

# PRINCIPLES

# RAY DALIO

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“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.

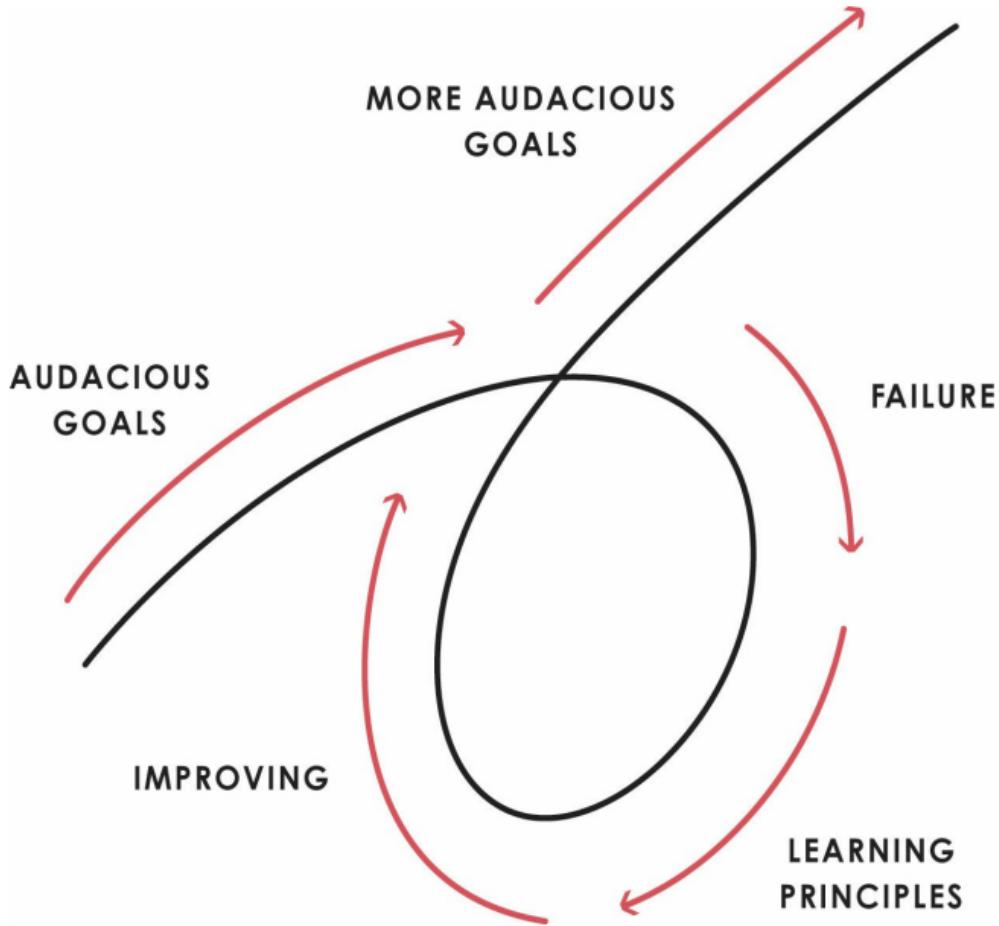
While I will be sharing my own principles, I want to make clear to you that I don't expect you to follow them blindly. On the contrary, I want you to question every word and pick and choose among these principles so you come away with a mix that suits you.

## 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 any one.

### **Part III: WorkPrinciples**

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.

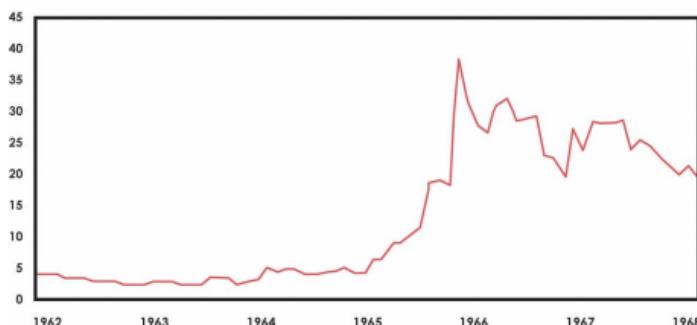
In my early years the psychology of the 1960s U.S. was aspirational and inspirational—to achieve great and noble goals. It was like nothing I have seen since. One of my earliest memories was of John F. Kennedy, an intelligent, charismatic man who painted vivid pictures of changing the world for the better—exploring 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.

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

# 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 1968<sup>1</sup> 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 policy makers 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 soy meal, and since corn and soy beans 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 soy meal 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 soy meal) 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.

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

## MYABYSS: 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.<sup>2</sup> 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.

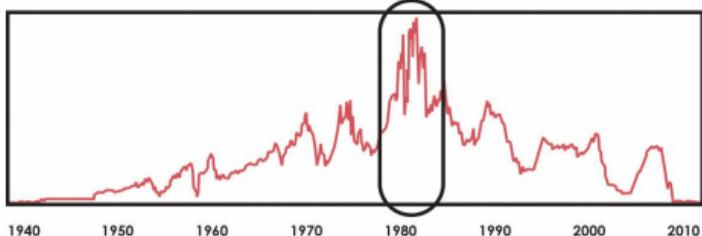
## MY BIG DEPRESSION CALL

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.

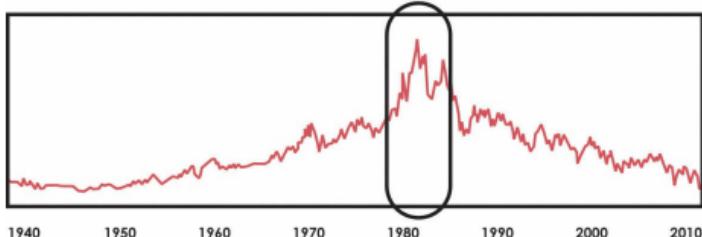
As you can see, there had been nothing like it prior to 1979–82. It was one of the most pivotal times in the last hundred years. The political pendulum throughout the world swung to the right, bringing Margaret Thatcher, Ronald Reagan, and Helmut Kohl to power. “Liberal” had ceased to mean being in favor 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.”

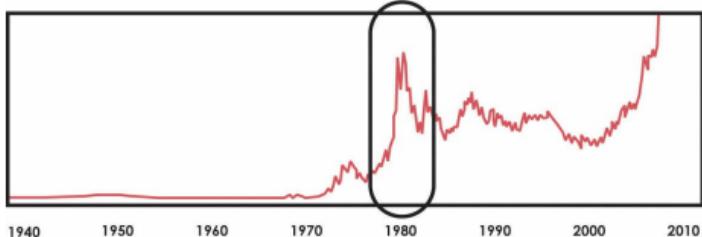
### T-BILL RATE



### 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.

## 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 hay loft 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"

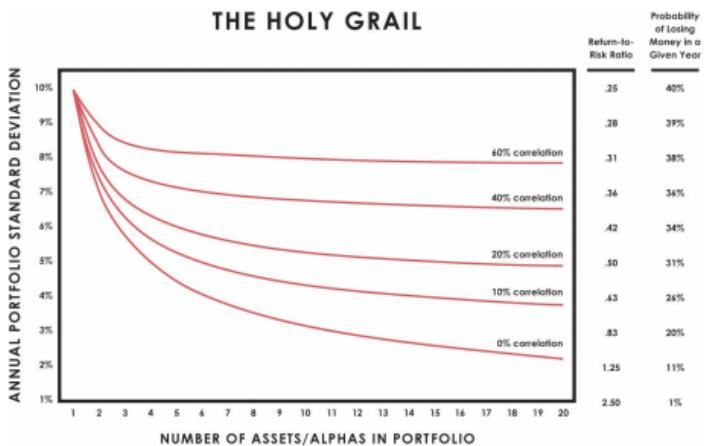
From my earlier failures, I knew that no matter how confident I was in making any one bet I could still be wrong—and that proper diversification was the key to reducing risks without reducing returns. If I could build a portfolio filled with high-quality return streams<sup>3</sup> that were properly diversified (they zipped 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<sup>2</sup>: 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.

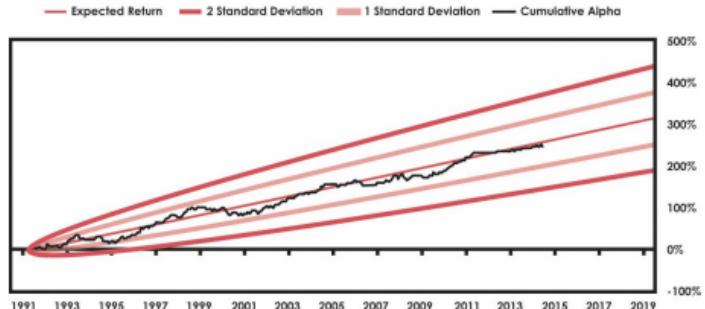
We were startled by the results. On paper, this new approach improved our returns by a factor of three to five times per unit of risk, and we could calibrate the amount of return we wanted based on the amount of risk we could tolerate. In other words, we could make a ton more money than the other guys, 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 any one 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.

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<sup>3</sup> 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.

<sup>4</sup> This approach is what I call the “5-Step Process.” I'll dive into it in more detail later on.

<sup>5</sup> 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*.

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

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

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

# 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.<sup>4</sup> 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.<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> 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).<sup>8</sup>

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.

# 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 any time 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.<sup>9</sup> 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 policy makers 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 policy makers 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 policy makers 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](http://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.<sup>10</sup> 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"<sup>11</sup> 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."<sup>12</sup> 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.<sup>13</sup> 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.

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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 Portfolio," 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.

# 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.

## 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 if what I'm saying is true, but you will also start to build a list of the things you need to think about and have principles for.

Whatever success I've had is because of the principles I followed and not because of anything unique about me, so anyone following these principles can expect to produce broadly similar results. That said, I don't want you to follow my (or anyone's) principles blindly. I suggest that you think through all the principles available to you from different sources and put together a collection of your own that you can turn to whenever reality sends “another one of those” your way.

Life Principles and Work Principles are organized in outline form at three different levels so you can skim along the surface or dive in depending on the amount of time and interest you have.

<sup>1</sup> Higher-level principles, which are also the chapter titles, are preceded by single numbers.

**1.1** Mid-level principles are contained within each chapter and are designated by two numbers: one indicating the higher-level principle it is under and the other showing the order in which it appears in the chapter.

a. Sub-principles fall under the mid-level principles and are marked with letters.

All three levels of principles have explanations following them. To give you a quick overview, I've included summaries of principles at the end of Life Principles and the beginning of Work Principles. I suggest you start with the higher-level principles and the text explaining them, plus the headings for both the principles and subprinciples. Life Principles is intended to be read in its entirety, while Work Principles is meant as more of a reference book.

**PART II**

**LIFE PRINCIPLES**

# **1 Embrace Reality and Deal with It**

There is nothing more important than understanding how reality works and how to deal with it. The state of mind you bring to this process makes all the difference. I have found it helpful to think of my life as if it were a game in which each problem I face is a puzzle I need to solve. By solving the puzzle, I get a gem in the form of a principle that helps me avoid the same sort of problem in the future. Collecting these gems continually improves my decision making, so I am able to ascend to higher and higher levels of play in which the game gets harder and the stakes become ever greater.

All sorts of emotions come to me while I am playing and those emotions can either help me or hurt me. If I can reconcile my emotions with my logic and only act when they are aligned, I make better decisions.

Learning how reality works, visualizing the things I want to create, and then building them out is incredibly exciting to me. Stretching for big goals puts me in the position of failing and needing to learn and come up with new inventions in order to move forward. I find it exhilarating being caught up in the feedback loop of rapid learning—just as a surfer loves riding a wave, even though it sometimes leads to crashes. Don’t get me wrong, I’m still scared of the crashes and I still find them painful. But I keep that pain in perspective, knowing that I will get through these setbacks and that most of my learning will come from reflecting on them.<sup>14</sup> Just as long-distance runners push through pain to experience the pleasure of “runner’s high,” I have largely gotten past the pain of my mistake making and instead enjoy the pleasure that comes with learning from it. I believe that with practice you can change your habits and experience the same “mistake learner’s high.”

## **1.1 Be a hyperrealist.**

Understanding, accepting, and working with reality is both practical and beautiful. I have become so much of a hyperrealist that I’ve learned to appreciate the beauty of all realities, even harsh ones, and have come to despise impractical idealism.

Don’t get me wrong: I believe in making dreams happen. To me, there’s nothing better in life than doing that. The pursuit of dreams is what gives life its flavor. My point is that people who create great things aren’t idle dreamers: They are totally grounded in reality. Being hyperrealistic will help you choose your dreams wisely and then achieve them. I have found the following to be almost always true:

- a. Dreams + Reality + Determination = A Successful Life.** People who achieve success and drive progress deeply understand the cause-effect relationships that govern reality and have

principles for using them to get what they want. The converse is also true: Idealists who are not well grounded in reality create problems, not progress.

What does a successful life look like? We all have our own deep-seated needs, so we each have to decide for ourselves what success is. I don't care whether you want to be a master of the universe, a couch potato, or anything else—I really don't. Some people want to change the world and others want to operate in simple harmony with it and savor life. Neither is better. Each of us needs to decide what we value most and choose the paths we take to achieve it.

Take a moment to reflect on where you are on the following scale, which illustrates an overly simplified choice you should think about. Where would you put yourself on it?



The question isn't just how much of each to go after, but how hard to work to get as much as possible. I wanted crazy amounts of each, was thrilled to work hard to get as much of them as possible, and found that they could largely be one and the same and mutually reinforcing. Over time I learned that getting more out of life wasn't just a matter of working harder at it. It was much more a matter of working effectively, because working effectively could increase my capacity by hundreds of times. I don't care what you want or how hard you want to work for it. That's for you to decide. I'm just trying to pass along to you what has helped me get the most out of each hour of time and each unit of effort.

Most importantly, I've learned that there is no escaping the fact that:

### **1.2 Truth—or, more precisely, an accurate understanding of reality—is the essential foundation for any good outcome.**

Most people fight seeing what's true when it's not what they want it to be. That's bad, because it is more important to understand and deal with the bad stuff since the good stuff will take care of itself.

Do you agree with that? If not, you are unlikely to benefit from what follows. If you do agree, let's build on it.

### **1.3 Be radically open-minded and radically transparent.**

None of us is born knowing what is true; we either have to discover what's true for ourselves or believe and follow others. The key is to know which path will yield better results.<sup>15</sup> I believe that:

- a. Radical open-mindedness and radical transparency are invaluable for rapid learning and effective change.** Learning is the product of a continuous real-time feedback loop in which we

make decisions, see their outcomes, and improve our understanding of reality as a result. Being radically open-minded enhances the efficiency of those feedback loops, because it makes what you are doing, and why, so clear to yourself and others that there can't be any misunderstandings. The more open-minded you are, the less likely you are to deceive yourself—and the more likely it is that others will give you honest feedback. If they are “believable” people (and it's very important to know who is “believable”<sup>16</sup>), you will learn a lot from them.

Being radically transparent and radically open-minded accelerates this learning process. It can also be difficult because being radically transparent rather than more guarded exposes one to criticism. It's natural to fear that. Yet if you don't put yourself out there with your radical transparency, you won't learn.

**b. Don't let fears of what others think of you stand in your way.** You must be willing to do things in the unique ways you think are best—and to open-mindedly reflect on the feedback that comes inevitably as a result of being that way.

Learning to be radically transparent is like learning to speak in public: While it's initially awkward, the more you do it, the more comfortable you will be with it. This has been true for me. For example, I still instinctively find being as radically transparent in the ways that I am in this book uncomfortable because I am exposing personal material to the public that will attract attention and criticism. Yet I am doing it because I've learned that it's best, and I wouldn't feel good about myself if I let my fears stand in the way. In other words, I have experienced the positive effects of radical transparency for so long that it's now uncomfortable for me not to be that way.

Besides giving me the freedom to be me, it has allowed me to understand others and for them to understand me, which is much more efficient and much more enjoyable than not having this understanding. Imagine how many fewer misunderstandings we would have and how much more efficient the world would be—and how much closer we all would be to knowing what's true—if instead of hiding what they think, people shared it openly. I'm not talking about everyone's very personal inner secrets; I'm talking about people's opinions of each other and of how the world works. As you'll see, I've learned firsthand how powerful this kind of radical truth and transparency is in improving my decision making and my relationships. So whenever I'm faced with the choice, my instinct is to be transparent. I practice it as a discipline and I recommend you do the same.

**c. Embracing radical truth and radical transparency will bring more meaningful work and more meaningful relationships.** My experience, based on watching thousands of people try this approach, is that with practice the vast majority find it so rewarding and pleasurable that they have a hard time operating any other way.

This takes practice and changing one's habits. I have found that it typically takes about eighteen months, which is how long it takes to change most habits.

## **1.4 Look to nature to learn how reality works.**

All the laws of reality were given to us by nature. Man didn't create these laws, but by understanding them we can use them to foster our own evolution and achieve our goals. For example, our ability to fly or to send cell phone signals around the world came from understanding and applying the existing rules of reality—the physical laws or principles that govern the natural world.

While I spend most of my time studying the realities that affect me most directly—those that drive economies, the markets, and the people I deal with—I also spend time in nature and can't help reflecting on how it works by observing, reading, and speaking with some of the greatest specialists on the subject. I've found it both interesting and valuable to observe which laws we humans have in common with the rest of nature and which differentiate us. Doing that has had a big impact on my approach to life.

First of all, I see how cool it is that the brain's evolution gave us the ability to reflect on how reality works in this way. Man's most distinctive quality is our singular ability to look down on reality from a higher perspective and synthesize an understanding of it. While other species operate by following their instincts, man alone can go above himself and look at himself within his circumstances and within time (including before and after his existence). For example, we can ponder the ways that nature's flying machines, swimming machines, and billions of other machines, from the microscopic to the cosmic, interact with one another to make up a working whole that evolves through time. This is because the evolution of the brain gave man a much more developed neocortex, which gives us the power to think abstractly and logically.

While our higher-level thinking makes us unique among species, it can also make us uniquely confused. Other species have much simpler and more straightforward lives, without any of man's wrestling with what's good and what's bad. In contrast with animals, most people struggle to reconcile their emotions and their instincts (which come from the animal parts of their brains) with their reasoning (which comes from parts of the brain more developed in humans). This struggle causes people to confuse what they want to be true with what actually is true. Let's look at this dilemma to try to understand how reality works.

When trying to understand anything—economies, markets, the weather, whatever—one can approach the subject with two perspectives:

- 1. Top down:** By trying to find the one code/law that drives them all. For example, in the case of markets, one could study universal laws like supply and demand that affect all economies and markets. In the case of species, one could focus on learning how the genetic code (DNA) works for all species.
- 2. Bottom up:** By studying each specific case and the codes/laws that are true for them, for example, the codes or laws particular to the market for wheat or the DNA sequences that make ducks different from other species.

Seeing things from the top down is the best way to understand ourselves and the laws of reality within the context of overarching universal laws. That's not to say it's not worth having a bottom-up perspective. In fact, to understand the world accurately you need both. By taking a bottom-up perspective that looks at each individual case, we can see how it lines up with our theories about the laws that we expect to govern it. When they line up, we're good.

By looking at nature from the top down, we can see that much of what we call human nature is really animal nature. That's because the human brain is programmed with millions of years of genetic learning that we share with other species. Because we share common roots and common laws, we and other animals have similar attributes and constraints. For example, the male/female sexual reproduction process, using two eyes to provide depth perception, and many other systems are shared by many species in the animal kingdom. Similarly, our brains have some "animal" parts that are much older in evolutionary terms than humanity is. These laws that we have in common are the most overarching ones. They wouldn't be apparent to us if we just looked at ourselves.

If you just looked at one species—ducks, for example—to try to understand the universal laws, you'd fail. Similarly, if you just looked at mankind to understand the universal laws, you'd fail. Man is just one of ten million species and just one of the billions of manifestations of the forces that bring together and take apart atoms through time. Yet most people are like ants focused only on themselves and their own anthill; they believe the universe revolves around people and don't pay attention to the universal laws that are true for all species.

To try to figure out the universal laws of reality and principles for dealing with it, I've found it helpful to try to look at things from nature's perspective. While mankind is very intelligent in relation to other species, we have the intelligence of moss growing on a rock compared to nature as a whole. We are incapable of designing and building a mosquito, let alone all the species and most of the other things in the universe. So I start from the premise that nature is smarter than I am and try to let nature teach me how reality works.

**a. Don't get hung up on your views of how things "should" be because you will miss out on learning how they really are.** It's important not to let our biases stand in the way of our objectivity. To get good results, we need to be analytical rather than emotional.

Whenever I observe something in nature that I (or mankind) think is wrong, I assume that *I'm* wrong and try to figure out why what nature is doing makes sense. That has taught me a lot. It has changed my thinking about 1) what's good and what's bad, 2) what my purpose in life is, and 3) what I should do when faced with my most important choices. To help explain why, I will give you a simple example.

When I went to Africa a number of years ago, I saw a pack of hyenas take down a young wildebeest. My reaction was visceral. I felt empathy for the wildebeest and thought that what I had witnessed was horrible. But was that because it *was* horrible or was it because I am biased to believe it's horrible when it is actually wonderful? That got me thinking. Would the world be a better or worse place if what I'd seen hadn't occurred? That perspective drove me to consider the second- and third-order consequences so that I could see that the world would be worse. I now realize that nature optimizes for the whole, not for the individual, but most people judge good and bad based only on how it affects them. What I had seen was the process of nature at work, which is much more effective at furthering the improvement of the whole than any process man has ever invented.

