgewater culture—especially accepting one's mistakes and figuring out how to deal with them. But some people never adapt to it. I've been told that joining Bridgewater is a bit like joining an intellectual Navy SEALs; others describe it as going to a school of self-discovery run by someone like the Dalai Lama. The people who thrive say that while the period of adjustment is difficult, it is also joyous because of the excellence they achieve and the extraordinary relationships they make. And the ones who can't or won't adapt must be cut; this is essential to keeping Bridgewater excellent.

For a long time, I had been the one responsible for establishing the culture and upholding its high standards. But in 2010, I was sixty years old and had

been running Bridgewater for thirty-five years. Though I expected to be good for another ten years or so, I was ready to put my energy into other things. While I always wanted to be deep into the markets, I wanted to spend more time with my family and friends, to help policymakers, and to pursue a few growing passions (like ocean exploration and philanthropy) as well as whatever else interested me. My plan was to step out as CEO while helping my replacements as a mentor, remain in my investment role, and take the time I gained from no longer managing the company to suck the marrow out of life while I still could.

As with all organizations, whether Bridgewater would succeed would come down to the people and the culture. People who run companies are faced with important choices every day. How they make those choices determines the character of the company, the quality of its relationships, and the outcomes it produces. When the buck stopped with me, I was responsible for most of the important decisions. Now those decisions would be in the hands of others. While they would have a well-established culture and agreed-upon principles that had worked for decades, the proof would be in the pudding.

CHAPTER 6

RETURNING THE BOON:

2011–2015

It seems to me that life consists of three phases. In the first, we are dependent on others and we learn. In the second, others depend on us and we work. And in the third and last, when others no longer depend on us and we no longer have to work, we are free to savor life.

I was beginning my transition from my second to my third phase. Both intellectually and emotionally, I was no longer as excited about being successful as I was excited about having the people I cared about be successful without me.

I had two jobs at Bridgewater to transition out of: overseeing the management of the company as chief executive officer, and overseeing the management of our investments as a chief investment officer. I wasn't going to stop playing the markets, because that's a game I've loved playing since I was twelve and I will keep playing until I die. But I didn't want to be *needed* in either role, because of the key-man risk that would create for the company.

My partners and I understood that transitioning from the first generation of leadership to the next in a founder-led organization with a unique culture is difficult, especially if the leader has been in place for a long time. Bill Gates's transition out of the CEO role at Microsoft in 2008 was the most recent example of that but there have been many others.

The biggest question I wrestled with was whether I should leave management completely or stay involved as a mentor. On the one hand, I liked the idea of stepping out completely because it would give the new leadership the freedom to find their own ways of succeeding without me looking over their shoulder. My friends urged me to do that—to “declare victory,” collect my chips, and move on. But I wasn't confident that the transition would go well, as I hadn't done such a thing before. I do things

through trial and error—making mistakes, figuring out what I did wrong, coming up with new principles, and finally succeeding—and I didn't see why my transition should be any different. I also didn't believe that it would be fair for me to dump the heavy workload I was carrying on those I was passing my CEO responsibilities to. I knew that Lee Kuan Yew, the wise founder and leader of Singapore for forty-one years, had transitioned out of his leadership responsibilities to be a mentor, and I had seen how well that went. For all those reasons, I decided I would stay on as a mentor. That meant I would either not speak at all or speak last, but always be available to provide advice. My partners liked the idea.

We agreed we should begin as soon as possible, so those replacing me could gain experience and we could make adjustments as needed. Since what we didn't know about transitioning was greater than what we did know about it, we knew we would need to be careful. We expected that transitioning well would take a number of years—perhaps two or three, perhaps as many as ten. Since we had worked together for many years, we were optimistic that it would be on the shorter end of that range.

On the first day of 2011 I announced to the company that I would be stepping down as CEO, with Greg Jensen and David McCormick replacing me. On July 1, I handed over my management responsibilities to Greg, David, and the rest of the Management Committee. Simultaneously, we explained our “up-to-ten-year transition plan” to our clients.

LEARNING WHAT SHAPERS ARE LIKE

Naturally the new management team struggled over the next eighteen months or so. We diagnosed why in the same way an engineer would diagnose why a machine is operating suboptimally so it could be reengineered to perform better. Since different people produce different outcomes based on differences in what they are like, whenever we create a team we seek to “engineer” the right mix of attributes and people to achieve our goals. So we looked at my attributes relative to others to see what was missing, which we called the “Ray gap.” To be clear, we were looking at the “Ray gap” because I was the one leaving—had Bob, David, or Greg been the ones stepping back, we would have been studying the gaps they left.

Greg and David created a log of my various responsibilities and the differences between the qualities they and I brought to handling them. Everyone agreed the gap was in what we called “shaping.”

To visualize what I mean by “shaping” and “shapers,” think of Steve Jobs, who was probably the greatest and most iconic shaper of our time, as measured by the size and success of his shaping. A shaper is someone who comes up with unique and valuable visions and builds them out beautifully, typically over the doubts and opposition of others. Jobs built the world’s largest and most successful company by revolutionizing computing, music, communications, animation, and photography with beautifully designed products. Elon Musk (of Tesla, SpaceX, and SolarCity), Jeff Bezos (of Amazon), and Reed Hastings (of Netflix) are other great shapers from the business world. In philanthropy, Muhammad Yunus (of Grameen), Geoffrey Canada (of Harlem Children’s Zone), and Wendy Kopp (of Teach for America) come to mind; and in government, Winston Churchill, Dr. Martin Luther King, Jr., Lee Kuan Yew, and Deng Xiaoping. Bill Gates has been a shaper in both business and philanthropy, as was Andrew Carnegie. Mike Bloomberg has been a shaper in business, philanthropy, and government. Einstein, Freud, Darwin, and Newton were giant shapers in the sciences. Christ, Muhammad, and the Buddha were religious shapers. They all had original visions and successfully built them out.

While these are the biggest shapers, I saw that shapers come in varying sizes. You probably know a few personally. They might be your local business, nonprofit, or community leaders—the people who drive change and build lasting organizations. My objective was to identify who the future shapers of Bridgewater would be—either by helping the people who were replacing me in the CEO job become them or by finding shapers on the outside and bringing them in.

On October 5, 2011, a few months after I began to think about what makes a shaper, Steve Jobs died. I wrote about him in our *Daily Observations*, one of the very few times I used the space to address noninvestment-related content, because I admired him as a man who could visualize and execute in breathtakingly wonderful ways. Soon after, Walter Isaacson published his biography of Jobs. I noticed a number of similarities between us, especially when he quoted Jobs’s own words. Soon after that, an article titled “Is Ray Dalio the Steve Jobs of Investing?” came out in *aiCIO*, a prominent investment-industry publication. It also pointed out a number of similarities

between us—that I, like Jobs, started my businesses from scratch (his from a garage, mine from the second bedroom of my apartment), that we both came up with innovative products that reshaped how our industries did things, and that we had unique management styles. Bridgewater has often been called the Apple of the investment world—but to be clear, I didn’t think that Bridgewater or I held a candle to Apple and Jobs.