Most people call something bad if it is bad for them or bad for those they empathize with, ignoring the greater good. This tendency extends to groups: One religion will consider its beliefs good and another religion's beliefs bad to such an extent that their members might kill each other

in the mutual conviction that each is doing what's right. Typically, people's conflicting beliefs or conflicting interests make them unable to see things through another's eyes. That's not good and it doesn't make sense. While I could understand people liking something that helps them and disliking things that hurt them, it doesn't make sense to call something good or bad in an absolute sense based only on how it affects individuals. To do so would presume that what the individual wants is more important than the good of the whole. To me, nature seems to define good as what's good for the whole and optimizes for it, which is preferable. So I have come to believe that as a general rule:

**b. To be “good” something must operate consistently with the laws of reality and contribute to the evolution of the whole; that is what is most rewarded.** For example, if you come up with something the world values, you almost can't help but be rewarded. Conversely, reality tends to penalize those people, species, and things that don't work well and detract from evolution.<sup>17</sup>

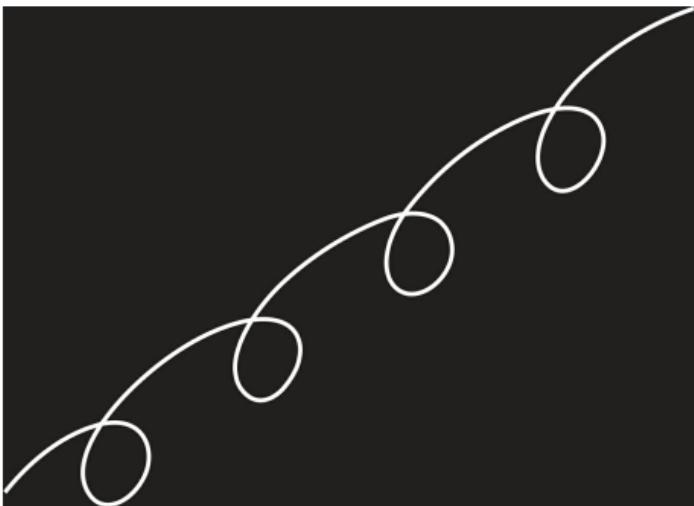
In looking at what is true for everything, I have come to believe that:

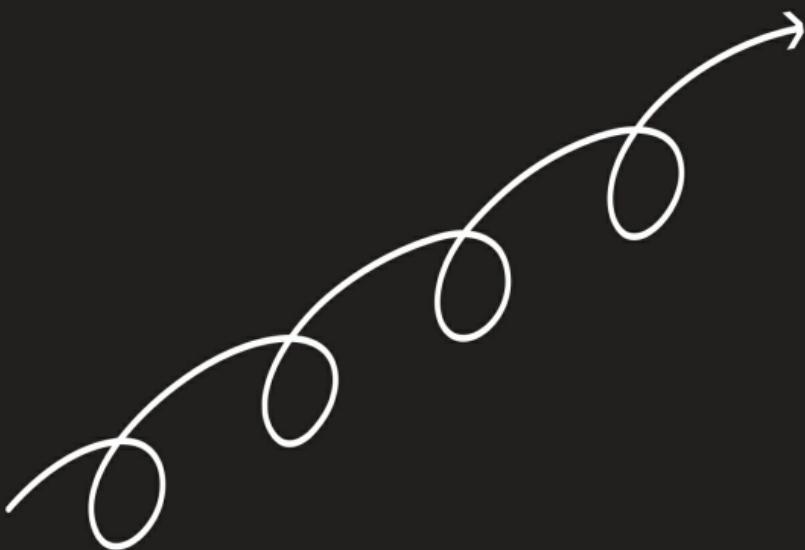
**c. Evolution is the single greatest force in the universe; it is the only thing that is permanent and it drives everything.**<sup>18</sup> Everything from the smallest subatomic particle to the entire galaxy is evolving. While everything apparently dies or disappears in time, the truth is that it all just gets reconfigured in evolving forms. Remember that energy can't be destroyed—it can only be reconfigured. So the same stuff is continuously falling apart and coalescing in different forms. The force behind that is evolution.

For example, the primary purpose of every living thing is to act as a vessel for the DNA that evolves life through time. The DNA that exists within each individual came from an eternity ago and will continue to live long after its individual carriers pass away, in increasingly evolved forms.<sup>19</sup>

As I thought about evolution, I realized that it exists in other forms than life and is carried out through other transmission mechanisms than DNA. Technologies, languages, and everything else evolves. Knowledge, for example, is like DNA in that it is passed from generation to generation and evolves; its impact on people over many generations can be as great or greater than that of the genetic code.

Evolution is good because it is the process of adaptation that generally moves things toward improvement. All things such as products, organizations, and human capabilities evolve through time in a similar way. It is simply the process by which things either adapt and improve or die. To me this evolutionary process looks like what you see on the right:







Evolution consists of adaptations/inventions that provide spurts of benefits that decline in value. That painful decline leads either to new adaptations and new inventions that bring new products, organizations, and human capabilities to new and higher levels of development (as shown in the top diagram on the facing page); or decline and death, which looks like the diagram at bottom left.

Think of any product, organization, or person you know and you will see that this is true. The world is littered with once-great things that deteriorated and failed; only a rare few have kept reinventing themselves to go on to new heights of greatness. All machines eventually break down, decompose, and have their parts recycled to create new machines. That includes us. Sometimes this makes us sad because we've become attached to our machines, but if you look at it from the higher level, it's really beautiful to observe how the machine of evolution works.

From this perspective, we can see that perfection doesn't exist; it is a goal that fuels a never-ending process of adaptation. If nature, or anything, were perfect it wouldn't be evolving.

Organisms, organizations, and individual people are always highly imperfect but capable of improving. So rather than getting stuck hiding our mistakes and pretending we're perfect, it makes sense to find our imperfections and deal with them. You will either learn valuable lessons from your mistakes and press on, better equipped to succeed—or you won't and you will fail.

As the saying goes:

**d. Evolve or die.** This evolutionary cycle is not just for people but for countries, companies, economies—for everything. And it is naturally self-correcting as a whole, though not necessarily for its parts. For example, if there is too much supply and waste in a market, prices will go down, companies will go out of business, and capacity will be reduced until the supply falls in line with the demand, at which time the cycle will start to move in the opposite direction. Similarly, if an economy turns bad enough, those responsible for running it will make the political and policy changes that are needed—or they will not survive, making room for their replacements to come along. These cycles are continuous and play out in logical ways—and they tend to be self-reinforcing.





The key is to fail, learn, and improve quickly. If you're constantly learning and improving, your evolutionary process will look like the one that's ascending. Do it poorly and it will look like what you see on the left, or worse.

I believe that:

## 1.5 Evolving is life's greatest accomplishment and its greatest reward.

It is instinctually that way, which is why most of us feel the pull of it—in other words, we instinctively want to get better at things and have created and evolved technology to help us. History has shown that all species will either go extinct or evolve into other species, though with our limited time window that is hard for us to see. But we do know that what we call mankind was simply the result of DNA evolving into a new form about two hundred thousand years ago, and we know that mankind will certainly either go extinct or evolve into a higher state. I personally believe there is a good chance man will begin to evolve at an accelerating pace with the help of man-made technologies that can analyze vast amounts of data and “think” faster and better than we can. I wonder how many centuries it will take for us to evolve into a higher-level species that will be much closer to omniscience than we are now—if we don’t destroy ourselves first.

One of the great marvels of nature is how the whole system, which is full of individual organisms acting in their own self-interest and without understanding or guiding what's going on, can create a beautifully operating and evolving whole. While I'm not an expert at this, it seems that it's because evolution has produced a) incentives and interactions that lead to individuals pursuing their own interests and resulting in the advancement of the whole, b) the natural selection process, and c) rapid experimentation and adaptation.

**a. The individual's incentives must be aligned with the group's goals.** To give you a quick example of nature creating incentives that lead to individuals pursuing their own interests that result in the advancement of the whole, look at sex and natural selection. Nature gave us one hell of an incentive to have sex in the form of the great pleasure it provides, even though the purpose of having sex is to contribute to the advancement of the DNA. That way, we individually get what we want while contributing to the evolution of the whole.

**b. Reality is optimizing for the whole—not for you.** Contribute to the whole and you will likely be rewarded. Natural selection leads to better qualities being retained and passed along (e.g., in better genes, better abilities to nurture others, better products, etc.). The result is a constant cycle of improvement for the whole.

**c. Adaptation through rapid trial and error is invaluable.** Natural selection's trial-and-error process allows improvement without anyone understanding or guiding it. The same can apply to how we learn. There are at least three kinds of learning that foster evolution: memory-based learning (storing the information that comes in through one's conscious mind so that we can recall it later); subconscious learning (the knowledge we take away from our experiences that never enters our conscious minds, though it affects our decision making); and “learning” that occurs

without thinking at all, such as the changes in DNA that encode a species' adaptations. I used to think that memory-based, conscious learning was the most powerful, but I've since come to understand that it produces less rapid progress than experimentation and adaptation. To give you an example of how nature improves without thinking, just look at the struggle that mankind (with all its thinking) has experienced in trying to outsmart viruses (which don't even have brains). Viruses are like brilliant chess opponents. By evolving quickly (combining different genetic material across different strains), they keep the smartest minds in the global health community busy thinking up countermoves to hold them off. Understanding that is especially helpful in an era when computers can run large numbers of simulations replicating the evolutionary process to help us see what works and what doesn't.

In the next chapter I will describe a process that has helped me, and I believe can help you, evolve quickly. But first I want to emphasize how important your perspective is in trying to decide what is important to you and what to go after.

**d. Realize that you are simultaneously everything and nothing—and decide what you want to be.** It is a great paradox that individually we are simultaneously everything and nothing. Through our own eyes, we are everything—e.g., when we die, the whole world disappears. So to most people (and to other species) dying is the worst thing possible, and it is of paramount importance that we have the best life possible. However, when we look down on ourselves through the eyes of nature we are of absolutely no significance. It is a reality that each one of us is only one of about seven billion of our species alive today and that our species is only one of about ten million species on our planet. Earth is just one of about 100 billion planets in our galaxy, which is just one of about two trillion galaxies in the universe. And our lifetimes are only about 1/3,000 of humanity's existence, which itself is only 1/20,000 of the Earth's existence. In other words, we are unbelievably tiny and short-lived and no matter what we accomplish, our impact will be insignificant. At the same time, we instinctually want to matter and to evolve, and we *can* matter a tiny bit—and it's all those tiny bits that add up to drive the evolution of the universe.

The question is *how* we matter and evolve. Do we matter to others (who also don't matter in the grand scope of things) or in some greater sense that we will never actually achieve? Or does it not matter if we matter so we should forget about the question and just enjoy our lives while they last?

**e. What you will be will depend on the perspective you have.** Where you go in life will depend on how you see things and who and what you feel connected to (your family, your community, your country, mankind, the whole ecosystem, everything). You will have to decide to what extent you will put the interests of others above your own, and which others you will choose to do so for. That's because you will regularly encounter situations that will force you to make such choices.

While such decisions might seem too erudite for your taste, you will make them either consciously or subliminally, and they will be very important.

For me personally, I now find it thrilling to embrace reality, to look down on myself through nature's perspective, and to be an infinitesimally small part of the whole. My instinctual and

intellectual goal is simply to evolve and contribute to evolution in some tiny way while I'm here and while I am what I am. At the same time, the things I love most—my work and my relationships—are what motivate me. So, I find how reality and nature work, including how I and everything will decompose and recompose, beautiful—though emotionally I find the separation from those I care about difficult to appreciate.

## 1.6 Understand nature's practical lessons.

I have found understanding how nature and evolution work helpful in a number of ways. Most importantly, it has helped me deal with my realities more effectively and make difficult choices. When I began to look at reality through the perspective of figuring out how it really works, instead of thinking things should be different, I realized that most everything that at first seemed “bad” to me—like rainy days, weaknesses, and even death—was because I held preconceived notions of what I personally wanted. With time, I learned that my initial reaction was because I hadn't put whatever I was reacting to in the context of the fact that reality is built to optimize for the whole rather than for me.

**a. Maximize your evolution.** Earlier, I mentioned that the unique abilities of thinking logically, abstractly, and from a higher level are carried out in structures located in the neocortex. These parts of the brain are more developed in humans and allow us to reflect on ourselves and direct our own evolution. Because we are capable of conscious, memory-based learning, we can evolve further and faster than any other species, changing not just across generations but within our own lifetimes.

This constant drive toward learning and improvement makes getting better innately enjoyable and getting better fast exhilarating. Though most people think that they are striving to get the things (toys, bigger houses, money, status, etc.) that will make them happy, for most people those things don't supply anywhere near the long-term satisfaction that getting better at something does.<sup>20</sup> Once we get the things we are striving for, we rarely remain satisfied with them. The things are just the bait. Chasing after them forces us to evolve, and it is the evolution and not the rewards themselves that matters to us and to those around us. This means that for most people success is struggling and evolving as effectively as possible, i.e., learning rapidly about oneself and one's environment, and then changing to improve.

It is natural that it should be this way because of the law of diminishing returns.<sup>21</sup> Consider what acquiring money is like. People who earn so much that they derive little or no marginal gains from it will experience negative consequences, as with any other form of excess, like gluttony. If they are intellectually healthy, they will begin seeking something new or seeking new depths in something old—and they will get stronger in the process. As Freud put it, “Love and work are the cornerstones of our humanness.”

The work doesn't necessarily have to be a job, though I believe it's generally better if it is a job. It can be any kind of long-term challenge that leads to personal improvement. As you might have guessed, I believe that the need to have meaningful work is connected to man's innate desire

to improve. And relationships are the natural connections to others that make us relevant to each other and to society more broadly.

**b. Remember “no pain, no gain.”** Realizing that we innately want to evolve—and that the other stuff we are going after, while nice, won’t sustain our happiness—has helped me focus on my goals of evolving and contributing to evolution in my own infinitely small way. While we don’t like pain, everything that nature made has a purpose, so nature gave us pain for a purpose. So what is its purpose? It alerts us and helps direct us.

**c. It is a fundamental law of nature that in order to gain strength one has to push one’s limits, which is painful.** As Carl Jung put it, “Man needs difficulties. They are necessary for health.” Yet most people instinctually avoid pain. This is true whether we are talking about building the body (e.g., weight lifting) or the mind (e.g., frustration, mental struggle, embarrassment, shame)—and especially true when people confront the harsh reality of their own imperfections.

## 1.7 Pain + Reflection = Progress.

There is no avoiding pain, especially if you’re going after ambitious goals. Believe it or not, you are lucky to feel that kind of pain if you approach it correctly, because it is a signal that you need to find solutions so you can progress. If you can develop a reflexive reaction to psychic pain that causes you to reflect on it rather than avoid it, it will lead to your rapid learning/evolving.<sup>22</sup> After seeing how much more effective it is to face the painful realities that are caused by your problems, mistakes, and weaknesses, I believe you won’t want to operate any other way. It’s just a matter of getting in the habit of doing it.

Most people have a tough time reflecting when they are in pain and they pay attention to other things when the pain passes, so they miss out on the reflections that provide the lessons. If you can reflect well while you’re in pain (which is probably too much to ask), great. But if you can remember to reflect after it passes, that’s valuable too. (I created a Pain Button app to help people do this, which I describe in the appendix.)

The challenges you face will test and strengthen you. If you’re not failing, you’re not pushing your limits, and if you’re not pushing your limits, you’re not maximizing your potential. Though this process of pushing your limits, of sometimes failing and sometimes breaking through—and deriving benefits from both your failures and your successes—is not for everyone, if it is for you, it can be so thrilling that it becomes addictive. Life will inevitably bring you such moments, and it’ll be up to you to decide whether you want to go back for more.

If you choose to push through this often painful process of personal evolution, you will naturally “ascend” to higher and higher levels. As you climb above the blizzard of things that surrounds you, you will realize that they seem bigger than they really are when you are seeing them up close; that most things in life are just “another one of those.” The higher you ascend, the more effective you become at working with reality to shape outcomes toward your goals. What once seemed impossibly complex becomes simple.

**a. Go to the pain rather than avoid it.** If you don't let up on yourself and instead become comfortable always operating with some level of pain, you will evolve at a faster pace. That's just the way it is.

Every time you confront something painful, you are at a potentially important juncture in your life—you have the opportunity to choose healthy and painful truth or unhealthy but comfortable delusion. The irony is that if you choose the healthy route, the pain will soon turn into pleasure. The pain is the signal! Like switching from not exercising to exercising, developing the habit of embracing the pain and learning from it will “get you to the other side.”

By “getting to the other side,” I mean that you will become hooked on:

- Identifying, accepting, and learning how to deal with your weaknesses,
- Preferring that the people around you be honest with you rather than keep their negative thoughts about you to themselves, and
- Being yourself rather than having to pretend to be strong where you are weak

**b. Embrace tough love.** In my own life, what I want to give to people, most importantly to people I love, is the power to deal with reality to get what they want. In pursuit of my goal to give them strength, I will often deny them what they “want” because that will give them the opportunity to struggle so that they can develop the strength to get what they want on their own. This can be difficult for people emotionally, even if they understand intellectually that having difficulties is the exercise they need to grow strong and that just giving them what they want will weaken them and ultimately lead to them needing more help.<sup>23</sup>

Of course most people would prefer not to have weaknesses. Our upbringings and our experiences in the world have conditioned us to be embarrassed by our weaknesses and hide them. But people are happiest when they can be themselves. If you can be open with your weaknesses it will make you freer and will help you deal with them better. I urge you to not be embarrassed about your problems, recognizing that everyone has them. Bringing them to the surface will help you break your bad habits and develop good ones, and you will acquire real strengths and justifiable optimism.

This evolutionary process of productive adaptation and ascent—the process of seeking, obtaining, and pursuing more and more ambitious goals—does not just pertain to how individuals and society move forward. It is equally relevant when dealing with setbacks, which are inevitable. At some point in your life you will crash in a big way. You might fail at your job or with your family, lose a loved one, suffer a serious accident or illness, or discover the life you imagined is out of reach forever. There are a whole host of ways that something will get you. At such times, you will be in pain and might think that you don't have the strength to go on. You almost always do, however; your ultimate success will depend on you realizing that fact, even though it might not seem that way at the moment.

This is why many people who have endured setbacks that seemed devastating at the time ended up as happy as (or even happier than) they originally were after they successfully adapted to them. The quality of your life will depend on the choices you make at those painful moments. The faster one appropriately adapts, the better.<sup>24</sup> No matter what you want out of life, your ability to adapt and move quickly and efficiently through the process of personal evolution will

determine your success and your happiness. If you do it well, you can change your psychological reaction to it so that what was painful can become something you crave.

## 1.8 Weigh second- and third-order consequences.

By recognizing the higher-level consequences nature optimizes for, I've come to see that people who overweigh the first-order consequences of their decisions and ignore the effects of second- and subsequent-order consequences rarely reach their goals. This is because first-order consequences often have opposite desirabilities from second-order consequences, resulting in big mistakes in decision making. For example, the first-order consequences of exercise (pain and time spent) are commonly considered undesirable, while the second-order consequences (better health and more attractive appearance) are desirable. Similarly, food that tastes good is often bad for you and vice versa.

Quite often the first-order consequences are the temptations that cost us what we really want, and sometimes they are the barriers that stand in our way. It's almost as though nature sorts us by throwing us trick choices that have both types of consequences and penalizing those who make their decisions on the basis of the first-order consequences alone.

By contrast, people who choose what they really want, and avoid the temptations and get over the pains that drive them away from what they really want, are much more likely to have successful lives.

## 1.9 Own your outcomes.

For the most part, life gives you so many decisions to make and so many opportunities to recover from your mistakes that, if you handle them well, you can have a terrific life. Of course, sometimes there are major influences on the quality of our lives that come from things beyond our control—the circumstances we are born into, accidents and illnesses, and so forth—but for the most part even the worst circumstances can be made better with the right approach. For example, a friend of mine dove into a swimming pool, hit his head, and became a quadriplegic. But he approached his situation well and became as happy as anybody else, because there are many paths to happiness.

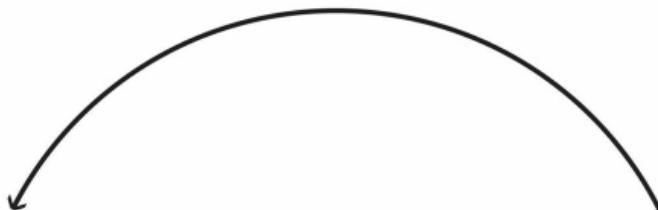
My point is simply this: Whatever circumstances life brings you, you will be more likely to succeed and find happiness if you take responsibility for making your decisions well instead of complaining about things being beyond your control. Psychologists call this having an “internal locus of control,” and studies consistently show that people who have it outperform those who don’t.

So don't worry about whether you like your situation or not. Life doesn't give a damn about what you like. It's up to you to connect what you want with what you need to do to get it and then find the courage to carry it through. In the next chapter I will show you the 5-Step Process that helped me learn about reality and evolve.

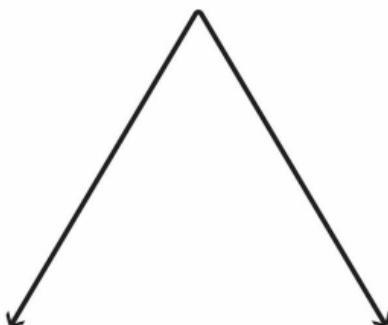
## **.10 Look at the machine from the higher level.**

Our uniquely human ability to look down from a higher level doesn't apply just to understanding reality and the cause-effect relationships underlying it; it also applies to looking down on yourself and those around you. I call this ability to rise above your own and others' circumstances and objectively look down on them "higher-level thinking." Higher-level thinking gives you the ability to study and influence the cause-effect relationships at play in your life and use them to get the outcomes you want.

- a. Think of yourself as a machine operating within a machine and know that you have the ability to alter your machines to produce better outcomes.** You have your goals. I call the way you will operate to achieve your goals your machine. It consists of a design (the things that have to get done) and the people (who will do the things that need getting done). Those people include you and those who help you. For example, imagine that your goal is a military one: to take a hill from an enemy. Your design for your "machine" might include two scouts, two snipers, four infantrymen, and so on. While the right design is essential, it is only half the battle. It is equally important to put the right people in each of those positions. They need different qualities to do their jobs well—the scouts must be fast runners, the snipers must be good marksmen—so that the machine will produce the outcomes you seek.
  
- b. By comparing your outcomes with your goals, you can determine how to modify your machine.** This evaluation and improvement process exactly mirrors the evolutionary process I described earlier. It means looking at how to improve or change the design or people to achieve your goals. Schematically, the process is a feedback loop, as shown in the diagram on the opposite page.



**GOALS** → **MACHINE** → **OUTCOMES**



**DESIGN** ←→ **PEOPLE**



**c. Distinguish between you as the designer of your machine and you as a worker with your machine.** One of the hardest things for people to do is to objectively look down on themselves within their circumstances (i.e., their machine) so that they can act as the machine's designer and manager. Most people remain stuck in the perspective of being a worker within the machine. If you can recognize the differences between those roles and that it is much more important that you are a good designer/manager of your life than a good worker in it, you will be on the right path. To be successful, the "designer/manager you" has to be objective about what the "worker you" is really like, not believing in him more than he deserves, or putting him in jobs he shouldn't be in. Instead of having this strategic perspective, most people operate emotionally and in the moment; their lives are a series of undirected emotional experiences, going from one thing to the next. If you want to look back on your life and feel you've achieved what you wanted to, you can't operate that way.

**d. The biggest mistake most people make is to not see themselves and others objectively, which leads them to bump into their own and others' weaknesses again and again.** People who do this fail because they are stubbornly stuck in their own heads. If they could just get around this, they could live up to their potential.

This is why higher-level thinking is essential for success.

**e. Successful people are those who can go above themselves to see things objectively and manage those things to shape change.** They can take in the perspectives of others instead of being trapped in their own heads with their own biases. They are able to look objectively at what they are like—their strengths and weaknesses—and what others are like to put the right people in the right roles to achieve their goals. Once you understand how to do this you'll see that there's virtually nothing you can't accomplish. You will just have to learn how to face your realities and use the full range of resources at your disposal. For example, if you as the designer/manager discover that you as the worker can't do something well, you need to fire yourself as the worker and get a good replacement, while staying in the role of designer/manager of your own life. You shouldn't be upset if you find out that you're bad at something—you should be happy that you found out, because knowing that and dealing with it will improve your chances of getting what you want.

If you are disappointed because you can't be the best person to do everything yourself, you are terribly naive. Nobody can do everything well. Would you want to have Einstein on your basketball team? When he fails to dribble and shoot well, would you think badly of him? Should he feel humiliated? Imagine all the areas in which Einstein was incompetent, and imagine how hard he struggled to excel even in the areas in which he was the best in the world.

Watching people struggle and having others watch you struggle can elicit all kinds of ego-driven emotions such as sympathy, pity, embarrassment, anger, or defensiveness. You need to get over all that and stop seeing struggling as something negative. Most of life's greatest opportunities come out of moments of struggle; it's up to you to make the most of these tests of creativity and character.

When encountering your weaknesses you have four choices:

1. You can deny them (which is what most people do).
2. You can accept them and work at them in order to try to convert them into strengths (which might or might not work depending on your ability to change).
3. You can accept your weaknesses and find ways around them.
4. Or, you can change what you are going after.

Which solution you choose will be critically important to the direction of your life. The worst path you can take is the first. Denial can only lead to you constantly banging up against your weaknesses, having pain, and not getting anywhere. The second—accepting your weaknesses while trying to turn them into strengths—is probably the best path if it works. But some things you will never be good at and it takes a lot of time and effort to change. The best single clue as to whether you should go down this path is whether the thing you are trying to do is consistent with your nature (i.e., your natural abilities). The third path—accepting your weaknesses while trying to find ways around them—is the easiest and typically the most viable path, yet it is the one least followed. The fourth path, changing what you are going after, is also a great path, though it requires flexibility on your part to get past your preconceptions and enjoy the good fit when you find it.

**f. Asking others who are strong in areas where you are weak to help you is a great skill that you should develop no matter what, as it will help you develop guardrails that will prevent you from doing what you shouldn't be doing.** All successful people are good at this.

**g. Because it is difficult to see oneself objectively, you need to rely on the input of others and the whole body of evidence.** I know that my own life has been full of mistakes and lots of great feedback. It was only by looking down on this body of evidence from a higher level that I was able to get around my mistakes and go after what I wanted. For as long as I have been practicing this, I still know I can't see myself objectively, which is why I continue to rely so much on the input of others.

**h. If you are open-minded enough and determined, you can get virtually anything you want.** So I certainly don't want to dissuade you from going after whatever you want. At the same time, I urge you to reflect on whether what you are going after is consistent with your nature. Whatever your nature is, there are many paths that will suit you, so don't fixate on just one. Should a particular path close, all you have to do is find another good one consistent with what you're like. (You'll learn a lot about how to determine what you're like later, in Understand That People Are Wired Very Differently.)

But most people lack the courage to confront their own weaknesses and make the hard choices that this process requires. Ultimately, it comes down to the following five decisions:

1. Don't confuse what you wish were true with what is really true.
2. Don't worry about looking good—worry instead about achieving your goals.
3. Don't overweight first-order consequences relative to second- and third-order ones.

4. Don't let pain stand in the way of progress.
  5. Don't blame bad outcomes on any one but yourself.
- 

14 I'm sure Transcendental Meditation, which I have been practicing regularly for nearly half a century, helped provide me with the equanimity I needed to approach my challenges this way.

15 You shouldn't assume that you are always the best person to make decisions for yourself because often you aren't. While it is up to us to know what we want, others may know how to get it better than we do because they have strengths where we have weaknesses, or more relevant knowledge and experience. For example, it's probably better for you to follow your doctor's advice than your own if you have a medical condition. Later in this book, we will look at some of the different ways people's brains are wired and how our understanding of our own wiring should influence which choices we make for ourselves and which we should delegate to others. Knowing when not to make your own decisions is one of the most important skills you can develop.

16 I'll explain the concept of believability in more detail in later chapters, but to cover it quickly: Believable parties are those who have repeatedly and successfully accomplished something—and have great explanations for how they did it.

17 There are many things people consider "good" in the sense that they are kind or considerate but fail to deliver what's desired (like communism's "from each according to his ability, to each according to his needs"). Nature would appear to consider them "bad," and I'd agree with nature.

18 Everything other than evolution eventually disintegrates; we all are, and everything else is, vehicles for evolution. For example, while we see ourselves as individuals, we are essentially vessels for our genes that have lived millions of years and continuously use and shed bodies like ours.

19 I recommend Richard Dawkins's and E. O. Wilson's books on evolution. If I had to pick just one, it would be Dawkins's *River Out of Eden*.

20 Of course, we are often satisfied with the same things—relationships, careers, etc.—but when that is the case, it is typically because we are getting new enjoyments from the changing dimensions of those things.

21 The marginal benefits of moving from a shortage to an abundance of anything decline.

22 Your unique power of reflectiveness—your ability to look at yourself, the world around you, and the relationship between you and the world—means that you can think deeply and weigh subtle things to come up with learning and wise choices. Asking other believable people about the root causes of your pain in order to enhance your reflections is also typically very helpful—especially others who have opposing views but who share your interest in finding the truth rather than being proven right. If you can reflect deeply about your problems, they almost always

shrink or disappear, because you almost always find a better way of dealing with them than if you don't face them head-on.

23 To be clear, I am not saying people should not be helped. I believe that people should be helped by giving them opportunities and the coaching they need to become strong enough to take advantage of their opportunities. As the saying goes, "God helps those who help themselves." But this isn't easy, especially with people you care about. To be effective in helping people learn from painful experiences, you must explain the logic and caring behind what you're doing clearly and repeatedly. As you read in "*Where I'm Coming From*," this was a large part of what compelled me to explain my principles.

24 Your ability to see the changing landscape and adapt is more a function of your perception and reasoning than your ability to learn and process quickly.

**BAD**  
**Avoid facing “harsh realities.”**

---

**GOOD**  
**Face “harsh realities.”**

**BAD**  
**Worry about appearing good.**

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**GOOD**  
**Worry about achieving the goal.**

**BAD**

**Make your decisions on the basis of first-order consequences.**

---

**GOOD**

**Make your decisions on the basis of first-, second-, and third-order consequences.**

**BAD**

Allow pain to stand in the way of progress.

---

**GOOD**

Understand how to manage pain to produce progress.

**BAD**

**Don't hold yourself and others accountable.**

---

**GOOD**

**Hold yourself and others accountable.**

## 2 Use the 5-Step Process to Get What You Want Out of Life

It seems to me that the personal evolutionary process—the looping I described in the last chapter—takes place in five distinct steps. If you can do those five things well, you will almost certainly be successful. Here they are in a nutshell:

1. Have clear goals.
2. Identify and don't tolerate the problems that stand in the way of your achieving those goals.
3. Accurately diagnose the problems to get at their root causes.
4. Design plans that will get you around them.
5. Do what's necessary to push these designs through to results.

Together, these five steps make up a loop, like the one on the facing page. Let's look at this process more granularly.

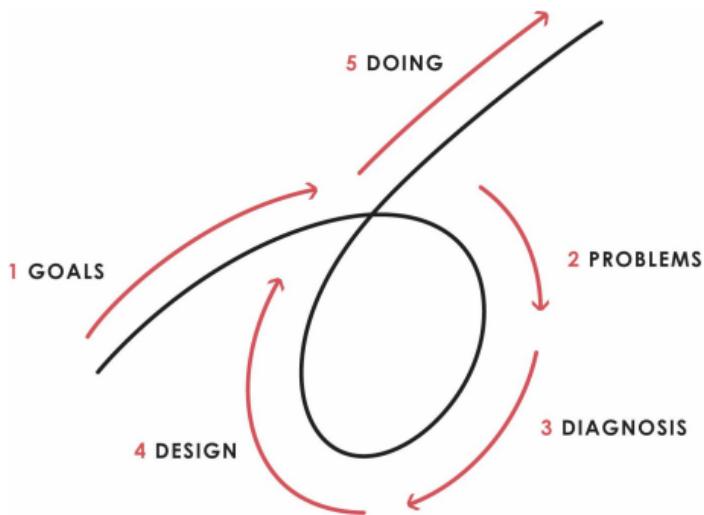
First you have to pick what you are going after—your **goals**. Your choice of goals will determine your direction. As you move toward them, you will encounter **problems**. Some of those problems will bring you up against your own weaknesses. How you react to the pain that causes is up to you. If you want to reach your goals, you must be calm and analytical so that you can accurately **diagnose** your problems, **design** a plan that will get you around them, and **do** what's necessary to push through to results. Then you will look at the new results you achieve and go through the process again. To evolve quickly, you will have to do this fast and continuously, setting your goals successively higher.

You will need to do all five steps well to be successful and you must do them one at a time and in order. For example, when setting goals, just set goals. Don't think about how you will achieve them or what you will do if something goes wrong. When you are diagnosing problems, don't think about how you will solve them—just diagnose them. Blurring the steps leads to suboptimal outcomes because it interferes with uncovering the true problems. The process is iterative: Doing each step thoroughly will provide you with the information you need to move on to the next step and do it well.

It is essential that you approach this process in a clearheaded, rational way, looking down on yourself from a higher level and being ruthlessly honest. If your emotions are getting the better of you, step back and take time out until you can reflect clearly. If necessary, seek guidance from calm, thoughtful people.

To help you stay centered and effective, pretend that your life is a martial art or a game, the object of which is to get around a challenge and reach a goal. Once you accept its rules, you'll

get used to the discomfort that comes with the constant frustration. You will never handle everything perfectly: Mistakes are inevitable and it's important to recognize and accept this fact of life. The good news is that every mistake you make can teach you something, so there's no end to learning. You'll soon realize that excuses like "that's not easy" or "it doesn't seem fair" or even "I can't do that" are of no value and that it pays to push through.



So what if you don't have all the skills you need to succeed? Don't worry about it because that's true for everyone. You just have to know when they are needed and where you can go to get them. With practice, you will eventually play this game with a calm unstoppable centeredness in the face of adversity. Your ability to get what you want will thrill you.

Now let's look at how to approach each of the five steps.

## 2.1 Have clear goals.

**a. Prioritize:** While you can have virtually anything you want, you can't have everything you want. Life is like a giant smorgasbord with more delicious alternatives than you can ever hope to taste. Choosing a goal often means rejecting some things you want in order to get other things that you want or need even more. Some people fail at this point, before they've even started. Afraid to reject a good alternative for a better one, they try to pursue too many goals at once, achieving few or none of them. Don't get discouraged and don't let yourself be paralyzed by all the choices. You can have much more than what you need to be happy. Make your choice and get on with it.

**b. Don't confuse goals with desires.** A proper goal is something that you really need to achieve. Desires are things that you want that can prevent you from reaching your goals. Typically,

desires are first-order consequences. For example, your goal might be physical fitness, while your desire is to eat good-tasting but unhealthy food. Don't get me wrong, if you want to be a couch potato, that's fine with me. You can pursue whatever goals you want. But if you don't want to be a couch potato, then you better not open that bag of chips.

**c. Decide what you really want in life by reconciling your goals and your desires.** Take passion, for example. Without passion, life would be dull; you wouldn't want to live without it. But what's key is what you do with your passion. Do you let it consume you and drive you to irrational acts, or do you harness it to motivate and drive you while you pursue your real goals? What will ultimately fulfill you are things that feel right at both levels, as both desires *and* goals.

**d. Don't mistake the trappings of success for success itself.** Achievement orientation is important, but people who obsess over a \$1,200 pair of shoes or a fancy car are very rarely happy because they don't know what it is that they really want and hence what will satisfy them.

**e. Never rule out a goal because you think it's unattainable.** Be audacious. There is always a best possible path. Your job is to find it and have the courage to follow it. What you think is attainable is just a function of what you know at the moment. Once you start your pursuit you will learn a lot, especially if you triangulate with others; paths you never saw before will emerge. Of course there are some impossibilities or near-impossibilities, such as playing center on a professional basketball team if you're short, or running a four-minute mile at age seventy.

**f. Remember that great expectations create great capabilities.** If you limit your goals to what you *know* you can achieve, you are setting the bar way too low.

**g. Almost nothing can stop you from succeeding if you have a) flexibility and b) self-accountability.** Flexibility is what allows you to accept what reality (or knowledgeable people) teaches you; self-accountability is essential because if you really believe that failing to achieve a goal is your personal failure, you will see your failing to achieve it as indicative that you haven't been creative or flexible or determined enough to do what it takes. And you will be that much more motivated to find the way.

**h. Knowing how to deal well with your setbacks is as important as knowing how to move forward.** Sometimes you know that you are going over a waterfall and there is no way to avoid it. Life will throw you such challenges, some of which will seem devastating at the time. In bad times, your goal might be to keep what you have, to minimize your rate of loss, or simply to deal with a loss that is irrevocable. Your mission is to always make the best possible choices, knowing that you will be rewarded if you do.

## **2.2 Identify and don't tolerate problems.**

- a. View painful problems as potential improvements that are screaming at you.** Though it won't feel that way at first, each and every problem you encounter is an opportunity; for that reason, it is essential that you bring them to the surface. Most people don't like to do this, especially if it exposes their own weaknesses or the weaknesses of someone they care about, but successful people know they have to.
- b. Don't avoid confronting problems because they are rooted in harsh realities that are unpleasant to look at.** Thinking about problems that are difficult to solve may make you anxious, but *not* thinking about them (and hence not dealing with them) should make you more anxious still. When a problem stems from your own lack of talent or skill, most people feel shame. Get over it. I cannot emphasize this enough: Acknowledging your weaknesses is not the same as surrendering to them. It's the first step toward overcoming them. The pains you are feeling are "growing pains" that will test your character and reward you as you push through them.
- c. Be specific in identifying your problems.** You need to be precise, because different problems have different solutions. If a problem is due to inadequate skill, additional training may be called for; if it arises from an innate weakness, you may need to seek assistance from someone else or change the role you play. In other words, if you're bad at accounting, hire an accountant. If a problem stems from someone else's weaknesses, replace them with someone who is strong where it's needed. That's just the way it is.
- d. Don't mistake a cause of a problem with the real problem.** "I can't get enough sleep" is not a problem; it is a potential cause (or perhaps the result) of a problem. To clarify your thinking, try to identify the bad outcome first; e.g., "I am performing poorly in my job." Not sleeping enough may be the cause of that problem, or the cause may be something else—but in order to determine that, you need to know exactly what the problem is.
- e. Distinguish big problems from small ones.** You only have so much time and energy; make sure you are investing them in exploring the problems that, if fixed, will yield you the biggest returns. But at the same time, make sure you spend enough time with the small problems to make sure they're not symptoms of larger ones.
- f. Once you identify a problem, don't tolerate it.** Tolerating a problem has the same consequences as failing to identify it. Whether you tolerate it because you believe it cannot be solved, because you don't care enough to solve it, or because you can't muster enough of whatever it takes to solve it, if you don't have the will to succeed, then your situation is hopeless. You need to develop a fierce intolerance of badness of any kind, regardless of its severity.

## 2.3 Diagnose problems to get at their root causes.

- a. Focus on the "what is" before deciding "what to do about it."** It is a common mistake to move in a nanosecond from identifying a tough problem to proposing a solution for it. Strategic

thinking requires both diagnosis and design. A good diagnosis typically takes between fifteen minutes and an hour, depending on how well it's done and how complex the issue is. It involves speaking with the relevant people and looking at the evidence together to determine the root causes. Like principles, root causes manifest themselves over and over again in seemingly different situations. Finding them and dealing with them pays dividends again and again.

**b. Distinguish proximate causes from root causes.** Proximate causes are typically the actions (or lack of actions) that lead to problems, so they are described with verbs (*I missed the train because I didn't check the train schedule*). Root causes run much deeper and they are typically described with adjectives (*I didn't check the train schedule because I am forgetful*). You can only truly solve your problems by removing their root causes, and to do that, you must distinguish the symptoms from the disease.

**c. Recognize that knowing what someone (including you) is like will tell you what you can expect from them.** You will have to get over your reluctance to assess what people are like if you want to surround yourself with people who have the qualities you need. That goes for yourself too. People almost always find it difficult to identify and accept their own mistakes and weaknesses. Sometimes it's because they're blind to them, but more often it's because their egos get in the way. Most likely your associates are equally reluctant to point out your mistakes, because they don't want to hurt you. You all need to get over this. More than anything else, what differentiates people who live up to their potential from those who don't is their willingness to look at themselves and others objectively and understand the root causes standing in their way.

## 2.4 Design a plan.

**a. Go back before you go forward.** Replay the story of where you have been (or what you have done) that led up to where you are now, and then visualize what you and others must do in the future so you will reach your goals.

**b. Think about your problem as a set of outcomes produced by a machine.** Practice higher-level thinking by looking down on your machine and thinking about how it can be changed to produce better outcomes.

**c. Remember that there are typically many paths to achieving your goals.** You only need to find one that works.

**d. Think of your plan as being like a movie script in that you visualize who will do what through time.** Sketch out the plan broadly at first (e.g., "hire great people") and then refine it. You should go from the big picture and drill down to specific tasks and estimated time lines (e.g., "In the next two weeks, choose the headhunters who will find those great people"). The real-world issues of

costs, time, and personnel will undoubtedly surface as you do this, and that will lead you to further refine your design until all the gears in the machine are meshing smoothly.

**e. Write down your plan for everyone to see and to measure your progress against.** This includes all the granular details about who needs to do what tasks and when. The tasks, the narrative, and the goals are different, so don't mix them up. Remember, the tasks are what connect the narrative to your goals.

**f. Recognize that it doesn't take a lot of time to design a good plan.** A plan can be sketched out and refined in just hours or spread out over days or weeks. But the process is essential because it determines what you will have to do to be effective. Too many people make the mistake of spending virtually no time on designing because they are preoccupied with execution. Remember: Designing precedes doing!

## 2.5 Push through to completion.

**a. Great planners who don't execute their plans go nowhere.** You need to push through and that requires self-discipline to follow your script. It's important to remember the connections between your tasks and the goals that they are meant to achieve. When you feel yourself losing sight of that, stop and ask yourself "why?" Lose sight of the why and you will surely lose sight of your goals.

**b. Good work habits are vastly underrated.** People who push through successfully have to-do lists that are reasonably prioritized, and they make certain each item is ticked off in order.

**c. Establish clear metrics to make certain that you are following your plan.** Ideally, someone other than you should be objectively measuring and reporting on your progress. If you're not hitting your targets, that's another problem that needs to be diagnosed and solved. There are many successful, creative people who aren't good at execution. They succeed because they forge symbiotic relationships with highly reliable task-doers.

That's all there is to it!

Remember that all 5 Steps proceed from your values. Your values determine what you want, i.e., your goals. Also keep in mind that the 5 Steps are iterative. When you complete one step, you will have acquired information that will most likely lead you to modify the other steps. When you've completed all five, you'll start again with a new goal. If the process is working, your goals will change more slowly than your designs, which will change more slowly than your tasks.

One last important point: You will need to synthesize and shape well. The first three steps—setting goals, identifying problems, and then diagnosing them—are synthesizing (by which I mean knowing where you want to go and what's really going on). Designing solutions and making sure that the designs are implemented are shaping.

## **2.6 Remember that weaknesses don't matter if you find solutions.**

You almost certainly can't do all these steps well, because each requires different types of thinking and virtually nobody can think well in all these ways. For example, goal setting (such as determining what you want your life to be) requires you to be good at higher-level thinking like visualization and prioritization. Identifying and not tolerating problems requires you to be perceptive and good at synthesis and maintaining high standards; diagnosis requires you to be logical, able to see multiple possibilities, and willing to have hard conversations with others; designing requires visualization and practicality; doing what you set out to do requires self-discipline, good work habits, and a results orientation. Who do you know who has all those qualities? Probably no one. Yet doing all 5 Steps well is required for being really successful. So what do you do? First and foremost, *have humility so you can get what you need from others!*

Everyone has weaknesses. They are generally revealed in the patterns of mistakes they make. Knowing what your weaknesses are and staring hard at them is the first step on the path to success.

**a. Look at the patterns of your mistakes and identify at which step in the 5-Step Process you typically fail.** Ask others for their input too, as nobody can be fully objective about themselves.

**b. Everyone has at least one big thing that stands in the way of their success; find yours and deal with it.** Write down what your one big thing is (such as identifying problems, designing solutions, pushing through to results) and why it exists (your emotions trip you up, you can't visualize adequate possibilities). While you and most people probably have more than one major impediment, if you can remove or get around that one really big one, you will hugely improve your life. If you work on it, you will almost certainly be able to deal successfully with your one big thing.

You can either fix it or you can get the help of others to deal with it well. There are two paths to success: 1) to have what you need yourself or 2) to get it from others. The second path requires you to have humility. Humility is as important, or even more important, as having the strengths yourself. Having both is best. On the following page is a template that some people find helpful.

## **2.7 Understand your own and others' mental maps and humility.**

Some people are good at knowing what to do on their own; they have good mental maps. Maybe they acquired them from being taught; maybe they were blessed with an especially large dose of common sense. Whatever the case, they have more answers inside themselves than others do. Similarly, some people are more humble and open-minded than others. Humility can be even more valuable than having good mental maps if it leads you to seek out better answers than you could come up with on your own. Having both open-mindedness and good mental maps is most powerful of all.

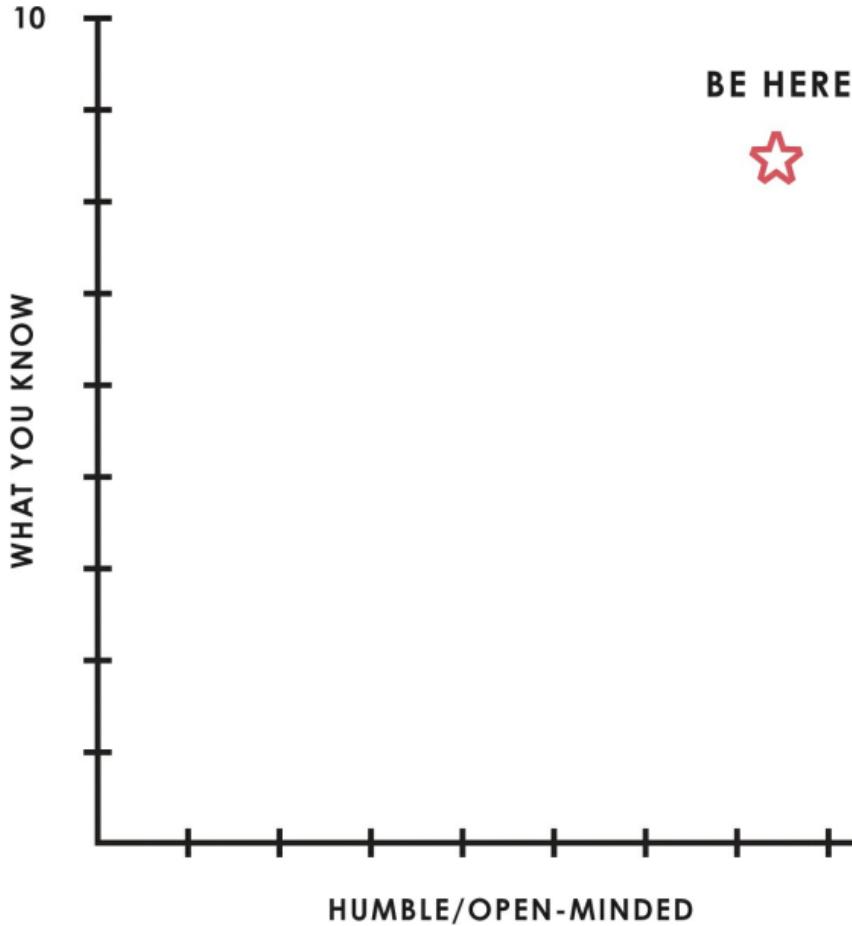
To convey this simple concept, imagine rating from one to ten how good someone's mental map is (in other words, what they know) on the Y-axis and how humble/open-minded they are on

the X-axis, as shown on the opposite page.