Isaacson’s book and the article pointed to other parallels in our backgrounds, goals, and approaches to shaping—for example, we were both rebellious, independent thinkers who worked relentlessly for innovation and excellence; we were both meditators who wanted to “put a dent in the universe”; and we were both notoriously tough on people. Of course, there were important differences too. I wished Jobs had shared the principles he had used to achieve his goals.

I wasn’t just interested in Jobs and his principles; I wanted to know about the qualities and principles of all shapers, so I could better understand the likenesses and differences between them and form an archetype of the typical shaper. I had followed that approach for understanding everything; for example, I had made an exhaustive study of recessions so that I could form a timeless picture of an archetypal recession and then understand the differences among them. I did that for all economic and market movements and was inclined to do it for just about everything, because this approach helps me understand how things work. So it made sense I’d do that to understand shapers too.

I started by exploring the qualities of Jobs and other shapers with Isaacson, at first in a private conversation in his office, and later at a public forum at Bridgewater. Since Isaacson had also written biographies of Albert Einstein and Ben Franklin—two other great shapers—I read them and probed him about them to try to glean what characteristics they had in common.

Then I spoke with proven shapers I knew—Bill Gates, Elon Musk, Reed Hastings, Muhammad Yunus, Geoffrey Canada, Jack Dorsey (of Twitter), David Kelley (of IDEO), and more. They had all visualized remarkable concepts and built organizations to actualize them, and done that repeatedly and over long periods of time. I asked them to take an hour’s worth of personality assessments to discover their values, abilities, and approaches. While not perfect, these assessments have been invaluable. (In fact, I have been adapting and refining them to help us in our recruiting and management.) The answers these shapers provided to the standardized

questions gave me objective and statistically measurable evidence about their similarities and differences.

It turns out they have a lot in common. They are all independent thinkers who do not let anything or anyone stand in the way of achieving their audacious goals. They have very strong mental maps of how things should be done, and at the same time a willingness to test those mental maps in the world of reality and change the ways they do things to make them work better. They are extremely resilient, because their need to achieve what they envision is stronger than the pain they experience as they struggle to achieve it. Perhaps most interesting, they have a wider range of vision than most people, either because they have that vision themselves or because they know how to get it from others who can see what they can't. All are able to see both big pictures and granular details (and levels in between) and synthesize the perspectives they gain at those different levels, whereas most people see just one or the other. They are simultaneously creative, systematic, and practical. They are assertive and open-minded at the same time. Above all, they are passionate about what they are doing, intolerant of people who work for them who aren't excellent at what they do, and want to have a big, beneficial impact on the world.

Take Elon Musk. When he had just come out with the Tesla and showed me his own car for the first time, he had as much to say about the key fob that opened the doors as he did about his overarching vision for how Tesla fits into the broader future of transportation and how important that is to our planet. Later on, when I asked him how he came to start his company SpaceX, the audacity of his answer startled me.

"For a long time," he answered, "I've thought that it's inevitable that something bad is going to happen on a planetary scale—a plague, a meteor—that will require humanity to start over somewhere else, like Mars. One day I went to the NASA website to see what progress they were making on their Mars program, and I realized that they weren't even thinking about going there anytime soon.

"I had gotten \$180 million when my partners and I sold PayPal," he continued, "and it occurred to me that if I spent \$90 million and used it to acquire some ICBMs from the former USSR and sent one to Mars, I could inspire the exploration of Mars."

When I asked him about his background in rocketry, he told me he didn't have one. "I just started reading books," he said. That's how shapers think

and act.

At times, their extreme determination to achieve their goals can make them appear abrasive or inconsiderate, which was reflected in their test results. Nothing is ever good enough, and they experience the gap between what is and what could be as both a tragedy and a source of unending motivation. No one can stand in the way of their achieving what they're going after. On one of the personality assessments there is a category they all ranked low on called "Concern for Others." But that doesn't mean quite what it sounds like.

Consider Muhammad Yunus, for example. A great philanthropist, he has devoted his life to helping others. He received the Nobel Peace Prize for pioneering the ideas of microcredit and microfinance and has won the Congressional Gold Medal, the Presidential Medal of Freedom, the Gandhi Peace Prize, and more. Yet he tested low on "Concern for Others." Geoffrey Canada, who has devoted most of his adult life to taking care of all the disadvantaged children in a hundred-square-block area of New York's Harlem, also tested low on "Concern for Others." Bill Gates, who is devoting most of his wealth and energy to saving and improving lives, tested low as well. Obviously Yunus, Canada, and Gates care deeply about other people, yet the personality tests they took rated them low. Why was that? In speaking with them and reviewing the questions that led to these ratings, it became clear: When faced with a choice between achieving their goal or pleasing (or not disappointing) others, they would choose achieving their goal every time.

Through this investigative process, I learned that there are distinctly different types of shapers. The most important difference lies in whether their shaping comes in the form of inventing, managing, or both. For example, while Einstein shaped by inventing, he didn't have to manage, and while Jack Welch (who ran GE) and Lou Gerstner (who ran IBM) were great managers/leaders of people, they didn't have to be as inventive. The rarest cases were people like Jobs, Musk, Gates, and Bezos, who were inventive visionaries and managed big organizations to build those visions out.

There are a lot of people who look like shapers, in that they came up with a great idea and got it to the point where they could sell it for a lot of money, but did not shape consistently. Silicon Valley has many of these types; perhaps they should be called "inventors." I also saw that there were wonderful leaders of organizations who weren't classic shapers, in that they didn't come up with the original visions and build them out; rather, they

entered existing organizations and led them well. Only true shapers consistently move from one success to another and sustain success over decades, and those are the people I want to bring to Bridgewater.

My examination of shapers and my reflections on my own qualities made clear to me that nobody sees the full range of what they need to see in order to be exceptionally successful, though some see a wider range than others. Those that do best both see a wide range themselves while triangulating well with other brilliant people who see things in different, complementary ways.

This realization has been important in making my transition out of management go well. While in the past I would encounter problems, figure out their causes, and design my own ways to get around them, others who think differently than I do will make different diagnoses and designs. My job as mentor was to help them be successful at that.

This exercise reminded me that there are far fewer types of people in the world than there are people and far fewer different types of situations than there are situations, so matching the right types of people to the right types of situations is key.