Every one starts out in the lower left area, with poor mental maps and little open-mindedness, and most people remain tragically and arrogantly stuck in that position. You can improve by either going up on the mental-maps axis (by learning how to do things better) or out on the open-mindedness axis. Either will provide you with better knowledge of what to do. If you have good mental maps and low open-mindedness, that will be good but not great. You will still miss a lot that is of value. Similarly, if you have high open-mindedness but bad mental maps, you will probably have challenges picking the right people and points of view to follow. The person who has good mental maps and a lot of open-mindedness will always beat out the person who doesn't have both.

Now take a minute to think about your path to becoming more effective. Where would you place yourself on this chart? Ask others where they'd place you.

Once you understand what you're missing and gain open-mindedness that will allow you to get help from others, you'll see that there's virtually nothing you can't accomplish.



Most people fail to do this most of the time. In the next chapters, I'll explore why and how to rectify that.

# **3 Be Radically Open-Minded**

This is probably the most important chapter because it explains how to get around the two things standing in most people's way of getting what they want out of life. These barriers exist because of the way that our brains work, so nearly everyone encounters them.

## **3.1 Recognize your two barriers.**

The two biggest barriers to good decision making are your ego and your blind spots. Together, they make it difficult for you to objectively see what is true about you and your circumstances and to make the best possible decisions by getting the most out of others. If you can understand how the machine that is the human brain works, you can understand why these barriers exist and how to adjust your behavior to make yourself happier, more effective, and better at interacting with others.

**a. Understand your ego barrier.** When I refer to your “ego barrier,” I’m referring to your subliminal defense mechanisms that make it hard for you to accept your mistakes and weaknesses. Your deepest-seated needs and fears—such as the need to be loved and the fear of losing love, the need to survive and the fear of not surviving, the need to be important and the fear of not mattering—reside in primitive parts of your brain such as the amygdala, which are structures in your temporal lobe that process emotions. Because these areas of your brain are not accessible to your conscious awareness, it is virtually impossible for you to understand what they want and how they control you. They oversimplify things and react instinctively. They crave praise and respond to criticism as an attack, even when the higher-level parts of the brain understand that constructive criticism is good for you. They make you defensive, especially when it comes to the subject of how good you are.

At the same time, higher-level consciousness resides in your neocortex, more specifically in the part called the prefrontal cortex. This is the most distinctively human feature of your brain; relative to the rest of the brain, it's larger in humans than in most other species. This is where you experience the conscious awareness of decision making (the so-called “executive function”), as well as the application of logic and reasoning.

**b. Your two “yous”** fight to control you. It's like Dr. Jekyll and Mr. Hyde, though your higher-level you is not aware of your lower-level you. This conflict is universal; if you pay close enough attention, you can actually see when the different parts of a person's brain are arguing with one another. For example, when someone gets “angry with himself,” his prefrontal cortex is sparring with his amygdala (or other lower-level parts of his brain<sup>25</sup>). When someone asks, “Why did I let

myself eat all that cake?" the answer is "Because the lower-level you won out over the thoughtful, higher-level you."

Once you understand how your a) logical/conscious you and b) emotional/subconscious you fight with each other, you can imagine what it's like when your two yous deal with other people and their own two "them's." It's a mess. Those lower-level selves are like attack dogs—they want to fight even when their higher-level selves want to figure things out. This is very confusing because you and the people you are dealing with typically don't even know that these lower-level beasts exist, never mind that they are trying to hijack everyone's behavior.

Let's look at what tends to happen when someone disagrees with you and asks you to explain your thinking. Because you are programmed to view such challenges as attacks, you get angry, even though it would be more logical for you to be interested in the other person's perspective, especially if they are intelligent. When you try to explain your behavior, your explanations don't make any sense. That's because your lower-level you is trying to speak through your upper-level you. Your deep-seated, hidden motivations are in control, so it is impossible for you to logically explain what "you" are doing.

Even the most intelligent people generally behave this way, and it's tragic. To be effective you must not let your need to be right be more important than your need to find out what's true. If you are too proud of what you know or of how good you are at something you will learn less, make inferior decisions, and fall short of your potential.

**c. Understand your blind spot barrier.** In addition to your ego barrier, you (and everyone else) also have blind spots—areas where your way of thinking prevents you from seeing things accurately. Just as we all have different ranges for hearing pitch and seeing colors, we have different ranges for seeing and understanding things. We each see things in our own way. For example, some people naturally see big pictures and miss small details while others naturally see details and miss big pictures; some people are linear thinkers while others think laterally, and so on.

Naturally, people can't appreciate what they can't see. A person who can't identify patterns and synthesize doesn't know what it's like to see patterns and synthesize any more than a color-blind person knows what it's like to see color. These differences in how our brains work are much less apparent than the differences in how our bodies work. Color-blind people eventually find out that they are color-blind, whereas most people never see or understand the ways in which their ways of thinking make them blind. To make it even harder, we don't like to see ourselves or others as having blind spots, even though we all have them. When you point out someone's psychological weakness, it's generally about as well received as if you pointed out a physical weakness.

If you're like most people, you have no clue how other people see things and aren't good at seeking to understand what they are thinking, because you're too preoccupied with telling them what you yourself think is correct. In other words, you are closed-minded; you presume too much. This closed-mindedness is terribly costly; it causes you to miss out on all sorts of wonderful possibilities and dangerous threats that other people might be showing you—and it blocks criticism that could be constructive and even lifesaving.

The end result of these two barriers is that parties in disagreements typically remain convinced that they're right—and often end up angry at each other. This is illogical and leads to

suboptimal decision making. After all, when two people reach opposite conclusions, someone must be wrong. Shouldn't you want to make sure that someone isn't you?

This failure to benefit from others' thinking doesn't just occur when disagreements arise; it occurs when people encounter problems that they are trying to solve. When trying to figure things out, most people spin in their own heads instead of taking in all the wonderful thinking available to them. As a result, they continually run toward what they see and keep crashing into what they are blind to until the crashing leads them to adapt. Those who adapt do so by a) teaching their brains to work in a way that doesn't come naturally (the creative person learns to become organized through discipline and practice, for instance), b) using compensating mechanisms (such as programmed reminders), and/or c) relying on the help of others who are strong where they are weak.

Differences in thinking can be symbiotic and complementary instead of disruptive. For example, the lateral approach to thinking common among creative people can lead them to be unreliable, while more linear thinkers are often more dependable; some people are more emotional while others are more logical, and so on. None of these individuals would be able to succeed at any kind of complex project without the help of others who have complementary strengths.

Aristotle defined tragedy as a terrible outcome arising from a person's fatal flaw—a flaw that, had it been fixed, instead would have led to a wonderful outcome. In my opinion, these two barriers—ego and blind spots—are the fatal flaws that keep intelligent, hardworking people from living up to their potential.

Would you like to learn how to get past them? You can do it; everybody can. Here's how.

### **3.2 Practice radical open-mindedness.**

If you know that you are blind, you can figure out a way to see, whereas if you don't know that you're blind, you will continue to bump into your problems. In other words, if you can recognize that you have blind spots and open-mindedly consider the possibility that others might see something better than you—and that the threats and opportunities they are trying to point out really exist—you are more likely to make good decisions.

Radical open-mindedness is motivated by the genuine worry that you might not be seeing your choices optimally. It is the ability to effectively explore different points of view and different possibilities without letting your ego or your blind spots get in your way. It requires you to replace your attachment to always being right with the joy of learning what's true. Radical open-mindedness allows you to escape from the control of your lower-level you and ensures your upper-level you sees and considers all the good choices and makes the best possible decisions. If you can acquire this ability—and with practice you can—you'll be able to deal with your realities more effectively and radically improve your life.

Most people don't understand what it means to be radically open-minded. They describe open-mindedness as being "open to being wrong," but stubbornly cling to whatever opinion is in their head and fail to seek an understanding of the reasoning behind alternative points of view. To be radically open-minded you must:

**a. Sincerely believe that you might not know the best possible path and recognize that your ability to deal well with “not knowing” is more important than whatever it is you do know.** Most people make bad decisions because they are so certain that they’re right that they don’t allow themselves to see the better alternatives that exist. Radically open-minded people know that coming up with the right questions and asking other smart people what they think is as important as having all the answers. They understand that you can’t make a great decision without swimming for a while in a state of “not knowing.” That is because what exists within the area of “not knowing” is so much greater and more exciting than anything any one of us knows.

**b. Recognize that decision making is a two-step process: First take in all the relevant information, then decide.** Most people are reluctant to take in information that is inconsistent with what they have already concluded. When I ask why, a common answer is: “I want to make up my own mind.” These people seem to think that considering opposing views will somehow threaten their ability to decide what they want to do. Nothing could be further from the truth. Taking in others’ perspectives in order to consider them in no way reduces your freedom to think independently and make your own decisions. It will just broaden your perspective as you make them.

**c. Don’t worry about looking good; worry about achieving your goal.**

People typically try to prove that they have the answer even when they don’t. Why do they behave in this unproductive way? It’s generally because they believe the senseless but common view that great people have all the answers and don’t have any weaknesses. Not only does this view not square with reality, it stands in the way of their progress. People interested in making the best possible decisions are rarely confident that they have the best answers. They recognize that they have weaknesses and blind spots, and they always seek to learn more so that they can get around them.

**d. Realize that you can’t put out without taking in.** Most people seem much more eager to put out (convey their thinking and be productive) than to take in (learn). That’s a mistake even if one’s primary goal is to put out, because what one puts out won’t be good unless one takes in as well.

**e. Recognize that to gain the perspective that comes from seeing things through another’s eyes, you must suspend judgment for a time—only by empathizing can you properly evaluate another point of view.** Open-mindedness doesn’t mean going along with what you don’t believe in; it means considering the reasoning of others instead of stubbornly and illogically holding on to your own point of view. To be radically open-minded, you need to be so open to the possibility that you could be wrong that you encourage others to tell you so.

**f. Remember that you’re looking for the best answer, not simply the best answer that you can come up with yourself.** The answer doesn’t have to be in your head; you can look outside yourself. If you’re truly looking at things objectively, you must recognize that the probability of you always having the best answer is small and that, even if you have it, you can’t be confident

that you do before others test you. So it is invaluable to know what you don't know. Ask yourself: Am I seeing this just through my own eyes? If so, then you should know that you're terribly handicapped.

**g. Be clear on whether you are arguing or seeking to understand, and think about which is most appropriate based on your and others' believability.** If both parties are peers, it's appropriate to argue. But if one person is clearly more knowledgeable than the other, it is preferable for the less knowledgeable person to approach the more knowledgeable one as a student and for the more knowledgeable one to act as a teacher. Doing this well requires you to understand the concept of believability. I define believable people as those who have repeatedly and successfully accomplished the thing in question—who have a strong track record with at least three successes—and have great explanations of their approach when probed.

If you have a different view than someone who is believable on the topic at hand—or at least more believable than you are (if, say, you are in a discussion with your doctor about your health)—you should make it clear that you are asking questions because you are seeking to understand their perspective. Conversely, if you are clearly the more believable person, you might politely remind the other of that and suggest that they ask you questions.

All these strategies come together in two practices that, if you seek to become radically open-minded, you must master.

### **3.3 Appreciate the art of thoughtful disagreement.**

When two people believe opposite things, chances are that one of them is wrong. It pays to find out if that someone is you. That's why I believe you must appreciate and develop the art of thoughtful disagreement. In thoughtful disagreement, your goal is not to convince the other party that you are right—it is to find out which view is true and decide what to do about it. In thoughtful disagreement, both parties are motivated by the genuine fear of missing important perspectives. Exchanges in which you really see what the other person is seeing and they really see what you are seeing—with both your “higher-level yours” trying to get to the truth—are immensely helpful and a giant source of untapped potential.

To do this well, approach the conversation in a way that conveys that you're just trying to understand.<sup>26</sup> Use questions rather than make statements. Conduct the discussion in a calm and dispassionate manner, and encourage the other person to do that as well. Remember, you are not arguing; you are openly exploring what's true. Be reasonable and expect others to be reasonable. If you're calm, collegial, and respectful you will do a lot better than if you are not. You'll get better at this with practice.

To me, it's pointless when people get angry with each other when they disagree because most disagreements aren't threats as much as opportunities for learning. People who change their minds because they learned something are the winners, whereas those who stubbornly refuse to learn are the losers. That doesn't mean that you should blindly accept others' conclusions. You should be what I call open-minded and assertive at the same time—you should hold and explore

conflicting possibilities in your mind while moving fluidly toward whatever is likely to be true based on what you learn. Some people can do this easily while others can't. A good exercise to make sure that you are doing this well is to describe back to the person you are disagreeing with their own perspective. If they agree that you've got it, then you're in good shape. I also recommend that both parties observe a "two-minute rule" in which neither interrupts the other, so they both have time to get all their thoughts out.

Some people worry that operating this way is time consuming. Working through disagreements does take time but it's just about the best way you can spend it. What's important is that you prioritize what you spend time on and who you spend it with. There are lots of people who will disagree with you, and it would be unproductive to consider all their views. It doesn't pay to be open-minded with everyone. Instead, spend your time exploring ideas with the most believable people you have access to.

If you find you're at an impasse, agree on a person you both respect and enlist them to help moderate the discussion. What's really counterproductive is spinning in your own head about what's going on, which most people are prone to do—or wasting time disagreeing past the point of diminishing returns. When that happens, move on to a more productive way of getting to a mutual understanding, which isn't necessarily the same thing as agreement. For example, you might agree to disagree.

Why doesn't thoughtful disagreement like this typically occur? Because most people are instinctively reluctant to disagree. For example, if two people go to a restaurant and one says he likes the food, the other is more likely to say "I like it too" or not say anything at all, even if that's not true. The reluctance to disagree is the "lower-level yous" mistaken interpretation of disagreement as conflict. That's why radical open-mindedness isn't easy: You need to teach yourself the art of having exchanges in ways that don't trigger such reactions in yourself or others. This was what I had to learn back when Bob, Giselle, and Dan told me I made people feel belittled.

Holding wrong opinions in one's head and making bad decisions based on them instead of having thoughtful disagreements is one of the greatest tragedies of mankind. Being able to thoughtfully disagree would so easily lead to radically improved decision making in all areas—public policy, politics, medicine, science, philanthropy, personal relationships, and more.

### **3.4 Triangulate your view with believable people who are willing to disagree.**

By questioning experts individually and encouraging them to have thoughtful disagreement with each other that I can listen to and ask questions about, I both raise my probability of being right and become much better educated. This is most true when the experts disagree with me or with each other. Smart people who can thoughtfully disagree are the greatest teachers, far better than a professor assigned to stand in front of a board and lecture at you. The knowledge I acquire usually leads to principles that I develop and refine for similar cases that arise in the future.

In some cases in which the subjects are just too complex for me to understand in the time required, I will turn over the decision making to knowledgeable others who are more believable

than me, but I still want to listen in on their thoughtful disagreement. I find that most people don't do that—they prefer to make their own decisions, even when they're not qualified to make the kinds of judgments required. In doing so, they're giving in to their lower-level selves.

This approach of triangulating the views of believable people can have a profound effect on your life. I know it has made the difference between life and death for me. In June 2013, I went to Johns Hopkins for an annual physical, where I was told that I had a precancerous condition called Barrett's esophagus with high-grade dysplasia. Dysplasia is an early stage in the development of cancer, and the probability that it will turn into esophageal cancer is relatively high—about 15 percent of cases per year. Cancer of the esophagus is deadly, so if left untreated, the odds were that in something like three to five years I'd develop cancer and die. The standard protocol for cases like mine is to remove the esophagus, but I wasn't a candidate for that because of something specific to my condition. The doctor advised that I wait and see how things progressed.

In the weeks that followed, I started to plan for my eventual death, while also fighting to live. I like to:

**a. Plan for the worst-case scenario to make it as good as possible.** I felt fortunate because this prognosis gave me enough time to ensure that the people I cared most about would be okay without me, and to savor life with them in the years I had left. I would have time to get to know my first grandson, who had just been born, but not so much time that I could take it for granted.

But as you know by now, rather than following what I am told is best, even by an expert, I like to triangulate opinions with believable people. So I also had my personal physician, Dr. Glazer, set up visits with four other experts on this particular disease.

The first call was with the head of thoracic surgery at a major cancer hospital. She explained that my condition had advanced quickly and that, contrary to what the first physician said, there was a surgery that could cure me. It would involve removing both my esophagus and my stomach and attaching my intestines to the remaining little bit of my esophagus I'd have left. She estimated I'd have a 10 percent chance of dying on the operating table and a 70 percent chance of a crippling outcome. But the odds were in favor of my living, so her recommendation was clearly worth taking seriously. Naturally I wanted her to speak with the doctor from Johns Hopkins who originally diagnosed me and recommended a watch-and-wait approach, so right then and there I called the other doctor to see what each would say about the other's views. This was eye-opening. While the two doctors had told me completely different things when I met with them in person, when they were on the phone together, they sought to minimize their disagreement and make the other look good, putting professional courtesy ahead of thrashing things out to get at the best answer. Still, the differences in their views were clear, and listening to them deepened my understanding.

The next day I met with a third doctor who was a world-renowned specialist and researcher at another esteemed hospital. He told me that my condition would basically cause me no problems so long as I came in for an endoscopic examination every three months. He explained that it was like skin cancer but on the inside—if it was watched and any new growth was clipped before it metastasized into the bloodstream, I'd be okay. According to him, the results for patients monitored in this way were no different than for those who had their esophagus removed. To put

that plainly: They didn't die from cancer. Life went on as normal for them except for those occasional examinations and procedures.

To recap: Over the course of forty-eight hours, I had gone from a likely death sentence to a likely cure that would essentially involve disemboweling me, and then finally to a simple, and only slightly inconvenient, way of watching for abnormalities and removing them before they could cause any harm. Was this doctor wrong?

Dr. Glazer and I went on to meet two other world-class specialists and they both agreed that undergoing the scoping procedure would do no harm, so I decided to go ahead with it. During the procedure, they clipped some tissue from my esophagus and sent it to the laboratory for testing. A few days after the procedure, exactly a week before my sixty-fourth birthday, I got the results. They were shocking to say the least. After analyzing the tissue, it turned out there wasn't any high-grade dysplasia at all!

Even experts can make mistakes; my point is simply that it pays to be radically open-minded and triangulate with smart people. Had I not pushed for other opinions, my life would have taken a very different course. My point is that you can significantly raise your probabilities of making the right decisions by open-mindedly triangulating with believable people.

### **3.5 Recognize the signs of closed-mindedness and open-mindedness that you should watch out for.**

It's easy to tell an open-minded person from a closed-minded person because they act very differently. Here are some cues to tell you whether you or others are being closed-minded:

**1. Closed-minded people** don't want their ideas challenged. They are typically frustrated that they can't get the other person to agree with them instead of curious as to why the other person disagrees. They feel bad about getting something wrong and are more interested in being proven right than in asking questions and learning others' perspectives.

**Open-minded people** are more curious about why there is disagreement. They are not angry when someone disagrees. They understand that there is always the possibility that they might be wrong and that it's worth the little bit of time it takes to consider the other person's views in order to be sure they aren't missing something or making a mistake.

**2. Closed-minded people** are more likely to make statements than ask questions. While believability entitles you to make statements in certain circumstances, truly open-minded people, even the most believable people I know, always ask a lot of questions. Nonbelievable people often tell me that their statements are actually implicit questions, though they're phrased as low-confidence statements. While that's sometimes true, in my experience it's more often not.

**Open-minded people** genuinely believe they could be wrong; the questions that they ask are genuine. They also assess their relative believability to determine whether their primary role should be as a student, a teacher, or a peer.

**3. Closed-minded people** focus much more on being understood than on understanding others. When people disagree, they tend to be quicker to assume that they aren't being understood than to consider whether they're the ones who are not understanding the other person's perspective.

**Open-minded people** always feel compelled to see things through others' eyes.

**4. Closed-minded people** say things like "I could be wrong . . . but here's my opinion." This is a classic cue I hear all the time. It's often a perfunctory gesture that allows people to hold their own opinion while convincing themselves that they are being open-minded. If your statement starts with "I could be wrong" or "I'm not believable," you should probably follow it with a question and not an assertion.

**Open-minded people** know when to make statements and when to ask questions.

**5. Closed-minded people** block others from speaking. If it seems like someone isn't leaving space for the other person in a conversation, it's possible they are blocking. To get around blocking, enforce the "two-minute rule" I mentioned earlier.

**Open-minded people** are always more interested in listening than in speaking; they encourage others to voice their views.

**6. Closed-minded people** have trouble holding two thoughts simultaneously in their minds. They allow their own view to crowd out those of others.

**Open-minded people** can take in the thoughts of others without losing their ability to think well—they can hold two or more conflicting concepts in their mind and go back and forth between them to assess their relative merits.

**7. Closed-minded people** lack a deep sense of humility. Humility typically comes from an experience of crashing, which leads to an enlightened focus on knowing what one doesn't know.

**Open-minded people** approach everything with a deep-seated fear that they may be wrong.

Once you can sort out open-minded from closed-minded people, you'll find that you want to surround yourself with open-minded ones. Doing so will not only make your decision making more effective but you'll also learn a tremendous amount. A few good decision makers working effectively together can significantly outperform a good decision maker working alone—and even the best decision maker can significantly improve his or her decision making with the help of other excellent decision makers.

### **3.6 Understand how you can become radically open-minded.**

No matter how open-minded you are now, it is something you can learn. To practice open-mindedness:

**a. Regularly use pain as your guide toward quality reflection.** Mental pain often comes from being too attached to an idea when a person or an event comes along to challenge it. This is especially true when what is being pointed out to you involves a weakness on your part. This kind of mental pain is a clue that you are potentially wrong and that you need to think about the question in a quality way. To do this, first calm yourself down. This can be difficult: You will probably feel your amygdala kicking in through a tightening in your head, tension in your body, or an emerging sense of annoyance, anger, or irritability. Note these feelings when they arise in you. By being aware of such signals of closed-mindedness, you can use them as cues to control your behavior and guide yourself toward open-mindedness. Doing this regularly will strengthen your ability to keep your “higher-level you” in control. The more you do it, the stronger you will become.

**b. Make being open-minded a habit.** The life that you will live is most simply the result of habits you develop. If you consistently use feelings of anger/frustration as cues to calm down, slow down, and approach the subject at hand thoughtfully, over time you’ll experience negative emotions much less frequently and go directly to the open-minded practices I just described.

Of course, this can be very hard for people to do in the moment because your “lower-level you” emotions are so powerful. The good news is that these “amygdala hijackings”<sup>27</sup> don’t last long so even if you’re having trouble controlling yourself in the moment, you can also allow a little time to pass to give your higher-level you space to reflect in a quality way. Have others whom you respect help you too.

**c. Get to know your blind spots.** When you are closed-minded and form an opinion in an area where you have a blind spot, it can be deadly. So take some time to record the circumstances in which you’ve consistently made bad decisions because you failed to see what others saw. Ask others—especially those who’ve seen what you’ve missed—to help you with this. Write a list, tack it up on the wall, and stare at it. If ever you find yourself about to make a decision (especially a big decision) in one of these areas without consulting others, understand that you’re taking a big risk and that it would be illogical to expect that you’ll get the results you think you will.

**d. If a number of different believable people say you are doing something wrong and you are the only one who doesn’t see it that way, assume that you are probably biased.** Be objective! While it is possible that you are right and they are wrong, you should switch from a fighting mode to an “asking questions” mode, compare your believability with theirs, and if necessary agree to bring in a neutral party you all respect to break the deadlock.