Because Gates and Jobs had recently left Microsoft and Apple, I watched their former organizations closely to help me better understand how I could help prepare Bridgewater to thrive without me. Certainly the most notable difference between them and Bridgewater was in our cultures—how we use the idea meritocracy of radical truth and radical transparency to bring problems and weaknesses to the surface to prompt forthright dealing with them.

SYSTEMIZING OUR IDEA MERITOCRACY

The more I did the research on people, the clearer it became that there are different types of people and that, by and large, the same types of people in the same types of circumstances are going to produce the same types of results. Said differently, by knowing what someone is like we can have a pretty good idea of what we can expect from them. So I was more motivated than ever to continue gathering lots of data on what people are like to build pointillist pictures of them to help us match people to responsibilities well. Doing this in an evidence-based way would enhance the idea-meritocratic process of aligning people's responsibilities with their merits.

While this all seemed so clear and commonsensical to me, it was much harder to achieve in practice. About a year into my transition, I saw that many new managers (and some older ones) still couldn't see the patterns of people's behaviors through time (in other words, they couldn't connect the dots between what people are like and the outcomes they produce). Their reluctance to probe hard to get at what people are like was making things more difficult.

But then I had a breakthrough, which grew out of an observation that the challenges we were having with making management decisions didn't exist in our investment decision making. I realized that, by using big data analytics and other algorithms, our computers could connect those dots more efficiently than any of us could, just as they had helped us make connections in the markets. These systems also didn't have personal biases and emotional barriers to overcome, so those being analyzed couldn't be offended by the data-driven conclusions the computers were coming up with. In fact, they could look at the data and algorithms, assess them for themselves, and suggest changes if they wanted. We were like scientists trying to develop tests and algorithms for analyzing ourselves objectively.

On November 10, 2012, I shared my thoughts with the Management Committee in an email. Its subject line was "The Path Out: Systemizing Good Management":

It is now clear to me that the main difference behind why the investment management part of Bridgewater is likely to continue to do well and most of the other parts of Bridgewater are unlikely to do as well (if we don't change how we are operating) is that the decision-making processes for investment management have been so systemized that it's hard for people to screw them up (because they are largely following the systems' instructions) while the other areas of Bridgewater are much more dependent on the quality of the people and their decision making.

Think about that. Imagine how Bridgewater's investment decision making would work if it operated the same as Bridgewater's management decision making (i.e., dependent on the people we hired and how they collectively made decisions in their own ways). It would be a mess.

The way the investment decision-making process works is that a small group of investment managers who created these systems see the systems' conclusions and the reasoning of the systems while we make our own

conclusions and explore our reasoning on our own. . . . The machine does most of the work and we interact with it in a quality way. . . . [And] we are not dependent on much more faulty people.

Think about how different management is. While we have principles, we don't have decision-making systems.

In other words, I believe that the investment decision-making process is effective because the investment principles have been put into decision rules that make decisions that people then follow while the management decision-making process is less effective because the management principles have not been put into decision rules that people can follow to make management decisions.

It doesn't have to be that way. Having built the investment systems (with the help of others) and knowing about both investment decision making and management decision making, I am confident that it can be the same. The only questions are whether it can happen fast enough and what will happen in the meantime.

I am working with Greg (and others) to develop these management systems in the same way I worked with Greg and others (Bob, etc.) on the investment systems. You are seeing this happen via the development of the Baseball Cards, Dot Collector, Pain Button, testing, job specing, etc. Because I have a limited time to do this, we need to move fast. At the same time we will have to fight the battles in the trenches, with hand-to-hand combat, to clean out those who are incapable and bring in or promote those who are excellent.

One of the great things about algorithmic decision making is that it focuses people on cause-effect relationships and, in that way, helps foster a real idea meritocracy. When everyone can see the criteria the algorithms use and have a hand in developing them, they can all agree that the system is fair and trust the computer to look at the evidence, make the right assessments about people, and assign them the right authorities. The algorithms are essentially principles in action on a continuous basis.

While our management system has a long way to go before it is as well automated as our investment system, the tools it has made possible, especially the "Dot Collector" (an app that gathers information about people in real time described in detail in the *Work Principles*), have already made an incredible difference in the way we work.

All these tools reinforce good habits and good thinking. The good habits come from thinking repeatedly in a principled way, like learning to speak a language. The good thinking comes from exploring the reasoning behind the principles.

The ultimate goal of all this was to help the people I cared about be more successful without me, which was becoming increasingly pressing as life's milestones continued to remind me of my stage in life. For example, I became a grandfather with the birth of Christopher Dalio on May 31, 2013. And in the summer of 2013, I had a serious health scare that turned out to be nothing but reminded me of my mortality. At the same time, I still loved playing the markets, which I plan to do until I die, making me even more eager to speed the transition from the second to the third phase of my life.

ANTICIPATING THE EUROPEAN DEBT CRISIS

Beginning in 2010, my Bridgewater colleagues and I began to see the emergence of a debt crisis in Europe. We had looked at how much debt had to be sold and how much could be bought for a number of countries and determined that many Southern European nations were likely to come up short. The resulting crisis could be as bad as or worse than the one in 2008–09.

As in 1980 and 2008, while our calculations clearly pointed to a debt crisis ahead, I knew that I could be wrong. Because it would be a big deal if I was right, I wanted to discuss what I was seeing with top policymakers both to alert them and to have them correct me if they saw things differently. I encountered the same sort of resistance without good explanations that I had encountered in Washington in 2008, only this time in Europe. Things were stable at the time, and though I knew there was no reason to believe they would stay that way, most of the people I spoke to weren't ready to listen to my reasoning. I remember a meeting I had with the head of the International Monetary Fund when we were still in the calm before the storm. He doubted my seemingly crazy conclusions, and he wasn't interested in going through the numbers.

Just as U.S. policymakers had before 2008, the Europeans did not fear what they hadn't experienced before. Because things were good at the time and the picture I was painting was worse than anything they'd experienced in

their lifetimes, they found what I was saying implausible. They also didn't possess a granular understanding of who the borrowers and lenders were and how their abilities to borrow and lend would change with changing market conditions. Their understandings of how markets and economies work were oversimplified, like those of academics. For example, they looked at investors as a single thing they called "the market," rather than an amalgam of different players who bought and sold for different reasons. When the markets did badly, they wanted to do things that increased confidence, figuring that if they built confidence the money would come and the problems would disappear. They didn't see that whether they were confident or not, specific buyers didn't have enough money and credit to buy all the debt that had to be sold.

Just as all human bodies work in essentially the same way, so do the economic machines in different countries. And just as physical diseases infect people without regard to nationality, so do economic diseases. So, while the policymakers were at first skeptical, I approached my conversations with them by looking at the physiology of the case at hand. I would diagnose the economic disease they were suffering from, and show them how its symptoms progress by referencing prior analogous cases. Then I'd explain the best practices for treating the disease at its different stages. We would have high-quality back-and-forths about the linkages and the evidence.

Yet even when I did succeed in helping them see the linkages, the political decision-making systems they had to work within were dysfunctional. Not only did they have to decide what they would do as individual countries, the nineteen countries of the European Union had to agree with each other before they could act—in many cases unanimously. There was often no clear way of resolving disagreements, which was a big problem because what needed to be done (printing money) was objectionable to German economic conservatives. As a result, crises would intensify to breaking points while Europe's leaders grappled in long closed-door meetings. Those power struggles tested the nerves of everyone involved. I can't possibly convey the amount of bad behavior these policymakers had to endure for the benefit of the people they represented.

For example, in January 2011, a few weeks after he'd been appointed minister of economy and competitiveness by Spain's new president, I met Luis de Guindos, a man I learned to admire for his forthrightness, intelligence, and heroic willingness to sacrifice himself for his country's

well-being. The old government in Spain had been thrown out and the new government took office as Spanish banks were about to collapse. The new Spanish policymakers were immediately forced to haggle with representatives from the IMF, the European Union, and the European Central Bank (the “Troika” as it was called). They did this into the wee hours of the morning and at the end were required to sign a loan agreement that essentially handed over control of their banking system to the Troika in exchange for the financial support they desperately needed.

My meeting with Minister de Guindos took place the morning after the first and most difficult of these negotiations. With bloodshot eyes but a very alert mind, he patiently and forthrightly answered all my difficult questions and shared his thoughts about what reforms Spain should undertake to deal with their problems. During the next couple of years, over considerable objections, he and his government pushed these controversial reforms through. He never got the praise he deserved, but he didn’t care because his satisfaction came from seeing the results he produced. To me, that is a hero.

As time passed, the European debtor countries fell into deeper depressions. This led Mario Draghi, the president of the European Central Bank, to make the bold decision to buy bonds in September 2012. This move averted the imminent debt crisis, saved the euro, and, as it would turn out, made a lot of money for the ECB. But it failed to immediately stimulate credit and economic growth in the countries that were in depression. Inflation, which the ECB was mandated to get to about 2 percent, was below that target and falling. While the ECB had offered loans on attractive terms to banks in an attempt to solve this issue, banks weren’t taking them up on the offer sufficiently to make a difference. I believed that things would continue to worsen unless the ECB “printed money” and pushed it into the system by buying more bonds. The move toward quantitative easing appeared obvious and necessary to me, so I visited Draghi and the ECB’s executive board to share my concerns.

At the meeting, I told them why this approach would not be inflationary (because it is the level of spending, which is money plus credit, and not just the amount of money, that drives spending and inflation). I focused on how the economic machine works because I felt that if we could agree on that—most importantly, how buying bonds moves money through the system—we could agree on its impacts on inflation and economic growth. In that meeting, and in all such meetings, I shared our calculations as well as the important

cause-effect relationships as I saw them, so that together we could assess whether the conclusions made sense.

A major impediment to this action was that there is no single bond market for the entire Eurozone, and the ECB, like most central banks, isn't supposed to favor one area/country over another. Given those conditions, I shared my theory for how the ECB could do quantitative easing without breaking its rules by buying bonds proportionately across every member country, even though Germany didn't need or want the easing that such purchases would bring them. (The German economy was doing relatively well and inflation fears were beginning to emerge there.)

In the course of those eighteen months, I met with several top European economic policymakers, perhaps most importantly German finance minister Wolfgang Schäuble, whom I judged to be exceptionally thoughtful and selfless. I also saw how politics within Germany and Europe worked.⁹ When push came to shove, the ECB would have to do what was best for Europe, which was to print the money and buy the bonds in the way I had suggested. Doing that was consistent with the ECB's mandate, and the Southern European debtor countries had the votes to allow it to do that, so I figured that it would be the Germans who would get overruled and face the decision to leave the Eurozone, which they would ultimately not do because their leaders had a strong commitment to the Eurozone with Germany as part of it.

Draghi finally announced the move in January 2015. It had a great effect and created a precedent that would allow more quantitative easings in the future if they were needed. The market reaction was very positive. On the day of Draghi's announcement European equities were up a percent and a half, government bond yields fell across the major European economies, and the euro fell 2 percent against the dollar (which helped stimulate the economy). These moves continued over the following months, stimulating European economies, supporting a pickup in growth, and reversing the decline in inflation.

The ECB's decision was obviously the right thing to do, for reasons that were relatively simple. But seeing how controversial its move was, it occurred to me that the world needed a simple explanation of how the economic machine works, because if everyone understood the basics, then economic policymakers would be able to do the right things a lot faster and with less angst in the future. That led me to make a thirty-minute video, *How the Economic Machine Works*, which I released in 2013. Besides explaining

how the economy works it provides a template that helps people assess their economies and gives them guidance about what to do and what to expect during a crisis. It had a much bigger impact than I expected, as it was watched by more than five million people in eight languages. A number of policymakers told me in private that they found it helpful for their own understanding, for dealing with their constituents, and for finding better paths forward. This was very rewarding to me.

From my contacts with policymakers in a number of countries I learned quite a bit about how international relations really works. It is quite different from what most people imagine. Countries behave in a more self-interested and less considerate way than what most of us would consider appropriate for individuals. When countries negotiate with one another, they typically operate as if they are opponents in a chess match or merchants in a bazaar in which maximizing one's own benefit is the sole objective. Smart leaders know their own countries' vulnerabilities, take advantage of others' vulnerabilities, and expect the other countries' leaders to do the same.

Most people who haven't had direct contact with the leadership of their own and other countries form their views based on what they learn in the media, and become quite naive and inappropriately opinionated as a result. That's because dramatic stories and gossip draw more readers and viewers than does clinical objectivity. Also, in some cases "journalists" have their own ideological biases that they are trying to advance. As a result, most people who see the world through the lens of the media tend to look for who is good and who is evil rather than what the vested interests and relative powers are and how they are being played out. For example, people tend to embrace stories about how their own country is moral and the rival country is not, when most of the time these countries have different interests that they are trying to maximize. The best behaviors one can hope for come from leaders who can weigh the benefits of cooperation, and who have long enough time frames that they can see how the gifts they give this year may bring them benefits in the future.

These conflicts of vested interests don't just play out internationally; it can also be nasty within countries. Finding out what's true and trying to do what's in everyone's best interests is rare, though most policymakers pretend that's what they're doing. More typically, they act in support of their constituents' interests. For example, representatives of those with greater income will say higher taxes stifle growth while representatives of those with

less income will say the opposite. It's hard to get everyone to even try to look at the whole picture objectively, let alone to operate in the interests of the whole.