**e. Meditate.** I practice Transcendental Meditation and believe that it has enhanced my open-mindedness, higher-level perspective, equanimity, and creativity. It helps slow things down so that I can act calmly even in the face of chaos, just like a ninja in a street fight. I’m not saying that you have to meditate in order to develop this perspective; I’m just passing along that it has helped me and many other people and I recommend that you seriously consider exploring it.

**f. Be evidence-based and encourage others to be the same.** Most people do not look thoughtfully at the facts and draw their conclusions by objectively weighing the evidence. Instead, they make their decisions based on what their deep-seated subconscious mind wants and then they filter the evidence to make it consistent with those desires. It is possible to become aware of this subconscious process happening and to catch yourself, or to allow others to catch you going down this path. When you're approaching a decision, ask yourself: Can you point to clear facts (i.e., facts believable people wouldn't dispute) leading to your view? If not, chances are you're not being evidence-based.

**g. Do everything in your power to help others also be open-minded.**

Being calm and reasonable in how you present your view will help prevent the “flight-or-fight” animal/amygdala reaction in others. Be reasonable and expect others to be reasonable. Ask them to point to the evidence that supports their point of view. Remember, it is not an argument; it is an open exploration of what's true. Demonstrating that you are taking in what they are telling you can be helpful.

**h. Use evidence-based decision-making tools.** These principles were designed to help you get control over your lower-level/animal you and put your better, higher-level decision-making brain in charge.

What if you could unplug that lower part of your brain entirely and instead connect with a decision-making computer that gives you logically derived instructions, as we do with our investment systems? Suppose this computer-based decision-making machine has a much better track record than you because it captures more logic, processes more information more quickly, and makes decisions without being emotionally hijacked. Would you use it? In confronting the challenges I've faced in the course of my career I've created exactly such tools, and I am convinced that I would not have been nearly as successful without them. I have no doubt that in the years ahead such “machine-thinking” tools will continue to develop and that smart decision makers will learn how to integrate them into their thinking. I urge you to learn about them and consider using them.

**i. Know when it's best to stop fighting and have faith in your decision-making process.** It's important that you think independently and fight for what you believe in, but there comes a time when it's wiser to stop fighting for your view and move on to accepting what believable others think is best. This can be extremely difficult. But it's smarter and ultimately better for you to be open-minded and have faith that the consensus of believable others is better than whatever you think. If you can't understand their view, you're probably just blind to their way of thinking. If you continue doing what you think is best when all the evidence and believable people are against you, you're being dangerously arrogant.

The truth is that while most people can become radically open-minded, some can't, even after they have repeatedly encountered lots of pain from betting that they were right when they were not.<sup>28</sup> People who don't learn radical open-mindedness don't experience the metamorphosis that allows them to do much better. I myself had to have that humility beaten into me by my crashes,

especially my big one in 1982. Gaining open-mindedness doesn't mean losing assertiveness. In fact, because it increases one's odds of being right, it should increase one's confidence. That has been true for me since my big crash, which is why I've been able to have more success with less risk.

Becoming truly open-minded takes time. Like all real learning, doing this is largely a matter of habit; once you do it so many times it is almost instinctive, you'll find it intolerable to be any other way. As noted earlier, this typically takes about eighteen months, which in the course of a lifetime is nothing.

## **ARE YOU UP FOR THE CHALLENGE?**

For me, there is really only one big choice to make in life: Are you willing to fight to find out what's true? Do you deeply believe that finding out what is true is essential to your well-being? Do you have a genuine need to find out if you or others are doing something wrong that is standing in the way of achieving your goals? If your answer to any of these questions is no, accept that you will never live up to your potential. If, on the other hand, you are up for the challenge of becoming radically open-minded, the first step in doing so is to look at yourself objectively. In the next chapter, Understand That People Are Wired Very Differently, you'll have a chance to do just that.





**25** The brain is a highly interconnected organ with many different structures responsible for producing our thoughts, feelings, and actions. When explaining these things, I've adopted some conventions, such as describing the amygdala as the sole cause of emotional flight-or-fight reactions, even though the exact neuroanatomy is more complex. I'll cover this in more detail in the following chapter.

**26** One way to do this is by asking questions like “Would you rather I be open with my thoughts and questions or keep them to myself?”; “Are we going to try to convince each other that we are right or are we going to open-mindedly hear each other’s perspectives to try to figure out what’s true and what to do about it?”; or “Are you arguing with me or seeking to understand my perspective?”

**27** Psychologist and science journalist Daniel Goleman originally coined this term in *Emotional Intelligence*.

**28** Some of this may be a result of what is called the Dunning-Kruger effect, a cognitive bias in which low-ability individuals believe that they are in fact superior.

## **4 Understand That People Are Wired Very Differently**

Because of the different ways that our brains are wired, we all experience reality in different ways and any single way is essentially distorted. This is something that we need to acknowledge and deal with. So if you want to know what is true and what to do about it, you must understand your own brain.

That insight led me to talk with many psychologists, psychiatrists, neuroscientists, personality testers, and other believable people in the field, and it led me to read many books. I discovered that though it is obvious to all of us that we are born with different strengths and weaknesses in areas such as common sense, creativity, memory, synthesis, attention to detail, and so forth, examining these differences objectively makes even most scientists uncomfortable. But that doesn't make it any less necessary, so I pushed forward with these explorations over several decades.

As a result, I have learned a lot that helped me and that I believe can help you. In fact, I attribute as much of my success to what I've learned about the brain as I do to my understanding of economics and investing. In this chapter, I will share some of the amazing things I've learned.

### **WHY I TURNED TO NEUROSCIENCE**

When I started Bridgewater two years out of business school, I had to manage people for the first time. At first I thought that hiring smart people—for instance, the top students out of the top schools—should get me capable employees, but as often as not, those people didn't turn out well. “Book smarts” didn't typically equate to the type of smarts I needed.

I wanted to work with independent thinkers who were creative, conceptual, and had a lot of common sense. But I had a hard time finding those sorts of people and even when I did, I was shocked at how differently their brains seemed to work. It was as though we were speaking different languages. For example, those who were “conceptual” and imprecise spoke one language while those who were literal and precise spoke another. At the time, we chalked this up to “communication problems,” but the differences were much deeper than that—and they were painful for all of us, particularly when we were trying to achieve big things together.

I remember one research project—an ambitious attempt to systemize our global understanding of the bond markets—that took place years ago. Bob Prince was running it, and while we agreed conceptually on what we were trying to do, the project didn't get pushed through to results. We'd meet with Bob and his team to agree on the goal and lay out how to get there. But when they'd go off to work on it, they'd make no progress. The problem was that conceptual people who visualized what should be done in vague ways expected more literal people to figure

out for themselves how to do it. When they didn't, the more conceptual people thought the more literal people had no imagination, and the more literal people thought the more conceptual people had their heads in the clouds. To make matters worse, none of them knew which were which—the more literal people thought that they were as conceptual as the conceptual people and vice versa. In short, we were gridlocked, and everyone thought it was someone else's fault—that the people they were locking horns with were blind, stubborn, or just plain stupid.

Those meetings were painful for everyone. Because no one was clear about what they were good or bad at, everybody expressed opinions about everything and there wasn't any sensible way of sorting through them. We discussed why the group was failing, which led us to see that the individuals Bob had chosen for his team reflected his own strengths and weaknesses in their own roles. While that took frankness and open-mindedness and was a big step forward, it wasn't recorded and systematically converted into adequate changes, so the same people kept making the same sort of mistakes, over and over again.

Isn't it obvious that our different ways of thinking, our emotional responses, and our not having ways of dealing with them is crippling us? What are we supposed to do, not deal with them?

I'm sure you've been in contentious disagreements before—ones where people have different points of view and can't agree on what's right. Good people with good intentions get angry and emotional; it is frustrating and often becomes personal. Most companies avoid this by suppressing open debate and having those with the most authority simply make the calls. I didn't want that kind of company. I knew we needed to dig more deeply into what was preventing us from working together more effectively, bring those things to the surface, and explore them.

Bridgewater's roughly 1,500 employees do many different things—some strive to understand the global markets; others develop technologies; still others serve clients, manage health insurance and other benefits for employees, provide legal guidance, manage IT and facilities, and so on. All these activities require different types of people to work together in ways that harvest the best ideas and throw away the worst. Organizing people to complement their strengths and compensate for their weaknesses is like conducting an orchestra. It can be magnificent if done well and terrible if done poorly.

While "know thyself" and "to thine own self be true" are fundamental tenets I had heard long before I began looking into the brain, I had no idea how to go about getting that knowledge or how to act on it until we made these discoveries about how people think differently. The better we know ourselves, the better we can recognize both what can be changed and how to change it, and what *can't* be changed and what we can do about that. So no matter what you set out to do—whether on your own, as a member of an organization, or as its director—you need to understand how you and other people are wired.

#### **4.1 Understand the power that comes from knowing how you and others are wired.**

As I related in the first part of this book, my first breakthrough in understanding how people think differently occurred when I was a young father and had my kids tested by Dr. Sue Quinlan. I found the results remarkable, because she not only confirmed my own observations of the ways

that their minds were working at the time but also predicted how they would develop in the future. For example, one of my kids was struggling with arithmetic. Because he tested well in mathematical reasoning, she correctly told him that if he pushed through the boredom of rote memorization required in elementary school, he would love the higher-level concepts he would be exposed to when he got older. These insights opened my eyes to new possibilities. I turned to her and others years later when I was trying to figure out the different thinking styles of my employees and colleagues.

At first, the experts gave me both bad and good advice. Many seemed as if they were more interested in making people feel good (or not feel bad) than they were at getting at the truth. Even more startling, I found that most psychologists didn't know much about neuroscience and most neuroscientists didn't know much about psychology—and both were reluctant to connect the physiological differences in people's brains to the differences in their aptitudes and behaviors. But eventually I found Dr. Bob Eichinger, who opened the world of psychometric testing to me. Using Myers-Briggs and other assessments, we evolved a much clearer and more data-driven way of understanding our different types of thinking.

Our differences weren't a product of poor communication; it was the other way around. Our different ways of thinking led to our poor communications.

From conversations with experts and my own observations, I learned that many of our mental differences are physiological. Just as our physical attributes determine the limits of what we are able to do physically—some people are tall and others are short, some muscular and others weak—our brains are innately different in ways that set the parameters of what we are able to do mentally. As with our bodies, some parts of our brains cannot be materially affected by external experience (in the same way that your skeleton isn't changed much through working out), while other parts can be strengthened through exercise (I will have more to say about brain plasticity later in this chapter).

This was driven home to me by my son Paul's three-year struggle with bipolar disorder. As terrifying and frustrating as his behavior was, I came to realize that it was due to his brain's chemistry (specifically, its secreting serotonin and dopamine in spurts and sputters). As I went through that terrible journey with him, I experienced the frustration and anger of trying to reason with someone who wasn't thinking well. I constantly had to remind myself that there was no basis for my anger because his distorted logic was a product of his physiology—and I saw for myself how the doctors who approached it that way brought him to a state of crystal clarity. The experience not only taught me a lot about how brains work but why creative genius often exists at the edge of insanity. Many highly productive and creative people have suffered from bipolar disorder, among them Ernest Hemingway, Beethoven, Tchaikovsky, Vincent van Gogh, Jackson Pollock, Virginia Woolf, Winston Churchill, and the psychologist Kay Redfield Jamison (who has written frankly about her own experiences with the disease in her book *An Unquiet Mind*). I learned that we are all different because of the different ways that the machine that is our brain works—and that nearly one in five Americans are clinically mentally ill in one way or another.

Once I understood that it's all physiological, many things became clearer to me. While I used to get angry and frustrated at people because of the choices they made, I came to realize that they weren't intentionally acting in a way that seemed counterproductive; they were just living out things as they saw them, based on how their brains worked. I also realized that as off-base as

they seemed to me, they saw me the same way. The only sensible way of behaving with each other was to look down upon ourselves with mutual understanding so we could make objective sense of things. Not only did this make our disagreements less frustrating, it also allowed us to maximize our effectiveness.

Everyone is like a Lego set of attributes, with each piece reflecting the workings of a different part of their brain. All these pieces come together to determine what each person is like, and if you know what a person is like, you'll have a pretty good idea of what you can expect from them.

**a. We are born with attributes that can both help us and hurt us, depending on their application.** Most attributes are a double-edged sword that bring potential benefits and potential harm. The more extreme the attribute, the more extreme the potential good or bad outcomes it is likely to produce. For example, a highly creative, goal-oriented person good at imagining new ideas might undervalue the minutiae of daily life, which is also important; he might be so driven in his pursuit of long-term goals that he might have disdain for people who focus on the details of daily life. Similarly, a task-oriented person who is great with details might undervalue creativity—and worse still, may squelch it in the interests of efficiency. These two people might make a great team, but are likely to have trouble taking advantage of the ways they're complementary, because the ways their minds work make it difficult for them to see the value of each other's ways of thinking.

Having expectations for people (including yourself) without knowing what they are like is a sure way to get in trouble. I learned this the hard way, through years of frustrating conversations and the pain of expecting things from people who were constitutionally incapable of delivering them. I'm sure that I caused them plenty of pain too. Over time, I realized that I needed a systematic approach to capturing and recording our differences so that we could actively take them into consideration when putting people into different roles at Bridgewater.

This led to one of my most valuable management tools: Baseball Cards, which I mentioned in the first part of this book. Just as a baseball card compiles the relevant data on a baseball player, helping fans know what that player is good and bad at, I decided that it would be similarly helpful for us to have cards for all of our players at Bridgewater.

In creating the attributes for our baseball cards, I used a combination of adjectives we already used to describe people, like "conceptual," "reliable," "creative," and "determined"; the actions people took or didn't take such as "holding others accountable" and "pushing through to results"; and terms from personality tests such as "extroverted" or "judging." Once the cards were established, I created a process to have people evaluate each other, with the people rated highest in each dimension (e.g., "most creative") having more weight on the ratings of other people in that dimension. People with proven track records in a certain area would get more believability, or decision-making weight, within that area. By recording these qualities in people's Baseball Cards, others who'd never worked with them before could know what to expect from them. When people changed, their rating would change. And when they didn't change, we were even more sure of what we could expect of them.

Naturally when I introduced this tool, people were skeptical or scared of it for various reasons. Some were afraid that the cards would be inaccurate; others thought it would be uncomfortable to have their weaknesses made so apparent, or that it would lead to their being pigeonholed,

inhibiting their growth; still others thought it would be too complex to be practical. Imagine how you would feel if you were asked to force-rank all your colleagues on creativity, determination, or reliability. Most people at first find that prospect frightening.

Still, I knew that we needed to be radically open in recording and considering what people were like, and that things would eventually evolve to address people's concerns if we were sensible about how we approached the process. Today, most everyone at Bridgewater finds these Baseball Cards to be essential, and we have built a whole suite of other tools, which will be further described in *Work Principles*, to support our drive to understand what people are like and who is believable at what.

I've already noted that our unique way of operating and the treasure trove of data we accumulated brought us to the attention of some world-renowned organizational psychologists and researchers. Bob Kegan of Harvard University, Adam Grant of the Wharton School, and Ed Hess of the University of Virginia have written about us extensively, and I have learned a great deal from them in turn. In a way I never intended, our trial-and-error discovery process has put us at the cutting edge of academic thinking about personal development within organizations. As Kegan wrote in his book *An Everyone Culture*, "from the individual experience of probing in every one-on-one meeting, to the technologically integrated processes for discussing . . . issues and baseball cards, to the company-wide practices of daily updates and cases, Bridgewater has built an ecosystem to support personal development. The system helps everyone in the company confront the truth about what everyone is like."

Our journey of discovery has coincided with an incredibly fertile epoch in neuroscience, when, thanks to rapid advances in brain imaging and the ability to gather and process big data, our understanding has accelerated dramatically. As with all sciences on the cusp of breakthroughs, I am sure that much of what is thought to be true today will soon be radically improved. But what I do know is how incredibly beautiful and useful it is to understand how the thinking machine between our ears works.

Here's some of what I've learned:

The brain is even more complex than we can imagine. It has an estimated eighty-nine billion tiny computers (called neurons) that are connected to each other through many trillions of "wires" called axons and chemical synapses. As David Eagleman describes it in his wonderful book *Incognito*:

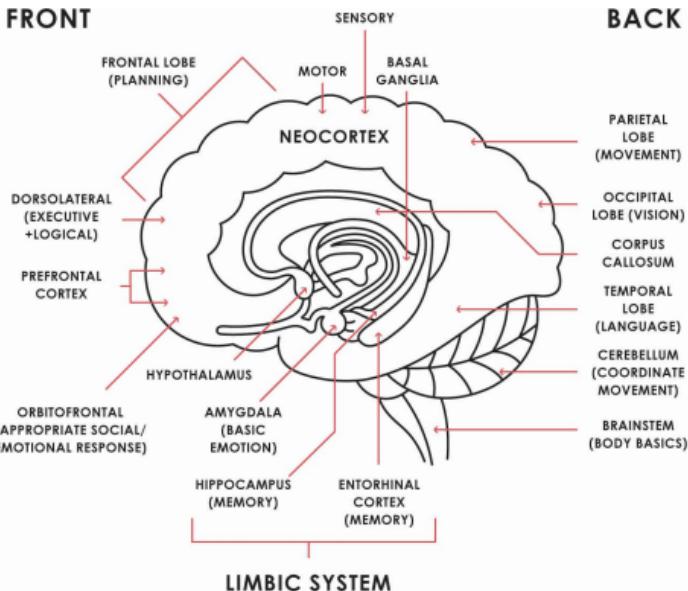
*Your brain is built of cells called neurons and glia—hundreds of billions of them. Each one of them is as complex as a city. . . . The cells [neurons] are connected in a network of such staggering complexity that it bankrupts human language and necessitates new strains of mathematics. A typical neuron makes about ten thousand connections to neighboring neurons. Given billions of neurons, this means that there are as many connections in a single cubic centimeter of brain tissue as there are stars in the Milky Way galaxy.*

When we are born our brains are preprogrammed with learning accumulated over hundreds of millions of years. For example, researchers at the University of Virginia have shown that while many people have an instinctual fear of snakes, no one has an instinctual fear of flowers. The

brains that we were born with had learned that snakes are dangerous and flowers are not. There's a reason for that.

There is one grand design for the brains of all mammals, fish, birds, amphibians, and reptiles, which was established nearly 300 million years ago and has been evolving ever since. Just as cars have evolved into different versions—sedans, SUVs, sports cars, etc.—that rely on many of the same underlying parts, all vertebrate brains have similar parts that do similar things but that are well adapted to the needs of their own particular species. For example, birds have superior occipital lobes because they need to spot prey (and predators) from great heights. While we humans think of ourselves as superior overall because we overemphasize the importance of our own advantages, other species could justifiably make the same claims on their own behalf—birds for flight, eyesight, and instinctual magnetic navigation; most animals for smell; and several for appearing to have particularly enjoyable sex.

This “universal brain” has evolved from the bottom up, meaning that its lower parts are evolutionarily the oldest and the top parts are the newest. The brainstem controls the subconscious processes that keep us and other species alive—heartbeat, breathing, nervous system, and our degree of arousal and alertness. The next layer up, the cerebellum, gives us the ability to control our limb movements by coordinating sensory input with our muscles. Then comes the cerebrum, which includes the basal ganglia (which controls habit) and other parts of the limbic system (which controls emotional responses and some movement) and the cerebral cortex (which is where our memories, thoughts, and sense of consciousness reside). The newest and most advanced part of the cortex, that wrinkled mass of gray matter that looks like a bunch of intestines, is called the neocortex, which is where learning, planning, imagination, and other higher-level thoughts come from. It accounts for a significantly higher ratio of the brain's gray matter than is found in the brains of other species.



## 4.2 Meaningful work and meaningful relationships aren't just nice things we chose for ourselves—they are genetically programmed into us.

Neuroscientists, psychologists, and evolutionists agree the human brain comes pre-programmed with the need for and enjoyment of social cooperation. Our brains want it and develop better when we have it. The meaningful relationships we get from social cooperation make us happier, healthier, and more productive; social cooperation is also integral to effective work. It is one of the defining characteristics of being human.<sup>29</sup>

Leonard Mlodinow, in his excellent book *Subliminal*, writes, “We usually assume that what distinguishes us [from other species] is IQ. But it is our social IQ that ought to be the principal quality that differentiates us.” He points out that humans have a unique ability to understand what other people are like and how they are likely to behave. The brain comes programmed to develop this ability; by the time they are four years old, most children are able to read others’ mental states. This sort of human understanding and cooperation is what makes us so accomplished as a species. As Mlodinow explains, “Building a car for example requires the participation of thousands of people with diverse skills, in diverse lands, performing diverse tasks. Metals like iron must be extracted from the ground and processed; glass, rubber, and plastics must be created from numerous chemical precursors and molded; batteries, radiators and countless other parts must be produced; electronic and mechanical systems must be designed; and it all must come together, coordinated from far and wide, in one factory so that the car can be assembled. Today,

even the coffee and bagel you might consume while driving to work in the morning is the result of the activities of people all over the world.”

In his book *The Meaning of Human Existence*, Pulitzer Prize-winning author Edward O. Wilson surmises that between one million and two million years ago, when our ancestors were somewhere between chimpanzees and modern homo sapiens, the brain evolved in ways supporting cooperation so man could hunt and do other activities. This led the centers of memory and reasoning in the prefrontal cortex to develop beyond those of our primate relatives. As groups became more powerful than individuals and our brains evolved in ways that made larger groups manageable, competition between groups became more important than competition between individuals and groups that had more cooperative individuals did better than those without them. This evolution led to the development of altruism, morality, and the sense of conscience and honor. Wilson explains that man is perpetually suspended between the two extreme forces that created us: “Individual selection [which] prompted sin and group selection [which] promoted virtue.”

Which of these forces (self-interest or collective interest) wins out in any organization is a function of that organization’s culture, which is a function of the people who shape it. But it’s clear that collective interest is what’s best, not just for the organization but for the individuals who make it up. As I’ll explain in Work Principles, the rewards of working together to make the pie bigger are greater than the rewards of self-interest, not only in terms of how much “pie” one gets but also in the psychic rewards wired into our brains that make us happier and healthier.

Knowing how the brain has evolved thus far, we might extrapolate the past into the future to imagine where it will go. Clearly the evolution of the brain has moved from being nonthinking and self-focused toward being more abstract and more universally focused. For example, the brain evolution that I described has given us (some people more than others) the ability to see ourselves and our circumstances from a higher holistic level and, in some cases, to value the whole that we are part of even more than ourselves.

A few years ago, I had a conversation with the Dalai Lama in which I explained to him the contemporary neuroscience view that all of our thinking and feeling is due to physiology (in other words, the chemicals, electricity, and biology in our brains working like a machine). This implied that spirituality is due to these physiological mechanics rather than something coming from above, so I asked him what he thought about that. Without hesitation, he responded “Absolutely!” and told me that the next day he was meeting with the University of Wisconsin professor of neuroscience who had helped him learn about this, and he asked me if I wanted to join him. Regrettably, I couldn’t but I recommended to him a book I’d read on the subject called *The Spiritual Brain* (which I also recommend to you). In our conversation, we went on to discuss the similarities and differences between spirituality and religion. His view was that prayer and meditation seemed to have similar effects on the brain in producing feelings of spirituality (the rising above oneself to feel a greater connection to the whole) but that each religion adds its own different superstitions on top of that common feeling of spirituality. Rather than trying to squeeze my own summary of his thinking in here, I’ll simply recommend the Dalai Lama’s book, *Beyond Religion*, if you’re interested in learning more.

In imagining what the future of our thinking will be like, it’s also interesting to consider how man himself might change how the brain works. We are certainly doing that with drugs and

technology. Given advances in genetic engineering, it's reasonable to expect that someday genetic engineers might mix and match features of different species' brains for different purposes—if you want to have a heightened sense of sight, say, genetic engineers might be able to manipulate the human brain so it grows optic lobes more like those of birds. But since such things won't happen anytime soon, let's get back to the practical question of how all this can help us better deal with ourselves and each other.

## 4.3 Understand the great brain battles and how to control them to get what “you” want.

The following sections explore the different ways your brain fights for control of “you.” While I will refer to the specific parts of the brain that neurophysiologists believe are responsible for specific types of thinking and emotions, the actual physiology is much more complex—and scientists are only beginning to understand it.

**a. Realize that the conscious mind is in a battle with the subconscious mind.** Earlier in the book, I introduced the concept of the “two yous” and explained how your higher-level you can look down on your lower-level you to make sure that your lower-level you isn't sabotaging what your higher-level you wants. Though I've often seen these two yous in action in myself and others, it wasn't until I learned why they exist that I really understood them.

As with animals, many of our decision-making drivers are below the surface. An animal doesn't “decide” to fly or hunt or sleep or fight in the way that we go about making many of our own choices of what to do—it simply follows the instructions that come from the subconscious parts of its brain. These same sorts of instructions come to us from the same parts of our brains, sometimes for good evolutionary reasons and sometimes to our detriment. Our subconscious fears and desires drive our motivations and actions through emotions such as love, fear, and inspiration. It's physiological. Love, for example, is a cocktail of chemicals (such as oxytocin) secreted by the pituitary gland.

While I had always assumed that logical conversation is the best way for people to get at what is true, armed with this new knowledge about the brain, I came to understand that there are large parts of our brains that don't do what is logical. For example, I learned that when people refer to their “feelings”—such as saying “I feel that you were unfair with me”—they are typically referring to messages that originate in the emotional, subconscious parts of their brains. I also came to understand that while some subconscious parts of our brains are dangerously animalistic, others are smarter and quicker than our conscious minds. Our greatest moments of inspiration often “pop” up from our subconscious. We experience these creative breakthroughs when we are relaxed and not trying to access the part of the brain in which they reside, which is generally the neocortex. When you say, “I just thought of something,” you noticed your subconscious mind telling your conscious mind something. With training, it's possible to open this stream of communication.

Many people only see the conscious mind and aren't aware of the benefits of connecting it to the subconscious. They believe that the way to accomplish more is to cram more into the

conscious mind and make it work harder, but this is often counterproductive. While it may seem counterintuitive, clearing your head can be the best way to make progress.

Knowing this, I now understand why creativity comes to me when I relax (like when I'm in the shower) and how meditation helps open this connection. Because it is physiological, I can actually feel the creative thoughts coming from elsewhere and flowing into my conscious mind. It's a kick to understand how that works.

But a note of caution is in order too: When thoughts and instructions come to me from my subconscious, rather than acting on them immediately, I have gotten into the habit of examining them with my conscious, logical mind. I have found that in addition to helping me figure out which thoughts are valid and why I am reacting to them as I do, doing this opens further communication between my conscious and subconscious minds. It's helpful to write down the results of this process. In fact that's how my Principles came about.

If you take nothing else away from this chapter, be aware of your subconscious—of how it can both harm you and help you, and how by consciously reflecting on what comes out of it, perhaps with the help of others, you can become happier and more effective.

**b. Know that the most constant struggle is between feeling and thinking.** There are no greater battles than those between our feelings (most importantly controlled by our amygdala, which operates subconsciously) and our rational thinking (most importantly controlled by our prefrontal cortex, which operates consciously). If you understand how those battles occur you will understand why it is so important to reconcile what you get from your subconscious with what you get from your conscious mind.

That damned amygdala, which is a little almond-shaped structure that lies deeply embedded in the cerebrum, is one of the most powerful parts of your brain. It controls your behavior, even though you're not conscious of it. How does it work? When something upsets us—and that something could be a sound, a sight, or just a gut feeling—the amygdala sends notice to our bodies to prepare to fight or flee: the heartbeat speeds up, the blood pressure rises, and breathing quickens. During an argument, you'll often notice a physical response similar to how you react to fear (for instance, rapid heartbeats and tensing muscles). Recognizing that, your conscious mind (which resides in the prefrontal cortex) can refuse to obey its instructions. Typically, these amygdala hijackings come on fast and dissipate quickly, except in rare cases, such as when a person develops post-traumatic stress disorder from a particularly horrible event or series of events. Knowing how these hijackings work, you know that if you allow yourself to react spontaneously, you will be prone to overreact. You can also comfort yourself with the knowledge that whatever psychological pain you are experiencing will go away before very long.

**c. Reconcile your feelings and your thinking.** For most people, life is a never-ending battle between these two parts of the brain. While the amygdala's reactions come in spurts and then subside, reactions from the prefrontal cortex are more gradual and constant. The biggest difference between people who guide their own personal evolution and achieve their goals and those who don't is that those who make progress reflect on what causes their amygdala hijackings.

**d. Choose your habits well.** Habit is probably the most powerful tool in your brain's toolbox. It is driven by a golf-ball-sized lump of tissue called the basal ganglia at the base of the cerebrum. It is so deep-seated and instinctual that we are not conscious of it, though it controls our actions.

If you do just about anything frequently enough over time, you will form a habit that will control you. Good habits are those that get you to do what your "upper-level you" wants, and bad habits are those that are controlled by your "lower-level you" and stand in the way of your getting what your "upper-level you" wants. You can create a better set of habits if you understand how this part of your brain works. For example, you can develop a habit that will make you "need" to work out at the gym.

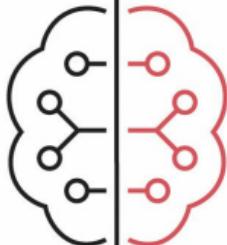
Developing this skill takes some work. The first step is recognizing how habits develop in the first place. Habit is essentially inertia, the strong tendency to keep doing what you have been doing (or not doing what you have not been doing). Research suggests that if you stick with a behavior for approximately eighteen months, you will build a strong tendency to stick to it nearly forever.

For a long time, I didn't appreciate the extent to which habits control people's behavior. I experienced this at Bridgewater in the form of people who agreed with our work principles in the abstract but had trouble living by them; I also observed it with friends and family members who wanted to achieve something but constantly found themselves working against their own best interests.

Then I read Charles Duhigg's best-selling book *The Power of Habit*, which really opened my eyes. I recommend that you read it yourself if your interest in this subject goes deeper than what I'm able to cover here. Duhigg's core idea is the role of the three-step "habit loop." The first step is a cue—some "trigger that tells your brain to go into automatic mode and which habit to use," according to Duhigg. Step two is the routine, "which can be physical or mental or emotional." Finally, there is a reward, which helps your brain figure out if this particular loop is "worth remembering for the future." Repetition reinforces this loop until over time it becomes automatic. This anticipation and craving is the key to what animal trainers call operant conditioning, which is a method of training that uses positive reinforcement. For example, dog trainers use a sound (typically a clicker) to reinforce behavior by pairing that sound with a more desirable reward (typically food) until the dog will perform the desired behavior when it merely hears the click. In humans, Duhigg says, rewards can be just about anything, ranging "from food or drugs that cause physical sensations, to emotional payoffs, such as the feelings of pride that accompany praise or self-congratulation."

## LEFT BRAIN

LOGICAL  
MATH + SCIENCE-MINDED  
REALISM PREDOMINATES  
PLANNED + ORDERLY  
PREFERS NON-FICTION  
FOCUSED ON FACTS



## RIGHT BRAIN

EMOTIONAL  
ARTISTIC + CREATIVE  
IMAGINATION PREDOMINATES  
OCCASIONALLY ABSENTMINDED  
PREFERS FICTION  
ENJOYS CREATIVE STORYTELLING

Habits put your brain on “automatic pilot.” In neuroscientific terms, the basal ganglia takes over from your cortex, so that you can execute activities without even thinking about them.

Reading Duhigg’s book taught me that if you really want to change, the best thing you can do is choose which habits to acquire and which to get rid of and then go about doing that. To help you, I recommend that you write down your three most harmful habits. Do that right now. Now pick one of those habits and be committed to breaking it. Can you do that? That would be extraordinarily impactful. If you break all three, you will radically improve the trajectory of your life. Or you can pick habits that you want to acquire and then acquire them.

The most valuable habit I’ve acquired is using pain to trigger quality reflections. If you can acquire this habit yourself, you will learn what causes your pain and what you can do about it, and it will have an enormous impact on your effectiveness.

**e. Train your “lower-level you” with kindness and persistence to build the right habits.** I used to think that the upper-level you needed to fight with the lower-level you to gain control, but over time I’ve learned that it is more effective to train that subconscious, emotional you the same way you would teach a child to behave the way you would like him or her to behave—with loving kindness and persistence so that the right habits are acquired.

**f. Understand the differences between right-brained and left-brained thinking.** Just as your brain has its conscious upper part and its subconscious lower part, it also has two halves called hemispheres.<sup>30</sup> You might have heard it said that some people are more left-brained while others are more right-brained. That’s not just a saying—Caltech professor Roger Sperry won the Nobel Prize in medicine for discovering it. In a nutshell:

1. The left hemisphere reasons sequentially, analyzes details, and excels at linear analysis. “Left-brained” or “linear” thinkers who are analytically strong are often called “bright.”
2. The right hemisphere thinks across categories, recognizes themes, and synthesizes the big picture. “Right-brained” or “lateral” thinkers with more street smarts are often called “smart.”

The diagram on the left summarizes the qualities of “right-brained” and “left-brained” thinking types.

Most people tend to get more of their instructions from one side than the other and they have trouble understanding people who get theirs from the opposite side. Our experience has been that left-brained folks tend to see right-brained folks as “spacey” or “abstract,” while right-brained thinkers tend to find left-brained thinkers “literal” or “narrow.” I have seen wonderful results occur when people know where their own and others’ inclinations lie, realize that both ways of thinking are invaluable, and assign responsibilities accordingly.

**g. Understand how much the brain can and cannot change.** This brings us to an important question: Can we change?<sup>31</sup> We can all learn new facts and skills, but can we also learn to change how we are inclined to think? The answer is a qualified yes.

Brain plasticity is what allows your brain to change its “softwiring.” For a long time, scientists believed that after a certain critical period in childhood, most of our brain’s neurological connections were fixed and highly unlikely to change. But recent research has suggested that a wide variety of practices—from physical exercise to studying to meditation—can lead to physical and physiological changes in our brains that affect our abilities to think and form memories. In a study of Buddhist monks who had practiced more than ten thousand hours of meditation, researchers at the University of Wisconsin measured significantly higher levels of gamma waves in their brains; these waves are associated with perception and problem solving.<sup>32</sup>

That doesn’t mean the brain is infinitely flexible. If you have a preference for a certain way of thinking, you might be able to train yourself to operate another way and find that easier to do over time, but you’re very unlikely to change your underlying preference. Likewise, you may be able to train yourself to be more creative, but if you’re not naturally creative, there’s likely a limit to what you can do. That is simply reality, so we all might as well accept it and learn how to deal with it. There are coping techniques that we can use—for example, the creative, disorganized person who is likely to lose track of time can develop the habit of using alarms; the person who isn’t good at some type of thinking can train himself to rely on the thinking of others who are better at it. The best way to change is through doing mental exercises. As with physical exercise, this can be painful unless you enlist the habit loop discussed earlier to connect the rewards to the actions, “rewiring” your brain to love learning and beneficial change.

Remember that accepting your weaknesses is contrary to the instincts of those parts of your brain that want to hold on to the illusion that you are perfect. Doing the things that will reduce your instinctual defensiveness takes practice, and requires operating in an environment that reinforces open-mindedness.

As you’ll see when we get into *Work Principles*, I’ve developed a number of tools and techniques that help overcome that resistance, individually and across organizations. Instead of

expecting yourself or others to change, I've found that it's often most effective to acknowledge one's weaknesses and create explicit guardrails against them. This is typically a faster and higher-probability path to success.

#### 4.4 Find out what you and others are like.

Because of the biases with which we are wired, our self-assessments (and our assessments of others) tend to be highly inaccurate. Psychometric assessments are much more reliable. They are important in helping explore how people think during the hiring process and throughout employment. Though psychometric assessments cannot fully replace speaking with people and looking at their backgrounds and histories, they are far more powerful than traditional interviewing and screening methods. If I had to choose between just the assessments or just traditional job interviews to get at what people are like, I would choose the assessments. Fortunately, we don't have to make that choice.

The four main assessments we use are the Myers-Briggs Type Indicator (MBTI), the Workplace Personality Inventory, the Team Dimensions Profile, and Stratified Systems Theory.<sup>33</sup> But we are constantly experimenting (for example, with the Big Five) so our mix will certainly change. Whatever the mix, they all convey people's preferences for thinking and action. They also provide us with new attributes and terminologies that clarify and amplify those we had identified on our own. I will describe a few of them below. These descriptions are based on my own experiences and learnings, which are in many ways different from the official descriptions used by the assessment companies.<sup>34</sup>

**a. Introversion vs. extroversion.** Introverts focus on the inner world and get their energy from ideas, memories, and experiences while extroverts are externally focused and get their energy from being with people. Introversion and extroversion are also linked to differences in communication styles. If you have a friend who loves to "talk out" ideas (and even has trouble thinking through something if there isn't someone around to work it through with), he or she is likely an extrovert. Introverts will usually find such conversations painful, preferring to think privately and share only after they've worked things out on their own. I've found that it is important to help each communicate in the way that they feel most comfortable. For example, introverts often prefer communicating in writing (such as email) rather than speaking in group settings and tend to be less open with their critical thoughts.

**b. Intuiting vs. sensing.** Some people see big pictures (forests) and others see details (trees). In the Myers-Briggs framework, these ways of seeing are best represented by the continuum from intuiting to sensing. You can get an idea of people's preferences by observing what they focus on. For example, when reading, a sensing person who focuses on details can be thrown off by typos such as "there" instead of "their," while intuitive thinkers won't even notice the mistake. That is because the intuitive thinker's attention is focused on the context first and the details second. Naturally, you'd rather have a sensing person than an intuitor preparing your legal documents, where every "i" must be properly dotted and every "t" crossed just so.

**c. Thinking vs. feeling.** Some people make decisions based on logical analysis of objective facts, considering all the known, provable factors important to a given situation and using logic to determine the best course of action. This approach is an indicator of a preference for thinking and is how you'd hope your doctor thinks when he makes a diagnosis. Other people—who prefer feeling—focus on harmony between people. They are better suited to roles that require lots of empathy, interpersonal contact, and relationship building, for example HR and customer service. Before we had assessments to identify these differences, conversations between “Ts” and “Fs” were really frustrating. Now we laugh as we bump up against our differences, because we know what they are and can see them playing out in classic ways.

**d. Planning vs. perceiving.** Some people like to live in a planned, orderly way and others prefer flexibility and spontaneity.<sup>35</sup> Planners (or “Judgers” in Myers-Briggs terms) like to focus on a plan and stick with it, while perceivers are prone to focus on what's happening around them and adapt to it. Perceivers work from the outside in; they see things happening and work backward to understand the cause and how to respond; they also see many possibilities that they compare and choose from—often so many that they are confused by them. In contrast, planners work from the inside out, first figuring out what they want to achieve and then how things should unfold. Planners and perceivers have trouble appreciating each other. Perceivers see new things and change direction often. This is discomforting to planners, who weigh precedent much more heavily in their decision making, and assume if it was done in a certain way before, it should be done in the same way again. Similarly, planners can discomfort perceivers by being seemingly rigid and slow to adapt.

**e. Creators vs. refiners vs. advancers vs. executors vs. flexors.** By identifying talents and preferences that lead people to feel a particular way, you can place them in jobs at which they will likely excel. At Bridgewater, we use a test called the “Team Dimensions Profile” (TDP) to connect people with their preferred role. The five types identified by the TDP are Creators, Refiners, Advancers, Executors, and Flexors.

- **Creators** generate new ideas and original concepts. They prefer unstructured and abstract activities and thrive on innovation and unconventional practices.
- **Advancers** communicate these new ideas and carry them forward. They relish feelings and relationships and manage the human factors. They are excellent at generating enthusiasm for work.
- **Refiners** challenge ideas. They analyze projects for flaws, then refine them with a focus on objectivity and analysis. They love facts and theories and working with a systematic approach.
- **Executors** can also be thought of as **Implementers**. They ensure that important activities are carried out and goals accomplished; they are focused on details and the bottom line.
- **Flexors** are a combination of all four types. They can adapt their styles to fit certain needs and are able to look at a problem from a variety of perspectives.

Triangulating what I learn from each test reinforces or raises questions about the pictures of

people I'm forming in my head. For example, when people's MBTI results suggest a preference for "S" (focus on details) and "J" (planful), and they come out as executors on the Team Dimension assessment, there is a very good chance that they are more detail-focused than right-brained and imaginative, which means that they would likely fit better in jobs that have less ambiguity and more structure and clarity.

**f. Focusing on tasks vs. focusing on goals.** Some people are focused on daily tasks while others are focused on their goals and how to achieve them. I've found these differences to be quite similar to the differences between people who are intuitive vs. sensing. Those who tend to focus on goals and "visualize" best can see the big pictures over time and are also more likely to make meaningful changes and anticipate future events. These goal-oriented people can step back from the day-to-day and reflect on what and how they're doing. They are the most suitable for creating new things (organizations, projects, etc.) and managing organizations that have lots of change. They typically make the most visionary leaders because of their ability to take a broad view and see the whole picture.

In contrast, those who tend to focus on daily tasks are better at managing things that don't change much or that require processes to be completed reliably. Task-oriented people tend to make incremental changes that reference what already exists. They are slower to depart from the status quo and more likely to be blindsided by sudden events. On the other hand, they're typically more reliable. Although it may seem that their focus is narrower than higher-level thinkers, the roles they play are no less critical. I would never have gotten this book out or accomplished hardly anything else worthwhile if I didn't work with people who are wonderful at taking care of details.

**g. Workplace Personality Inventory.** Another assessment we use is the Workplace Personality Inventory, a test based on data from the U.S. Department of Labor. It anticipates behavior and predicts job fit and satisfaction, singling out certain key characteristics/qualities, including persistence, independence, stress tolerance, and analytical thinking. This test helps us understand what people value and how they will make trade-offs between their values. For example, someone with low Achievement Orientation and high Concern for Others might be unwilling to step on others' toes in order to accomplish their goals. Likewise, someone who is bad at Rule Following may be more likely to think independently.

We have found that something like twenty-five to fifty attributes can pretty well describe what a person is like. Each one comes in varying degrees of strength (like color tones). If you know what they are and put them together correctly, they will paint a pretty complete picture of a person. Our objective is to use test results and other information to try to do just that. We prefer to do it in partnership with the person being looked at, because it helps us be more accurate and at the same time it's very helpful to them to see themselves objectively.

Certain attributes combine frequently to produce recognizable archetypes. If you think about it, you can probably come up with a handful of archetypal people you meet over and over again in life: the spacey, impractical Artist; the tidy Perfectionist; the Crusher who runs through brick walls to get things done; the Visionary who pulls amazing big ideas seemingly out of the air. Over time I came up with a list of others, including Shaper, Chirper, Tweaker, and Open-Minded

Learner, as well as Advancer, Creator, Cat-Herder, Gossiper, Loyal Doer, Wise Judge, and others.

To be clear, archetypes are less useful than the better fleshed-out pictures created through the assessments. They are not precise; they are more like simple caricatures, but they can be useful when it comes to assembling teams. Individual people will always be more complex than the archetypes that describe them, and they may well match up with more than one. For example, the Spacey Artist may or may not also be a Perfectionist or may be a Crusher too. While I won't go over all of them, I will describe Shapers—the one that best represents me—in some depth.

**h. Shapers are people who can go from visualization to actualization.** I wrote a lot about the people I call "shapers" in the first part of this book. I use the word to mean someone who comes up with unique and valuable visions and builds them out beautifully, typically over the doubts of others. Shapers get both the big picture and the details right. To me, it seems that Shaper = Visionary + Practical Thinker + Determined.

I've found that shapers tend to share attributes such as intense curiosity and a compulsive need to make sense of things, independent thinking that verges on rebelliousness, a need to dream big and unconventionally, a practicality and determination to push through all obstacles to achieve their goals, and a knowledge of their own and others' weaknesses and strengths so they can orchestrate teams to achieve them. Perhaps even more importantly, they can hold conflicting thoughts simultaneously and look at them from different angles. They typically love to knock things around with other really smart people and can easily navigate back and forth between the big picture and the granular details, counting both as equally important.

People wired with enough of these ways of thinking that they can operate in the world as shapers are very rare. But they could never succeed without working with others who are more naturally suited for other things and whose ways of thinking and acting are also essential.

Knowing how one is wired is a necessary first step on any life journey. It doesn't matter what you do with your life, as long as you are doing what is consistent with your nature and your aspirations. Having spent time with some of the richest, most powerful, most admired people in the world, as well as some of the poorest, most disadvantaged people in the most obscure corners of the globe, I can assure you that, beyond a basic level, there is no correlation between happiness levels and conventional markers of success. A carpenter who derives his deepest satisfaction from working with wood can easily have a life as good or better than the president of the United States. If you've learned anything from this book I hope it's that everyone has strengths and weaknesses, and everyone has an important role to play in life. Nature made everything and everyone for a purpose. The courage that's needed the most isn't the kind that drives you to prevail over others, but the kind that allows you to be true to your truest self, no matter what other people want you to be.

## **4.5 Getting the right people in the right roles in support of your goal is the key to succeeding at whatever you choose to accomplish.**

Whether it's in your private life or your work life, it is best for you to work with others in such a way that each person is matched up with other complementary people to create the best mix of attributes for their tasks.

**a. Manage yourself and orchestrate others to get what you want.** Your greatest challenge will be having your thoughtful higher-level you manage your emotional lower-level you. The best way to do that is to consciously develop habits that will make doing the things that are good for you habitual. In managing others, the analogy that comes to mind is a great orchestra. The person in charge is the shaper-conductor who doesn't "do" (e.g., doesn't play an instrument, though he or she knows a lot about instruments) as much as visualize the outcome and sees to it that each member of the orchestra helps achieve it. The conductor makes sure each member of the orchestra knows what he or she is good at and what they're not good at, and what their responsibilities are. Each must not only perform at their personal best but work together so the orchestra becomes more than the sum of its parts. One of the conductor's hardest and most thankless jobs is getting rid of people who consistently don't play well individually or with others. Most importantly, the conductor ensures that the score is executed exactly as he or she hears it in his or her head. "The music needs to sound this way," she says, and then she makes sure it does. "Bass players, bring out the structure. Here are the connections, here's the spirit." Each section of the orchestra has its own leaders—the concertmaster, the first chairs—who also help bring out the composer's and the conductor's visions.