Nonetheless, I came to respect most of the policymakers I worked with and to feel sorry for them because of the terrible positions they were in. Most are highly principled people who are forced to operate in unprincipled environments. The job of a policymaker is challenging under the best of circumstances, and it's almost impossible during a crisis. The politics are horrendous and distortions and outright misinformation from the media make things worse. A number of the policymakers I met—including Draghi, de Guindos, Schäuble, Bernanke, Geithner, Summers, and many others—were real heroes, meaning that they put others and the mission they committed to above themselves. Unfortunately, most policymakers enter their careers as idealists and leave disillusioned.

One of those heroes I have been fortunate enough to learn from and, I hope, help is China's Wang Qishan, who has been a remarkable force for good for decades. To explain what he is like and the journey that took him to the top of China's leadership would take more of this book than I can spare. In brief, Wang is a historian, a very high-level thinker, and a very practical man. I have rarely known a person to be both extremely wise and extremely practical. A leading shaper of the Chinese economy for decades who is also responsible for eliminating corruption, he is known to be a no-nonsense man who can be trusted to get stuff done.

Every time I go to China, we meet for sixty to ninety minutes. We talk about what's happening in the world, and how that relates to thousands of years of history and the never-changing nature of mankind. We discuss a wide range of other topics as well, ranging from physics to artificial intelligence. We are both keenly interested in how most everything happens over and over again, the forces behind those patterns, and the principles that work and don't work in dealing with them.

I gave Wang a copy of Joseph Campbell's great book *The Hero with a Thousand Faces*, because he is a classic hero and I thought it might help him. I also gave him *The Lessons of History*, a 104-page distillation of the major forces through history by Will and Ariel Durant, and *River Out of Eden* by the insightful Richard Dawkins, which explains how evolution works. He gave me Georgi Plekhanov's classic *On the Role of the Individual in History*.

All these books showed how the same things happened over and over again throughout history.

Most of my conversations with Wang are at the principle level; he sees the rhyme of history and puts the particulars we speak of in that context. “Unattainable goals appeal to heroes,” he once told me. “Capable people are those who sit there worrying about the future. The unwise are those who worry about nothing. If conflicts got resolved before they became acute, there wouldn’t be any heroes.” His advice has helped me in my planning for Bridgewater’s future. For example, when I asked him about checks and balances of power, he pointed to Julius Caesar’s overthrow of the Roman Senate and Republic as an illustration of how important it is to make sure no one person is more powerful than the system. I took his advice to heart as I set out to improve Bridgewater’s governance model.

Every time I speak with Wang, I feel like I get closer to cracking the unifying code that unlocks the laws of the universe. He uses his timeless perspective to see the present and the likely future more clearly.

Being around such people, especially if I can help them, is thrilling to me.

RETURNING THE BOON

Joseph Campbell’s *The Hero with a Thousand Faces*, one of the books I gave to Wang as well as a number of other heroes I know, was introduced to me by my son Paul in 2014. While I had seen Campbell on television nearly thirty years earlier and remembered being impressed by him, I hadn’t read his book. In it, Campbell looks at large numbers of “heroes” from different cultures—some real and some mythical—and describes their archetypal journeys through life. Campbell’s description of how heroes become heroes aligned with my thinking about shapers. And it gave me powerful insights about the heroes I know and the patterns of my own life.

For Campbell, a “hero” isn’t a perfect person who always gets things right. Far from it. A hero is someone who “found or achieved or [did] something beyond the normal range of achievement,” and who “has given his life to something bigger than himself or other than himself.” I had met a number of such people throughout my life. What was most interesting about Campbell’s work was his description of how they got that way. Heroes don’t begin as

heroes; they just become them because of the way one thing leads to another. The diagram on the following page shows the archetypal hero's journey.

They typically start out leading ordinary lives in an ordinary world and are drawn by a "call to adventure." This leads them down a "road of trials" filled with battles, temptations, successes, and failures. Along the way, they are helped by others, often by those who are further along the journey and serve as mentors, though those who are less far along also help in various ways. They also gain allies and enemies and learn how to fight, often against convention. Along the way, they encounter temptations and have clashes and reconciliations with their fathers and their sons. They overcome their fear of fighting because of their great determination to achieve what they want, and they gain their "special powers" (i.e., skills) from both "battles" that test and teach them, and from gifts (such as advice) that they receive from others. Over time, they both succeed and fail, but they increasingly succeed more than they fail as they grow stronger and keep striving for more, which leads to ever-bigger and more challenging battles.

Heroes inevitably experience at least one very big failure (which Campbell calls an "abyss" or the "belly of the whale" experience) that tests whether they have the resilience to come back and fight smarter and with more determination. If they do, they undergo a change (have a "metamorphosis") in which they experience the fear that protects them, without losing the aggressiveness that propels them forward. With triumphs come rewards. Though they don't realize it when they are in their battles, the hero's biggest reward is what Campbell calls the "boon," which is the special knowledge about how to succeed that the hero has earned through his journey.



Joseph Campbell's Hero's Journey schema from *The Hero with a Thousand Faces* (New World Library), copyright © 2008 by the Joseph Campbell Foundation (jcf.org), used with permission.

Late in life, winning more battles and acquiring more rewards typically becomes less exciting to heroes than passing along that knowledge to others —“returning the boon” as Campbell called it. Once the boon is returned, the hero is free to live and then free to die, or, as I see it, to transition from the second phase in life to the third phase (in which one is free to savor life until one passes away).

Reading Campbell, I saw that heroes, like shapers, come in varying sizes —there are big ones and small ones—that they are real people, and that we all know some. I also saw that being a hero is typically not all it's cracked up to be—they get beat up a lot, and many are attacked, humiliated, or killed even after they triumph. In fact, it's hard to see the logic for choosing this hero role, if one were to choose. But I could see and relate to how a certain type of person would start and stay on that path.

While Campbell's description of the hero's journey captured the essence of my own journey through life and the journeys of many of the people I call shapers, “hero” is not a word that I would use to describe myself and I

certainly would not put my own accomplishments on the level of the heroes Campbell wrote about.¹⁰ But learning about the hero's journey did help me crystallize my understanding of where I was in my own journey, and what I should do next. The section on returning the boon spoke to me in a personal way, as though Campbell knew exactly what I was wrestling with. With the reflections it prompted, I could see that my life would be over in a relatively short time and that what I'd leave behind could be more important, last longer, and affect many more people than just those at Bridgewater and my family. That helped make clear that I needed to pass along the things I had that could help others beyond me, most importantly the principles in this book, but also my money.