Approaching things in this way has helped me a lot. For example, with the bond systemization project I mentioned earlier, having this new perspective allowed us to better see the gaps between what we had and what we needed. While Bob was a great intellectual partner to me in understanding the big-picture problem we wanted to solve, he was much weaker at visualizing the process required to get us from where we were to the solution. He also wasn't surrounding himself with the right people. He tended to want to work with people who were like him, so his main deputy on the project was a great sparring partner for mapping out big ideas on a whiteboard but a lousy one for fleshing out the who, what, and when needed to bring those ideas to life. This deputy tested as a "Flexor," meaning that he was great at going in whatever direction Bob wanted to but lacked the clear, independent view needed to keep Bob on track.

After a few rounds of not making progress, we used our new tools for understanding people and acted on them, pushing Bob to transition to a new deputy who was especially skilled at navigating the levels between the big-picture ideas and the discrete, smaller projects required to bring them about. Comparing the new deputy's Baseball Card to the original deputy's, she excelled in independent and systematic thinking, which were essential for having a clear picture of what to do with Bob's big ideas. This new deputy brought on other layers of support, including a project manager who was less engaged with the concepts and much more focused on the details of specific tasks and deadlines. When we looked at the new team members' Baseball Cards, we could quickly see them lighting up in some of the areas around being planful, concrete, and driving things to completion, which were areas of weakness for Bob. With this new team in place, things really started to hum. It was only by looking hard at the complete "Lego set" required to achieve our goal—and then going out and finding the missing pieces—that we were able to do it.

Bond systemization is just one of countless projects that have benefited from our frank and open approach to understanding what people are like. And to be clear, I have just scratched the surface of what there is to know about mental wiring.

In the next chapter, I'll bring everything you've read about up to now together and break down the essentials of decision making. Some decisions you should make yourself and some you should delegate to someone more believable. Using self-knowledge to know which are which is the key to success—no matter what it is you are trying to do.

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**29** Lots of data show that relationships are the greatest reward—that they're more important to your health and happiness than anything else. For example, as Robert Waldinger, director of Harvard's seventy-five-year Grant and Glueck study of adult males from a variety of socioeconomic backgrounds, puts it, "You could have all the money you've ever wanted, a successful career, and be in good physical health, but without loving relationships, you won't be happy . . . The good life is built with good relationships."

**30** A good book on this is *A Whole New Mind* by Daniel H. Pink, and a good article on the science of this is "A Wandering Mind Heads Straight Toward Insight" by Robert Lee Hotz from *The Wall Street Journal*. While many parts of the brain come in two halves, it's only the more recently developed cortex, which accounts for three-quarters of the brain, that has been shown to have functional differences between the right and left sides.

**31** That's a big question. Entire specialties are dedicated to this question alone, and no one answer is authoritative, certainly not mine. However, because knowing what can change is important for people trying to manage themselves and others, I have looked fairly deeply into the issue of brain plasticity. What I learned coincided with my own experiences, and I will pass that along to you.

**32** A brain-imaging study by Harvard-affiliated researchers at Massachusetts General Hospital found physical changes in the brain after an eight-week meditation course. Researchers identified increased activity in parts of the brain associated with learning, memory, self-awareness, compassion, and introspection, as well as decreased activity in the amygdala.

**33** This test is helpful for seeing how people navigate levels and which levels they naturally go to.

**34** If you'd like to experience some of these assessments for yourself and see your own results, visit [assessments.principles.com](http://assessments.principles.com).

**35** On the MBTI scale, this continuum is described as "Judging" vs. "Perceiving" though I prefer to use "Planning" as judging has other connotations. In MBTI language, judging does not mean judgmental and perceiving does not mean perceptive.

# **5 Learn How to Make Decisions Effectively**

As a professional decision maker, I have spent my life studying how to make decisions effectively and have constantly looked for rules and systems that will improve my odds of being right and ending up with more of whatever it is that I am after.

One of the most important things I've come to understand is that most of the processes that go into everyday decision making are subconscious and more complex than is widely understood. For example, think about how you choose and maintain a safe distance behind the car in front of you when you are driving. Now describe the process in enough detail that someone who has never driven a car before can do it as well as you can, or so that it can be programmed into the computer that controls an autonomous car. I bet you can't.

Now think about the challenge of making all of your decisions well, in a systematic, repeatable way, and then being able to describe the processes so clearly and precisely that anyone else can make the same quality decisions under the same circumstances. That is what I aspire to do and have found to be invaluable, even when highly imperfect.

While there is no one best way to make decisions, there are some universal rules for good decision making. They start with:

## **5.1 Recognize that 1) the biggest threat to good decision making is harmful emotions, and 2) decision making is a two-step process (first learning and then deciding).**

**Learning** must come before deciding. As explained in Chapter One, your brain stores different types of learning in your subconscious, your rote memory bank, and your habits. But no matter how you acquire your knowledge or where you store it, what's most important is that what you know paints a true and rich picture of the realities that will affect your decision. That's why it always pays to be radically open-minded and seek out believable others as you do your learning. Many people have emotional trouble doing this and block the learning that could help them make better decisions. Remind yourself that it's never harmful to at least hear an opposing point of view.

**Deciding** is the process of choosing which knowledge should be drawn upon—both the facts of this particular “what is” and your broader understanding of the cause-effect machinery that underlies it—and then weighing them to determine a course of action, the “what to do about it.” This involves playing different scenarios through time to visualize how to get an outcome consistent with what you want. To do this well, you need to weigh first-order consequences against second- and third-order consequences, and base your decisions not just on near-term results but on results over time.

Failing to consider second- and third-order consequences is the cause of a lot of painfully bad decisions, and it is especially deadly when the first inferior option confirms your own biases. Never seize on the first available option, no matter how good it seems, before you've asked questions and explored. To prevent myself from falling into this trap, I used to literally ask myself questions: Am I learning? Have I learned enough yet that it's time for deciding? After a while, you will just naturally and open-mindedly gather all the relevant info, but in doing so you will have avoided the first pitfall of bad decision making, which is to subconsciously make the decision first and then cherry-pick the data that supports it.

But how does one learn well?

## LEARNING WELL

For me, getting an accurate picture of reality ultimately comes down to two things: being able to synthesize accurately and knowing how to navigate levels.

Synthesis is the process of converting a lot of data into an accurate picture. The quality of your synthesis will determine the quality of your decision making. This is why it always pays to triangulate your views with people who you know synthesize well. This raises your chances of having a good synthesis, even if you feel like you've already done it yourself. No sensible person should reject a believable person's views without great fear of being wrong.

To synthesize well, you must 1) synthesize the situation at hand, 2) synthesize the situation through time, and 3) navigate levels effectively.

### 5.2 Synthesize the situation at hand.

Every day you are faced with an infinite number of things that come at you. Let's call them "dots." To be effective, you need to be able to tell which dots are important and which dots are not. Some people go through life collecting all kinds of observations and opinions like pocket lint, instead of just keeping what they need. They have "detail anxiety," worrying about unimportant things.

Sometimes small things can be important—for example, that little rattle in your car's engine could just be a loose piece of plastic or it could be a sign your timing belt is about to snap. The key is having the higher-level perspective to make fast and accurate judgments on what the real risks are without getting bogged down in details.

Remember:

a. **One of the most important decisions you can make is who you ask questions of.** Make sure they're fully informed and believable. Find out who is responsible for whatever you are seeking to understand and then ask them. Listening to uninformed people is worse than having no answers at all.

b. **Don't believe everything you hear.** Opinions are a dime a dozen and nearly everyone will share theirs with you. Many will state them as if they are facts. Don't mistake opinions for facts.

**c. Everything looks bigger up close.** In all aspects of life, what's happening today seems like a much bigger deal than it will appear in retrospect. That's why it helps to step back to gain perspective and sometimes defer a decision until some time passes.

**d. New is overvalued relative to great.** For example, when choosing which movie to watch or what book to read, are you drawn to proven classics or the newest big thing? In my opinion, it is smarter to choose the great over the new.

**e. Don't oversqueeze dots.** A dot is just one piece of data from one moment in time; keep that in perspective as you synthesize. Just as you need to sort big from small, and what's happening in the moment from overall patterns, you need to know how much learning you can get out of any one dot without overweighing it.

### 5.3 Synthesize the situation through time.

To see how the dots connect through time you must collect, analyze, and sort different types of information, which isn't easy. For example, let's imagine a day in which eight outcomes occur. Some are good, some bad. Let's illustrate this day as shown, with each type of event represented by a letter and the quality of the outcome represented by its height.

In order to see the day this way, you must categorize outcomes by type (signified by letters) and quality (the higher up the graph, the better), which will require synthesizing a by-and-large assessment of each. (To make the example more concrete, imagine you're running an ice cream shop and the W's represent sales, the X's represent customer experience ratings, the Y's represent press and reviews, the Z's represent staff engagement, etc.) Keep in mind that our example is a relatively simple one: just eight occurrences over one day.

From the chart on the right, you can see that it was a great day for sales (because the W's are at the top) and a bad day for customer experience (the X's). You might conjecture why—maybe a crowd generated sales but produced long lines.

GOOD

W

W

Z

V

Z

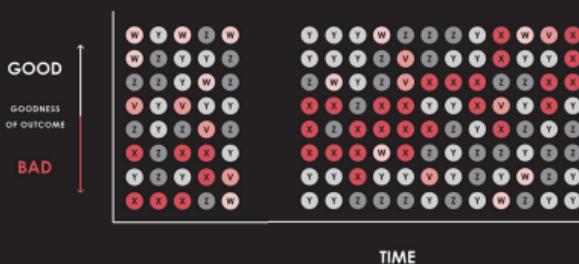
X

Y

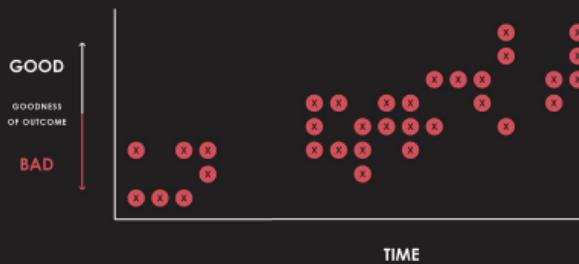
X

BAD

Now let's look at what a month of workdays looks like.  
Confusing, eh?



The chart below plots just the type X dots, which you can see are improving.

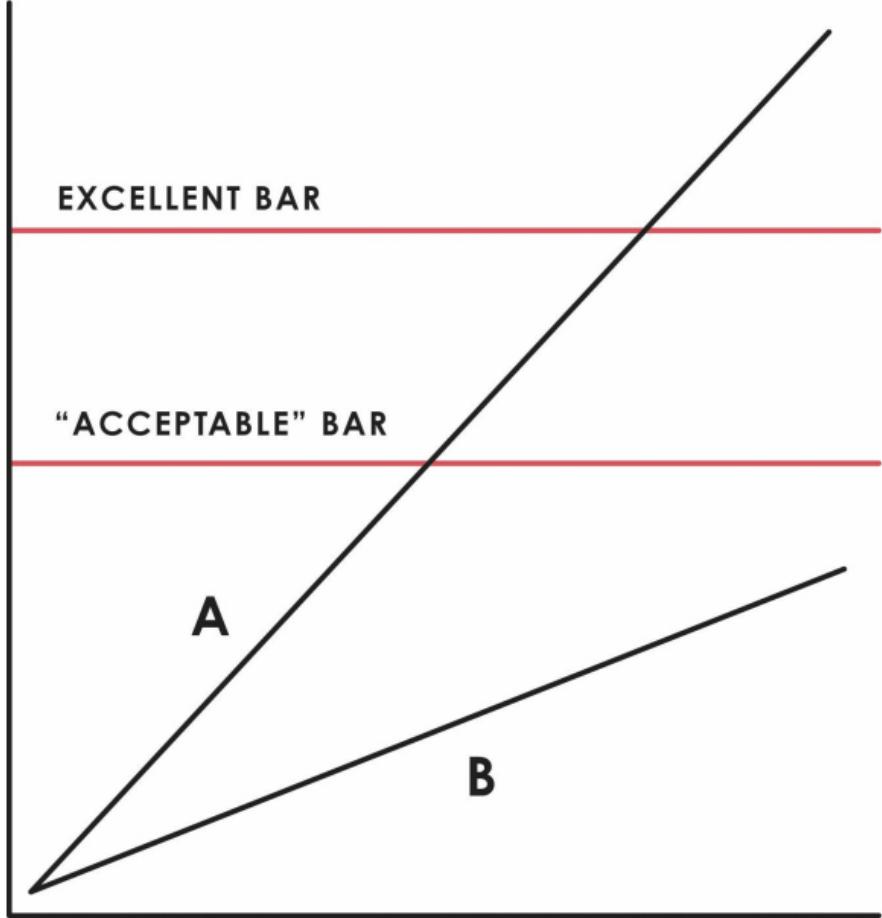


Now let's look at what a month of workdays looks like. Confusing, eh?

The chart below plots just the type X dots, which you can see are improving.

People who are good at pulling out such patterns of events are rare and essential, but as with most abilities, synthesizing through time is only partially innate; even if you're not good at it, you can get better through practice. You'll increase your chances of succeeding at it if you follow the next principle.

- a. Keep in mind both the rates of change and the levels of things, and the relationships between them.** When determining an acceptable rate of improvement for something, it is its level in relation to the rate of change that matters. I often see people lose sight of this. They say “it’s getting better” without noticing how far below the bar it is and whether the rate of change will get it above the bar in an acceptable amount of time. If someone who has been getting grades of 30s and 40s on their tests raised their scores to 50s over the course of a few months it would be accurate to say that they are getting better, but they would still be woefully inadequate. Everything important in your life needs to be on a trajectory to be above the bar and headed toward excellent at an appropriate pace. The lines in the chart on the next page show how the dots connect through time. A’s trajectory gets you above the bar in an appropriate amount of time; B’s does not. To make good decisions, you need to understand the reality of which of these two cases is happening.
- b. Be imprecise.** Understand the concept of “by-and-large” and use approximations. Because our educational system is hung up on precision, the art of being good at approximations is insufficiently valued. This impedes conceptual thinking. For example, when asked to multiply 38 by 12, most people do it the slow and hard way rather than simply rounding 38 up to 40, rounding 12 down to 10, and quickly determining that the answer is about 400. Look at the ice cream shop example and imagine the value of quickly seeing the approximate relationships between the dots versus taking the time to see all the edges precisely. It would be silly to spend time doing that, yet that’s exactly what most people do. “By-and-large” is the level at which you need to understand most things in order to make effective decisions. Whenever a big-picture “by-and-large” statement is made and someone replies “Not always,” my instinctual reaction is that we are probably about to dive into the weeds—i.e., into a discussion of the exceptions rather than the rule, and in the process we will lose sight of the rule. To help people at Bridgewater avoid this time waster, one of our just-out-of-college associates coined a saying I often repeat: “When you ask someone whether something is true and they tell you that it’s not totally true, it’s probably by-and-large true.”



c. **Remember the 80/20 Rule and know what the key 20 percent is.** The 80/20 Rule states that you get 80 percent of the value out of something from 20 percent of the information or effort. (It's also true that you're likely to exert 80 percent of your effort getting the final 20 percent of value.) Understanding this rule saves you from getting bogged down in unnecessary detail once you've gotten most of the learning you need to make a good decision.

d. **Be an imperfectionist.** Perfectionists spend too much time on little differences at the margins at the expense of the important things. There are typically just five to ten important factors to consider when making a decision. It is important to understand these really well, though the marginal gains of studying even the important things past a certain point are limited.

## **5.4 Navigate levels effectively.**

Reality exists at different levels and each of them gives you different but valuable perspectives. It's important to keep all of them in mind as you synthesize and make decisions, and to know how to navigate between them.

Let's say you're looking at your hometown on Google Maps. Zoom in close enough to see the buildings and you won't be able to see the region surrounding your town, which can tell you important things. Maybe your town sits next to a body of water. Zoom in too close and you won't be able to tell if the shoreline is along a river, a lake, or an ocean. You need to know which level is appropriate to your decision.

We are constantly seeing things at different levels and navigating between them, whether we know it or not, whether we do it well or not, and whether our objects are physical things, ideas, or goals. For example, you can navigate levels to move from your values to what you do to realize them on a day-to-day basis. This is what that looks like in outline:

**1 The High-Level Big Picture:** I want meaningful work that's full of learning.

**1.1 Subordinate Concept:** I want to be a doctor.

- **Sub-Point:** I need to go to medical school.
- **Sub-Sub Point:** I need to get good grades in the sciences.
- **Sub-Sub-Sub Point:** I need to stay home tonight and study.

To observe how well you do this in your own life, pay attention to your conversations. We tend to move between levels when we talk.

**a. Use the terms “above the line” and “below the line” to establish which level a conversation is on.** An above-the-line conversation addresses the main points and a below-the-line conversation focuses on the sub-points. When a line of reasoning is jumbled and confusing, it's often because the speaker has gotten caught up in below-the-line details without connecting them back to the major points. An above-the-line discourse should progress in an orderly and accurate way to its conclusion, only going below the line when it's necessary to illustrate something about one of the major points.

**b. Remember that decisions need to be made at the appropriate level, but they should also be consistent across levels.** For instance, if you want to have a healthy life, you shouldn't have twelve sausage links and a beer every day for breakfast. In other words, you need to constantly connect and reconcile the data you're gathering at different levels in order to draw a complete picture of what's going on. Like synthesizing in general, some people are naturally better at this than others, but anyone can learn to do this to one degree or another. To do it well, it's necessary to:

# GOOD

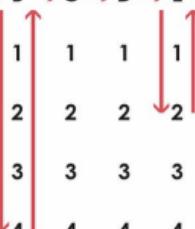
A → B → C → D → E → F → G → SYNTHESIS

1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5

A BIGGER SEQUENCE THAT WORKS

A → B → C → D → E → F → G → SYNTHESIS

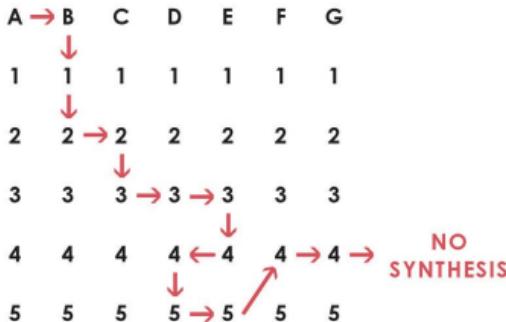
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
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4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5



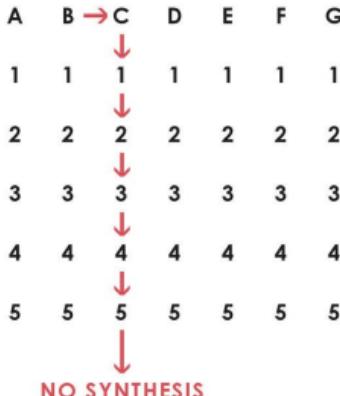
A LOGICAL SEQUENCE THAT EXPLORES  
SPECIFICS AND WORKS



# BAD



A RANDOM STORY THAT GETS DERAILED



A STORY THAT PLUNGE INTO THE WEEDS

1. Remember that multiple levels exist for all subjects.
2. Be aware on what level you're examining a given subject.
3. Consciously navigate levels rather than see subjects as undifferentiated piles of facts that can be browsed randomly.
4. Diagram the flow of your thought processes using the outline template shown on the previous page.

When you do all this with radical open-mindedness, you will become more aware not just of what you're seeing, but what you're not seeing and what others, perhaps, are. It's a little like when jazz musicians jam; knowing what level you're on allows everyone to play in the same key. When you know your own way of seeing and are open to others' ways too, you can create good conceptual jazz together rather than just screech at each other. Now let's go up a level and examine deciding.

## **DECIDE WELL**

Using decision-making logic to produce the best long-term outcomes has become its own science—one that employs probabilities and statistics, game theory, and other tools. While many of these tools are helpful, the fundamentals of effective decision making are relatively simple and timeless—in fact they are genetically encoded in our brains to varying degrees. Watch animals in the wild and you'll see that they instinctively make expected value calculations to optimize the energy they expend to find food. Those that did this well prospered and passed on their genes through the process of natural selection; those that did it poorly perished. While most humans who do this badly won't perish, they will certainly be penalized by the process of economic selection.

As previously explained, there are two broad approaches to decision making: evidence/logic-based (which comes from the higher-level brain) and subconscious/emotion-based (which comes from the lower-level animal brain).

### **5.5 Logic, reason, and common sense are your best tools for synthesizing reality and understanding what to do about it.**

Be wary of relying on anything else. Unfortunately, numerous tests by psychologists show that the majority of people follow the lower-level path most of the time, which leads to inferior decisions without their realizing it. As Carl Jung put it, "Until you make the unconscious conscious, it will direct your life and you will call it fate." It's even more important that decision making be evidence-based and logical when groups of people are working together. If it's not, the process will inevitably be dominated by the most powerful rather than the most insightful participants, which is not only unfair but suboptimal. Successful organizations have cultures in which evidence-based decision making is the norm rather than the exception.

### **5.6 Make your decisions as expected value calculations.**

Think of every decision as a bet with a probability and a reward for being right and a probability and a penalty for being wrong. Normally a winning decision is one with a positive expected value, meaning that the reward times its probability of occurring is greater than the penalty times its probability of occurring, with the best decision being the one with the highest expected value.

Let's say the reward for being right is \$100 and its probability is 60 percent, while the penalty for being wrong is also \$100. If you multiply the reward by the probability of being right you get \$60 and if you multiply the penalty by the probability of being wrong (40 percent) you get \$40. If you subtract the penalty from the reward, the difference is the expected value, which in this case is positive (+\$20). Once you understand expected value, you also understand that it's not always best to bet on what's most probable. For example, suppose something that has only a one-in-five chance (20 percent) of succeeding will return ten times (e.g., \$1,000) the amount that it will cost you if it fails (\$100). Its expected value is positive (\$120), so it's probably a smart decision, even though the odds are against you, as long as you can also cover the loss. Play these probabilities over and over again and they will surely give you winning results over time.

Though we mostly don't carry out these calculations explicitly, we constantly make them intuitively. For example, when you decide to take an umbrella to the store even though there's just a 40 percent chance of rain, or you check your phone to confirm the directions somewhere, even though you're almost certain you know the way, you're making expected value calculations.

Sometimes it's smart to take a chance even when the odds are overwhelmingly against you if the cost of being wrong is negligible relative to the reward that comes with the slim chance of being right. As the saying goes, "It never hurts to ask."

This principle made a big difference in my own life. Years ago, when I was just starting my family, I saw a house that was perfect for us in every way. The problem was that it wasn't on the market and everyone I asked told me the owner wasn't interested in selling. To make matters worse, I was pretty sure I would be turned down for an adequate mortgage. But I figured that it wouldn't cost me anything to call the owner to see if we could work something out. As it turned out, not only was he willing to sell, he was willing to give me a loan!

The same principle applies when the downside is terrible. For example, even if the probability of your having cancer is low, it might pay to get yourself tested when you have a symptom just to make sure.

To help you make expected value calculations well, remember that:

- a. **Raising the probability of being right is valuable no matter what your probability of being right already is.** I often observe people making decisions if their odds of being right are greater than 50 percent. What they fail to see is how much better off they'd be if they raised their chances even more (you can almost always improve your odds of being right by doing things that will give you more information). The expected value gain from raising the probability of being right from 51 percent to 85 percent (i.e., by 34 percentage points) is seventeen times more than raising the odds of being right from 49 percent (which is probably wrong) to 51 percent (which is only a little more likely to be right). Think of the probability as a measure of how often you're likely to be wrong. Raising the probability of being right by 34 percentage points means that a third of your bets will switch from losses to wins. That's why it pays to stress-test your thinking, even when you're pretty sure you're right.