As the saying goes, "You can't take it with you." My need to start thinking about who should get what wasn't just because of my age and the time it would take to do it well; it was also instinctive. Over time, the circle of people and things I cared about had broadened from just me when I was young, to me and my family when I became a parent, to my community when I was a bit more mature, to people beyond my community and the whole environment now.

WRESTLING WITH THE QUESTIONS OF PHILANTHROPY

My first exposure to "philanthropy"¹¹ occurred back in the late 1990s when I was approaching fifty. At that time, Matt was sixteen, spoke Mandarin, and visited a Chinese orphanage to help someone, where he learned that a \$500 surgery could save or radically improve some lives. We and our friends gave him money to help. Then, my friend Paul Tudor Jones taught Matt how to create a 501(c)(3) foundation and Matt, just a junior in high school, created the China Care Foundation in 2000. Matt brought our family to the orphanages, so we had close contact with these special-needs children and fell in love with them. We also watched Matt struggle to decide which children would live and which would die because there wasn't enough money to save them all. Imagine being faced with the choice between a big night out on the town or saving a child's life. That was essentially the choice we constantly faced. This experience led us to become more involved with philanthropy, so in 2003 we set up our own foundation to provide support in

more organized ways. We wanted to do our philanthropy together, as a family activity, which has proven to be fabulous.

Figuring out how to best give away money is as complex an undertaking as figuring out how to make it. Though we now know a lot more about it than we did when we started, we still don't always feel capable to make the best decisions possible, so my family and I are still feeling our way through it. I will give you a few examples of the questions we have been wrestling with and how our thinking about them has evolved, starting with the question of how much money should be saved for my family relative to how much should go to people and causes that are more distant, yet more desperately in need.

Long before I had a lot of money, I had determined that I wanted my sons to have only enough to afford excellent health care, excellent education, and an initial boost to help their careers get started. My perspective was influenced by my own journey through life, which took me from having nothing to having a lot. That taught me to struggle well and made me strong. I wanted the same for the people I loved. So, when I had earned a lot of money, I felt I had plenty of money to give away to others.

Over time, as we gained experience in trying to help in a number of areas, I learned how fast money goes and that we didn't have nearly enough to take care of everything we cared about. Additionally, when my first grandchild was born, it prompted me to wonder how many generations I should budget to protect. Speaking to others in comparable positions, I discovered that even the richest people feel short of the money they need to do the things they want to do. So I studied how other families approach the question of how much to set aside for family and how much to give away at what pace. While our family still has not answered these questions definitely, I know that I personally will give more than half of my money to those beyond my family.

Which causes we should donate to was another big question. Barbara's biggest passion has been helping students in the most stressed public school districts in Connecticut, especially those students who are called "disengaged and disconnected."¹² A study she funded showed that 22 percent of high school students fall into one of these two categories, which was shocking because most will probably become adults who will suffer and be burdens on society rather than flourishing contributors to it. Because she has a lot of direct contact with these children and their teachers, she understands their needs. When she learned that 10,000 of them didn't have winter coats, she

felt compelled to provide them. What she showed me opened my eyes. How can clothing and nutrition be so severely deficient in this “land of opportunity”? Everyone in our family believes that equal opportunity, which is one of the most fundamental human rights, requires equal educational opportunity—and that educational opportunities are terribly unequal. The economic costs—in the forms of crime and incarceration—as well as the social costs of not investing in improving these conditions are immense. While we have felt compelled to help, we’ve discovered it is very difficult to have a significant impact relative to the size of the problem.

I feel deeply connected to nature, especially the oceans. The oceans are our world’s greatest asset, covering 72 percent of its surface and comprising 99 percent of its livable space. It thrills me to support scientists who are exploring the oceans and media showing them in the incredible environments they visit. I’m on a mission to make clear that ocean exploration is even more important and exciting than space exploration so that our oceans get more support and will be more sensibly managed. To add to my excitement, my son Mark is a wildlife filmmaker who shares my passion, so we get to pursue it together.

Matt’s passion is to bring inexpensive, effective computing to the developing world as a way of expanding and improving education and health care. Paul’s passion is mental health and his wife’s is fighting climate change. Devon is more focused on his career than on philanthropy now, but his wife cares deeply about animal welfare. Our family continues to support special-needs children in China, as well as an institute that teaches best practices to Chinese philanthropists. We also support the teaching of meditation to children in stressful environments and to veterans with PTSD, cutting-edge heart research, microfinance and other social enterprises, and much more.

We view our donations as investments and want to make sure that we have high philanthropic returns on our money. So another big question we wrestle with is how to measure those returns. It’s much easier to measure efficiency in a business by seeing how much its revenue exceeds its cost. Because of this, we developed an attraction to sustainable social enterprises. Still, I saw that so many philanthropic investments could pay off economically as well as socially, and it tormented me that our society passes them up.

We also wrestled with how big our organization should be and what governance controls we should have in order to ensure the quality of our

philanthropic decision making. I approached these decisions the same way I explain in *Work Principles*—by creating formalized principles and policies for our decision making. For example, because we are bombarded with more requests for grants than we can intelligently look at, I mandated a policy not to review unsolicited requests so our staff has the time to sort through the areas we want to be focused on. We are continuously improving all our principles and policies, and I dream about building decision-making algorithms for our philanthropic efforts, though that's beyond my reach at the moment.

As you might have guessed, we also seek advice from the most experienced and respected people possible. Bill Gates and the people we met through our participation in his, Melinda Gates's, and Warren Buffett's Giving Pledge have been enlightening. Others such as Muhammad Yunus, Paul Jones, Jeff Skoll, the Omidyar folks, and the people at TED have been very helpful. The most important thing we've learned is that there's no one right way to do philanthropy, though there are plenty of wrong ways.

Giving away the money that I acquired during my lifetime—and doing that well—has been a joy, a challenge, and the appropriate thing to do at this stage in my life.

BRIDGEWATER TURNS FORTY

In June 2015, Bridgewater marked its fortieth anniversary, an amazing milestone we celebrated by throwing a big party. We had a lot to celebrate, since by most measures no firm in our industry had been as successful.¹³ Key people who had been a part of our journey from its outset and throughout our forty years got up to speak. Each of them described the evolution of the company through their eyes—how some things had changed over the years while others had stayed the same, most importantly, our culture of striving for excellence in work and excellence in relationships by being radically truthful and radically transparent with each other. They recounted how we uniquely and repeatedly tried new things, failed, learned from our failures, improved, and tried again, doing that over and over in an upward spiral. When it was my turn to speak, I wanted to convey what I had always tried to give the people at Bridgewater, and what I wanted them to have in the future without me:

A community in which you always have the right and obligation to make sense of things and a process for working yourselves through disagreements—i.e., a real, functioning idea meritocracy. I want you to think, not follow—while recognizing that you can be wrong and that you have weaknesses—and I want to help you get the most likely best answers, even if you personally don't believe that they're the best answers. I want to give you radical open-mindedness and an idea meritocracy that will take you from being trapped in your own heads to having access to the best minds in the world to help you make the best decisions for you and for our community. I want to help you all struggle well and evolve to get the most out of life.

Though there were still important things that had to be done, at the time I thought that we were wrapping up my transition nicely. I had no idea how difficult the next year would be.

9 In Germany politics are like everywhere else in that there are opposing forces that struggle with each other and decisions are made via a mix of power and negotiation. This makes it desirable to know who has what power and is willing to negotiate what. What makes Germany different is the amount of attention it pays to legal technicalities.

10 I want to be clear that I don't believe that those who are "heroes" or "shapers" are either better people or are on better paths. It's perfectly sensible to not have any desire to go on such a journey. I believe that what's most important is to know one's own nature and operate consistently with it.

11 The word "philanthropy" doesn't sit well with me in describing what we are doing. What we are doing is helping out with what we care about because of the joy it gives us—like the joy one gets from helping a friend. To my ear, "philanthropy" has taken on a meaning that sounds more official. For example, some people have come to judge whether something is philanthropic by whether it is consistent with what tax law determines is philanthropic. When we approach our philanthropy, we just see people and things that we are excited about helping.

12 A disengaged student is one who attends school but doesn't engage in doing the work. A disconnected student is one who doesn't attend school and the system has lost track of.

13 That January, we'd launched our first new product in more than a decade, a fund we called "Optimal Porfolio," which combined alphas and betas in ways uniquely suited for a global macro environment in which interest rates were near zero. The launch was a big success, the largest in the history of the hedge fund industry.

CHAPTER 7

MY LAST YEAR AND MY GREATEST CHALLENGE:

2016–2017

While even before that fortieth anniversary we had all been aware that our transition wasn't going as smoothly as we'd hoped, in the months that followed our problems came to a head in ways that caught us off guard. While the investment part of Bridgewater was better than ever, other parts of the business, like the technology and recruiting areas, were slipping.

I was no longer CEO, so it was not my job to manage the company. As chairman, my job was to oversee the CEOs, to make sure that they were managing it well. And Greg Jensen and Eileen Murray, the CEOs at the time, were clearly overstretched. We all agreed that the company wasn't being managed adequately, but we disagreed on what to do about it. Disagreements like these were expected, as we always want everyone to think independently and argue for what they view as best. That is why we have principles and processes for resolving them.

So, over a period of several weeks, we exchanged our views. Then key parties presented their perspectives and recommendations to members of our Management Committee and our Stakeholders Committee (which is essentially the Bridgewater board), who considered the alternative paths and ultimately voted on them. The most important decision that came out of that process was announced in March 2016: Greg would step out of his co-CEO role so that he could focus all his attention on his co-chief investment officer role (which he handled with Bob Prince and me), and I would temporarily join Eileen as co-CEO while we implemented the structural changes needed to allow Bridgewater to work well without me.

While that wasn't the outcome any of us had hoped for when I first stepped out as CEO and passed it on to others, it wasn't entirely unexpected. Our struggles had been apparent for some time, and we'd tried different iterations. We knew that leadership transitions are never easy, and our modus operandi has always been to try, fail, diagnose, redesign, and try again. That's what we were doing. Now was the time for a leadership change.

Still, this particular failure was painful, especially for Greg and me. I realized that I had handed Greg too heavy a load in expecting him to carry out both the co-CEO and co-CIO roles. I regret that mistake more than any other I made in running Bridgewater because it hurt both of us and the company. I had not only mentored Greg, but he had been like a son to me for nearly twenty years. He and I both wanted and expected him to run the company. The pain of this failure was made worse, especially for Greg, by the sensational and inaccurate accounts that appeared in the media. Story after story portrayed it as a bitter death-match between two titans rather than what it really was, which was people who loved Bridgewater working through their disagreements in an idea-meritocratic way. This was Greg's going-into-the-abyss experience on his own hero's journey—and it was also that for me, and for a number of other leaders of the company—and not just because it was so painful, but because it led us to a metamorphosis that improved us a lot.

Greg is twenty-five years younger than me. I often think about where I was at his age, and how much I've learned in the years since. I know Greg will go on to succeed remarkably in his own way. I was pleased that we both came through this stronger, and especially pleased that our systems for identifying and resolving problems had worked as well as they had. While we all had different perspectives, this case reaffirmed our belief that our collective idea-meritocratic decision-making process would produce better results than any one of us could have done alone. It was having such a process, along with our deep relationships, that kept us together.

I realized again that what I didn't know was much greater than what I did, in this case not knowing how to transition out of the founder-leader role. So I reached out to some of the greatest experts I could speak with for advice. Perhaps the best advice we received came from management expert Jim Collins, who told us that “to transition well, there are only two things that you need to do: Put capable CEOs in place and have a capable governance system to replace the CEOs if they're not capable.” That was what I had

failed to do and what I now had a second shot at doing right. So I began to think about governance in a way that I never had before.

Simply put, governance is the system of checks and balances ensuring that an organization will be stronger than whoever happens to be leading it at any one time. Because I was a founder-entrepreneur, I had run Bridgewater for thirty-five years with no formal rules to check and balance me (though I had created an informal governance system by having me report to our Management Committee as a check on my decision making).

While that informal system had worked for me, it could not work well without me. Clearly, we needed to build a new governance system that would allow Bridgewater to retain its unique way of being and its uncompromising standards no matter who was in charge—and build it to be resilient enough to change the company's management if that was required. I went on to do that with the help of others, and we are doing that still.

I had learned that it's wrong to assume either that a person in one role will be successful in another role or that the ways one person operates will work well for another. This difficult year also taught me a lot about the people around me, especially David McCormick and Eileen Murray, who showed their commitments to our shared mission, as numerous other people did. There were some failures that we would have rather not had, but that was to be expected, given our unique culture of trial and error and learning from mistakes. Thanks to the changes we put into place, I was able to step out of my temporary stint as CEO after one year, in April 2017.

As I write these words in 2017, I view this year as the final one in my transition from the second phase of my life to the third, when I will have finished passing along the knowledge I have gathered along the way, and, as Joseph Campbell described it, I will be free to live and free to die. But right now I'm not thinking about the dying part; I'm thinking about how to live freely, and I'm excited about it.

CHAPTER 8

LOOKING BACK FROM A HIGHER LEVEL

As I look back on my experiences, it's interesting to reflect on how my perspectives have changed.

When I started out, each and every twist and turn I encountered, whether in the markets or in my life in general, looked really big and dramatic up close, like unique life-or-death experiences that were coming at me fast.

With time and experience, I came to see each encounter as “another one of those” that I could approach more calmly and analytically, like a biologist might approach an encounter with a threatening creature in the jungle: first identifying its species and then, drawing on his prior knowledge about its expected behaviors, reacting appropriately. When I was faced with types of situations I had encountered before, I drew on the principles I had learned for dealing with them. But when I ran into ones I hadn't seen before, I would be painfully surprised. Studying all those painful first-time encounters, I learned that even if they hadn't happened to me, most of them had happened to other people in other times and places, which gave me a healthy respect for history, a hunger to have a universal understanding of how reality works, and the desire to build timeless and universal principles for dealing with it.

Watching the same things happen again and again, I began to see reality as a gorgeous perpetual motion machine, in which causes become effects that become causes of new effects, and so on. I realized that reality was, if not perfect, at least what we are given to deal with, so that any problems or frustrations I had with it were more productively directed to dealing with them effectively than complaining about them. I came to understand that my encounters were tests of my character and creativity. Over time, I came to appreciate what a tiny and short-lived part of that remarkable system I am, and how it's both good for me and good for the system for me to know how to interact with it well.

In gaining this perspective, I began to experience painful moments in a radically different way. Instead of feeling frustrated or overwhelmed, I saw pain as nature's reminder that there is something important for me to learn. Encountering pains and figuring out the lessons they were trying to give me became sort of a game to me. The more I played it, the better I got at it, the less painful those situations became, and the more rewarding the process of reflecting, developing principles, and then getting rewards for using those principles became. I learned to love my struggles, which I suppose is a healthy perspective to have, like learning to love exercising (which I haven't managed to do yet).

In my early years, I looked up to extraordinarily successful people, thinking that they were successful because they were extraordinary. After I got to know such people personally, I realized that all of them—like me, like everyone—make mistakes, struggle with their weaknesses, and don't feel that they are particularly special or great. They are no happier than the rest of us, and they struggle just as much or more than average folks. Even after they surpass their wildest dreams, they still experience more struggle than glory. This has certainly been true for me. While I surpassed my wildest dreams decades ago, I am still struggling today. In time, I realized that the satisfaction of success doesn't come from achieving your goals, but from struggling well. To understand what I mean, imagine your greatest goal, whatever it is—making a ton of money, winning an Academy Award, running a great organization, being great at a sport. Now imagine instantaneously achieving it. You'd be happy at first, but not for long. You would soon find yourself needing something else to struggle for. Just look at people who attain their dreams early—the child star, the lottery winner, the professional athlete who peaks early. They typically don't end up happy unless they get excited about something else bigger and better to struggle for. Since life brings both ups and downs, struggling well doesn't just make your ups better; it makes your downs less bad. I'm still struggling and I will until I die, because even if I try to avoid the struggles, they will find me.

Thanks to all that struggling and learning, I have done everything I wanted to do, gone everywhere I wanted to go, met whomever I wanted to meet, gotten everything I wanted to own, had a career that has been enthralling, and, most rewardingly, had many wonderful relationships. I have experienced the full range, from having nothing to having an enormous amount, and from being a nobody to being a somebody, so I know the differences. While I

experienced them going from the bottom up rather than from the top down (which was preferable and probably influenced my perspective), my assessment is that the incremental benefits of having a lot and being on top are not nearly as great as most people think. Having the basics—a good bed to sleep in, good relationships, good food, and good sex—is most important, and those things don't get much better when you have a lot of money or much worse when you have less. And the people one meets at the top aren't necessarily more special than those one meets at the bottom or in between.

The marginal benefits of having more fall off pretty quickly. In fact, having a lot more is worse than having a moderate amount more because it comes with heavy burdens. Being on top gives you a wider range of options, but it also requires more of you. Being well-known is probably worse than being anonymous, all things considered. And while the beneficial impact one can have on others is great, when you put it in perspective, it is still infinitesimally small. For all those reasons, I cannot say that having an intense life filled with accomplishments is better than having a relaxed life filled with savoring, though I can say that being strong is better than being weak, and that struggling gives one strength. My nature being what it is, I would not have changed my life, but I can't tell you what is best for you. That is for you to choose. What I have seen is that the happiest people discover their own nature and match their life to it.

Now that my desire to succeed has given way to a desire to help others succeed, that's become my current struggle. It's now clear to me that my purpose, your purpose, and the purpose of everything else is to evolve and to contribute to evolution in some small way. I didn't think about that at the start; I just went after the things I wanted. But along the way I evolved, and now I am sharing these principles with you to help you evolve too. I realized that passing on knowledge is like passing on DNA—it is more important than the individual, because it lives way beyond the individual's life. This is my attempt to help you succeed by passing along to you what I learned about how to struggle well—or, at the very least, to help you get the most out of each unit of effort you put in.

PRINCIPLES

Good principles are effective ways of dealing with reality. To learn my own, I spend a lot of time reflecting. So rather than just giving you my principles, I will share the reflections behind them.

I believe that everything that happens comes about because of cause-effect relationships that repeat and evolve over time. At the big bang, all the laws and forces of the universe were created and propelled forward, interacting with each other over time like a complex series of machines that work together: the structure of galaxies, the makeup of Earth's geography and ecosystems, our economies and markets, and each one of us. Individually, we are machines made up of different machines—our circulatory systems, our nervous systems, and so on—that produce our thoughts, our dreams, our emotions, and every other aspect of our distinct personalities. All these machines are evolving together to produce the reality we encounter every day.

- Look to the patterns of those things that affect you in order to understand the cause-effect relationships that drive them and to learn principles for dealing with them effectively.

By doing this, you will begin to understand how the machinery underlying any “another one of those” works and develop a mental map for dealing with it. As your understanding of these relationships grows, the essentials stand out from the blizzard of things coming at you; you will notice which “one of those” you are facing and instinctually apply the right principles to help you through it. Reality, in turn, will send you loud signals about how well your principles are working by rewarding or punishing you, so you will learn to fine-tune them accordingly.

Having good principles for dealing with the realities we encounter is the most important driver of how well we handle them. I'm not saying that all people have the same encounters. It is certainly the case that different people in different parts of the world face different challenges. Still, most of our encounters with reality fall under one category or another and the number of those categories is not enormous. If you were to write down what type of encounter you have every time you have one (e.g., the birth of a child, the loss of a job, a personal disagreement) and compile them in a list, it would probably total just a few hundred items and only a few of them would be unique to you. You might want to try this. Not only will you see for yourself