**b. Knowing when not to bet is as important as knowing what bets are probably worth making.** You can significantly improve your track record if you only make the bets that you are most confident will pay off.

**c. The best choices are the ones that have more pros than cons, not those that don't have any cons at all.** Watch out for people who argue against something whenever they can find something—anything—wrong with it, without properly weighing all the pluses and minuses. Such people tend to be poor decision makers.

## **5.7 Prioritize by weighing the value of additional information against the cost of not deciding.**

Some decisions are best made after acquiring more information; some are best made immediately. Just as you need to constantly sort the big from the small when you are synthesizing what's going on, you need to constantly evaluate the marginal benefit of gathering more information against the marginal cost of waiting to decide. People who prioritize well understand the following:

**a. All of your “must-dos” must be above the bar before you do your “like-to-dos.”** Separate your “must-dos” from your “like-to-dos” and don't mistakenly slip any “like-to-dos” onto the first list.

**b. Chances are you won't have time to deal with the unimportant things, which is better than not having time to deal with the important things.** I often hear people say, “Wouldn't it be good to do this or that?” It's likely they are being distracted from far more important things that need to be done well.

**c. Don't mistake possibilities for probabilities.** Anything is possible. It's the probabilities that matter. Everything must be weighed in terms of its likelihood and prioritized. People who can accurately sort probabilities from possibilities are generally strong at “practical thinking”; they're the opposite of the “philosopher” types who tend to get lost in clouds of possibilities.

## **SHORTCUTS FOR BECOMING A GREAT DECISION MAKER**

Great decision makers don't remember all of these steps in a rote way and carry them out mechanically, yet they do follow them. That's because through time and experience they've learned to do most of them reflexively, just as a baseball player catches a fly ball without thinking about how he's going to do it. If they had to call each of the principles up from their memory and then run them through their slow conscious minds, they couldn't possibly handle all the things that

are coming at them well. But there are a couple of things that they do carry out consciously and you should do them too.

## 5.8 Simplify!

Get rid of irrelevant details so that the essential things and the relationships between them stand out. As the saying goes, “Any damn fool can make it complex. It takes a genius to make it simple.” Think of Picasso. He could paint beautiful representational paintings from an early age, but he continually pared down and simplified as his career progressed. Not everyone has a mind that works that way, but just because you can’t do something naturally doesn’t mean you can’t do it—you just have to have creativity and determination. If necessary, you can seek the help of others.

## 5.9 Use principles.

Using principles is a way of both simplifying and improving your decision making. While it might seem obvious to you by now, it’s worth repeating that realizing that almost all “cases at hand” are just “another one of those,” identifying which “one of those” it is, and then applying well-thought-out principles for dealing with it. This will allow you to massively reduce the number of decisions you have to make (I estimate by a factor of something like 100,000) and will lead you to make much better ones. The key to doing this well is to:

1. Slow down your thinking so you can note the criteria you are using to make your decision.
2. Write the criteria down as a principle.
3. Think about those criteria when you have an outcome to assess, and refine them before the next “one of those” comes along.

Identifying which “one of those” each thing is is like identifying which species an animal is. Doing that for each thing and then matching it up with the appropriate principles will become like playing a game, so it will be fun as well as helpful. Of course it can also be challenging. Many “cases at hand,” as I call them, are hybrids. When a case at hand contains a few “another ones of those,” one must weigh different principles against each other, using mental maps of how the different types of things I encounter should be handled. To help people do that, I created a tool called a Coach, which is explained in the Appendix.

You can use your own principles, or you can use others'; you just want to use the best ones possible well. If you think that way constantly, you will become an excellent principled thinker.

## 5.10 Believability weight your decision making

I have found triangulating with highly believable people who are willing to have thoughtful disagreements has never failed to enhance my learning and sharpen the quality of my decision

making. It typically leads me to make better decisions than I could have otherwise and it typically provides me with thrilling learning. I urge you to do it.

To do it well, be sure to avoid the common perils of: 1) valuing your own believability more than is logical and 2) not distinguishing between who is more or less credible.

In case of a disagreement with others, start by seeing if you can agree on the principles that should be used to make that decision. This discussion should include exploring the merits of the reasoning behind the different principles. If you agree on them, apply them to the case at hand and you'll arrive at a conclusion everyone agrees on. If you disagree on the principles, try to work through your disagreement based on your respective believabilities. I will explain how we do this in more detail in Work Principles.

This sort of principled and believability-weighted decision making is fascinating and leads to much different and much better decision making than is typical. For example, imagine if we used this approach to choose the president. It would be fascinating to see which principles we would come up with both for determining what makes a good president as well as for deciding who is most believable in making such determinations. Would we wind up with something like one person one vote, or something different? And if different, in what ways? It certainly would lead to very different outcomes. During the next election, let's do this in parallel with our ordinary electoral process so we can see the difference.

While believability-weighted decision making can sound complicated, chances are you do it all the time—pretty much whenever you ask yourself, “Who should I listen to?” But it's almost certainly true that you'd do it a lot better if you gave more thought to it.

## **5.11 Convert your principles into algorithms and have the computer make decisions alongside you.**

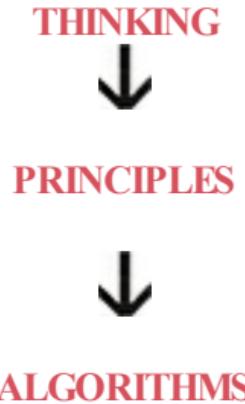
If you can do that, you will take the power of your decision making to a whole other level. In many cases, you will be able to test how that principle would have worked in the past or in various situations that will help you refine it, and in all cases, it will allow you to compound your understanding to a degree that would otherwise be impossible. It will also take emotion out of the equation. Algorithms work just like words in describing what you would like to have done, but they are written in a language that the computer can understand. If you don't know how to speak this language, you should either learn it or have someone close to you who can translate for you. Your children and their peers must learn to speak this language because it will soon be as important or more important than any other language.

By developing a partnership with your computer alter ego in which you teach each other and each do what you do best, you will be much more powerful than if you went about your decision making alone. The computer will also be your link to great collective decision making, which is far more powerful than individual decision making, and will almost certainly advance the evolution of our species.

In the future, artificial intelligence will have a profound impact on how we make decisions in every aspect of our lives—especially when combined with the new era of radical transparency about people that's already upon us. Right now, whether you like it or not, it is easy for anyone to access your digital data to learn a tremendous amount about what you're like, and this data can be fed into computers that do everything from predict what you're likely to buy to what you value in life. While this sounds scary to many people, at Bridgewater we have been combining radical transparency with algorithmic decision making for more than thirty years and have found that it produces remarkable results. In fact, I believe that it won't be long before this kind of computerized decision making guides us nearly as much as our brains do now.

The concept of artificial intelligence is not new. Even back in the 1970s, when I first started experimenting with computerized decision making, it had already been around for nearly twenty years (the term “artificial intelligence” was first introduced in 1956 at a conference at Dartmouth College). While a lot has changed since then, the basic concepts remain the same.

To give you just one ultrasimple example of how computerized decision making works, let's say you have two principles for heating your home: You want to turn the heat on when the temperature falls below 68 and you want to turn the heat off between midnight and 5:00 a.m. You can express the relationship between these criteria in a simple decision-making formula: *If* the temperature is less than 68 degrees *and* the time is not between 5:00 a.m. and midnight, *then* turn on the heat. By gathering many such formulas, it's possible to create a decision-making system that takes in data, applies and weighs the relevant criteria, and recommends a decision.



Specifying our investment decision-making criteria in algorithms and running historical data through them, or specifying our work principles in algorithms and using them to aid in management decision making, are just bigger and more complicated versions of that smart thermostat. They allow us to make more informed and less emotional decisions much faster than we could on our own.

I believe that people will increasingly do this and that computer coding will become as essential as writing. In time, we will use machine assistants as much for decision making as we do for information gathering today. As these machines help us, they will learn about what we are like—what we value, what our strengths and weaknesses are—and they will be able to tailor the advice they give us by automatically seeking out the help of others who are strong where we are weak. It won't be long before our machine assistants are speaking to others' machine assistants and collaborating in this way. In fact, that's beginning to happen already.

Imagine a world in which you can use technology to connect to a system in which you can input the issue you're dealing with and have exchanges about what you should do and why with the highest-rated thinkers in the world. We'll soon be able to do this. Before too long, you will be

able to tap the highest-quality thinking on nearly every issue you face and get the guidance of a computerized system that weighs different points of view. For example, you will be able to ask what lifestyle or career you should choose given what you're like, or how to best interact with specific people based on what they're like. These innovations will help people get out of their own heads and unlock an incredibly powerful form of collective thinking. We are doing this now and have found it way better than traditional thinking.

While this kind of view often leads to talk of artificial intelligence competing with human intelligence, in my opinion human and artificial intelligence are far more likely to work together because that will produce the best results. It'll be decades—and maybe never—before the computer can replicate many of the things that the brain can do in terms of imagination, synthesis, and creativity. That's because the brain comes genetically programmed with millions of years of abilities honed through evolution. The "science" of decision making that underlies many computer systems remains much less valuable than the "art." People still make the most important decisions better than computers do. To see this, you need look no further than at the kinds of people who are uniquely successful. Software developers, mathematicians, and game-theory modelers aren't running away with all the rewards; it is the people who have the most common sense, imagination, and determination.

Only human intelligence can apply the interpretations that are required to provide computer models with appropriate input. For example, a computer can't tell you how to weigh the value of the time you spend with your loved ones against the time you spend at work or the optimal mix of hours that will provide you with the best marginal utilities for each activity. Only you know what you value most, who you want to share your life with, what kind of environment you want to be in, and ultimately how to make the best choices to bring those things about. What's more, so much of our thinking comes from the subconscious in ways we don't understand, that thinking we can model it fully is as unlikely as an animal that has never experienced abstract thinking attempting to define and replicate it.

Yet at the same time, the brain cannot compete with the computer in many ways. Computers have much greater "determination" than any person, as they will work 24/7 for you. They can process vastly more information, and they can do it much faster, more reliably, and more objectively than you could ever hope to. They can bring millions of possibilities that you never thought of to your attention. Perhaps most important of all, they are immune to the biases and consensus-driven thinking of crowds; they don't care if what they see is unpopular, and they never panic. During those terrible days after 9/11, when the whole country was being whipsawed by emotion, or the weeks between September 19 and October 10, 2008, when the Dow fell 3,600 points, there were times I felt like hugging our computers. They kept their cool no matter what.

This combination of man and machine is wonderful. The process of man's mind working with technology is what elevates us—it's what has taken us from an economy where most people dig in the dirt to today's Information Age. It's for that reason that people who have common sense, imagination, and determination, who know what they value and what they want, and who *also* use computers, math, and game theory, are the best decision makers there are. At Bridgewater, we use our systems much as a driver uses a GPS in a car: not to substitute for our navigational abilities but to supplement them.

## **5.12 Be cautious about trusting AI without having deep understanding.**

I worry about the dangers of AI in cases where users accept—or, worse, act upon—the cause-effect relationships presumed in algorithms produced by machine learning without understanding them deeply.

Before I explain why, I want to clarify my terms. “Artificial intelligence” and “machine learning” are words that are thrown around casually and often used as synonyms, even though they are quite different. I categorize what is going on in the world of computer-aided decision making under three broad types: expert systems, mimicking, and data mining (these categories are mine and not the ones in common use in the technology world).

Expert systems are what we use at Bridgewater, where designers specify criteria based on their logical understandings of a set of cause-effect relationships, and then see how different scenarios would emerge under different circumstances.

But computers can also observe patterns and apply them in their decision making without having any understanding of the logic behind them. I call such an approach “mimicking.” This can be effective when the same things happen reliably over and over again and are not subject to change, such as in a game bounded by hard-and-fast rules. But in the real world things do change, so a system can easily fall out of sync with reality.

The main thrust of machine learning in recent years has gone in the direction of data mining, in which powerful computers ingest massive amounts of data and look for patterns. While this approach is popular, it’s risky in cases when the future might be different from the past. Investment systems built on machine learning that is not accompanied by deep understanding are dangerous because when some decision rule is widely believed, it becomes widely used, which affects the price. In other words, the value of a widely known insight disappears over time. Without deep understanding, you won’t know if what happened in the past is genuinely of value and, even if it was, you will not be able to know whether or not its value has disappeared—or worse. It’s common for some decision rules to become so popular that they push the price far enough that it becomes smarter to do the opposite.

Remember that computers have no common sense. For example, a computer could easily misconstrue the fact that people wake up in the morning and then eat breakfast to indicate that waking up makes people hungry. I’d rather have fewer bets (ideally uncorrelated ones) in which I am highly confident than more bets I’m less confident in, and would consider it intolerable if I couldn’t argue the logic behind any of my decisions. A lot of people vest their blind faith in machine learning because they find it much easier than developing deep understanding. For me, that deep understanding is essential, especially for what I do.

I don’t mean to imply that these mimicking or data-mining systems, as I call them, are useless. In fact, I believe that they can be extremely useful in making decisions in which the future range and configuration of events are the same as they’ve been in the past. Given enough computing power, all possible variables can be taken into consideration. For example, by analyzing data about the moves that great chess players have made under certain circumstances, or the procedures great surgeons have used during certain types of operations, valuable programs can

be created for chess playing or surgery. Back in 1997, the computer program Deep Blue beat Garry Kasparov, the world's highest-ranked chess player, using just this approach. But this approach fails in cases where the future is different from the past and you don't know the cause-effect relationships well enough to recognize them all. Understanding these relationships as I do has saved me from making mistakes when others did, most obviously in the 2008 financial crisis. Nearly everyone else assumed that the future would be similar to the past. Focusing strictly on the logical cause-effect relationships was what allowed us to see what was really going on.

When you get down to it, our brains are essentially computers that are programmed in certain ways, take in data, and spit out instructions. We can program the logic in both the computer that is our mind and the computer that is our tool so that they can work together and even double-check each other. Doing that is fabulous.

For example, suppose we were trying to derive the universal laws that explain species change over time. Theoretically, with enough processing power and time, this should be possible. We would need to make sense of the formulas the computer produces, of course, to make sure that they are not data-mined gibberish, by which I mean based on correlations that are not causal in any way. We would do this by constantly simplifying these rules until their elegance is unmistakable.

Of course, given our brain's limited capacity and processing speed, it could take us forever to achieve a rich understanding of all the variables that go into evolution. Is all the simplifying and understanding that we employ in our expert systems truly required? Maybe not. There is certainly a risk that changes not in the tested data might still occur. But one might argue that if our data-mining-based formulas *seem* able to account for the evolution of all species through all time, then the risks of relying on them for just the next ten, twenty, or fifty years is relatively low compared to the benefits of having a formula that appears to work but is not fully understandable (and that, at the very least, might prove useful in helping scientists cure genetic diseases).

In fact, we may be too hung up on understanding; conscious thinking is only one part of understanding. Maybe it's enough that we derive a formula for change and use it to anticipate what is yet to come. I myself find the excitement, lower risk, and educational value of achieving a deep understanding of cause-effect relationships much more appealing than a reliance on algorithms I don't understand, so I am drawn to that path. But is it my lower-level preferences and habits that are pulling me in this direction or is it my logic and reason? I'm not sure. I look forward to probing the best minds in artificial intelligence on this (and having them probe me).

Most likely, our competitive natures will compel us to place bigger and bigger bets on relationships computers find that are beyond our understanding. Some of those bets will pay off, while others will backfire. I suspect that AI will lead to incredibly fast and remarkable advances, but I also fear that it could lead to our demise.

We are headed for an exciting and perilous new world. That's our reality. And as always, I believe that we are much better off preparing to deal with it than wishing it weren't true.

**In order to have the best life  
possible, you have to:**

- 1) know what the best decisions  
are and**
- 2) have the courage to make  
them.**

# LIFE PRINCIPLES: PUTTING IT ALL TOGETHER

In Life Principles, I've explained some principles that helped me do both of these things. I believe that because the same kinds of things happen over and over again, a relatively few well-thought-out principles will allow you to deal with just about anything that reality throws at you. Where you get these principles from doesn't matter as much as having them and using them consistently—and that you never stop refining and improving them.

To acquire principles that work, it's essential that you **embrace reality and deal with it well**. Don't fall into the common trap of wishing that reality worked differently than it does or that your own realities were different. Instead, embrace your realities and deal with them effectively. After all, making the most of your circumstances is what life is all about. This includes being transparent with your thoughts and open-mindedly accepting the feedback of others. Doing so will dramatically increase your learning.

Along your journey you will inevitably experience painful failures. It is important to realize that they can either be the impetus that fuels your personal evolution or they can ruin you, depending on how you react to them. I believe that evolution is the greatest force in the universe and that we all evolve in basically the same way. Conceptually, it looks like a series of loops that either lead upward toward constant improvement or remain flat or even trend downward toward ruin. You will determine what your own loops look like.

Your evolutionary process can be described as a **5-Step Process for getting what you want**. It consists of setting goals, identifying and not tolerating problems, diagnosing problems, coming up with designs to get around them, and then doing the tasks required. The important thing to remember is that no one can do all the steps well, but that it's possible to rely on others to help. Different people with different abilities working well together create the most powerful machines to produce achievements.

If you're willing to confront reality, accept the pain that comes with doing so, and follow the 5-Step Process to drive yourself toward your goals, you're on the path to success. Yet most people fail to do this because they hold on to bad opinions that could easily be rectified by going above themselves to objectively look down at their situation and weigh what they and others think about it. It's for that reason I believe you must be **radically open-minded**.

Our biggest barriers for doing this well are our ego barrier and our blind spot barrier. The ego barrier is our innate desire to be capable and have others recognize us as such. The blind spot barrier is the result of our seeing things through our own subjective lenses; both barriers can prevent us from seeing how things really are. The most important antidote for them is radical open-mindedness, which is motivated by the genuine worry that one might not be seeing one's choices optimally. It is the ability to effectively explore different points of view and different possibilities without letting your ego or your blind spots get in your way.

Doing this well requires practicing thoughtful disagreement, which is the process of seeking out brilliant people who disagree with you in order to see things through their eyes and gain a deeper understanding. Doing this will raise your probability of making good decisions and will also give you a fabulous education. If you can learn radical open-mindedness and practice thoughtful disagreement, you'll radically increase your learning.

Finally, being radically open-minded requires you to have an accurate self-assessment of your own and others' strengths and weaknesses. This is where understanding something about how the brain works and the different psychometric assessments that can help you discover what your own brain is like comes in. To get the best results out of yourself and others, you must **understand that people are wired very differently**.

In a nutshell, learning how to make decisions in the best possible way and learning to have the courage to make them comes from a) going after what you want, b) failing and reflecting well through radical open-mindedness, and c) changing/evolving to become ever more capable and less fearful. In the final chapter of this section, Learn How to Make Decisions Effectively, I shared some more granular principles for how to do all of the above and weigh your options in specific situations to determine the right path to follow.

You can of course do all of these things alone, but if you've understood anything about the concept of radical open-mindedness, it should be obvious that going it alone will only take you so far. We all need others to help us triangulate and get to the best possible decisions—and to help us see our weaknesses objectively and compensate for them. More than anything else, your life is affected by the people around you and how you interact with each other.

Your ability to get what you want when working with others who want the same things is much greater than your ability to get these things by yourself. Yet we haven't talked about how groups should operate to be most effective. That's what we'll do in *Work Principles*.

*Work Principles* is about people working together. Because the power of a group is so much greater than the power of an individual, the principles that follow are likely even more important than those we covered up to this point. In fact, I wrote them first and then wrote *Life Principles* in order to help others make sense of the approach I was implicitly applying in running Bridgewater. My Work Principles are basically the Life Principles you just read, applied to groups. I will show you, principle by principle, how an actual, practical, believability-weighted decision-making system converts independent thinking into effective group decision making. I believe that such a system can work to make any kind of organization—business, government, philanthropic—both more effective and more satisfying to belong to.

I hope these principles will help  
you struggle well and get all  
the joy you can out of life.

# SUMMARY AND TABLE OF LIFE PRINCIPLES

- 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.

## LIFE PRINCIPLES INTRODUCTION

- 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.

## PART II: LIFE PRINCIPLES

### 1 Embrace Reality and Deal with It

#### 1.1 Be a hyperrealist.

- a. Dreams + Reality + Determination = A Successful Life.

#### 1.2 Truth—or, more precisely, an accurate understanding of reality—is the essential foundation for any good outcome.

#### 1.3 Be radically open-minded and radically transparent.

- a. Radical open-mindedness and radical transparency are invaluable for rapid learning and effective change.
- b. Don't let fears of what others think of you stand in your way.
- c. Embracing radical truth and radical transparency will bring more meaningful work and more meaningful relationships.

#### 1.4 Look to nature to learn how reality works.

- a. Don't get hung up on your views of how things "should" be because you will miss out on learning how they really are.
- b. To be "good," something must operate consistently with the laws of reality and contribute to the evolution of the whole; that is what is most rewarded.
- c. Evolution is the single greatest force in the universe; it is the only thing that is permanent and it drives everything.
- d. Evolve or die.

#### 1.5 Evolving is life's greatest accomplishment and its greatest reward.

- a. The individual's incentives must be aligned with the group's goals.
- b. Reality is optimizing for the whole—not for you.
- c. Adaptation through rapid trial and error is invaluable.
- d. Realize that you are simultaneously everything and nothing—and decide what you want to be.
- e. What you will be will depend on the perspective you have.

#### 1.6 Understand nature's practical lessons.

- a. Maximize your evolution.
- b. Remember “no pain, no gain.”
- c. It is a fundamental law of nature that in order to gain strength one has to push one’s limits, which is painful.

#### **1.7 Pain + Reflection = Progress.**

- a. Go to the pain rather than avoid it.
- b. Embrace tough love.

#### **1.8 Weigh second- and third-order consequences.**

#### **1.9 Own your outcomes.**

#### **1.10 Look at the machine from the higher level.**

- a. Think of yourself as a machine operating within a machine and know that you have the ability to alter your machines to produce better outcomes.
- b. By comparing your outcomes with your goals, you can determine how to modify your machine.
- c. Distinguish between you as the designer of your machine and you as a worker with your machine.
- d. The biggest mistake most people make is to not see themselves and others objectively, which leads them to bump into their own and others’ weaknesses again and again.
- e. Successful people are those who can go above themselves to see things objectively and manage those things to shape change.
- f. Asking others who are strong in areas where you are weak to help you is a great skill that you should develop no matter what, as it will help you develop guardrails that will prevent you from doing what you shouldn’t be doing.
- g. Because it is difficult to see oneself objectively, you need to rely on the input of others and the whole body of evidence.
- h. If you are open-minded enough and determined, you can get virtually anything you want.

### **2 Use the 5-Step Process to Get What You Want Out of Life**

#### **2.1 Have clear goals.**

- a. Prioritize: While you can have virtually anything you want, you can’t have everything you want.
- b. Don’t confuse goals with desires.
- c. Decide what you really want in life by reconciling your goals and your desires.
- d. Don’t mistake the trappings of success for success itself.
- e. Never rule out a goal because you think it’s unattainable.
- f. Remember that great expectations create great capabilities.
- g. Almost nothing can stop you from succeeding if you have a) flexibility and b) self-accountability.

- h. Knowing how to deal well with your setbacks is as important as knowing how to move forward.

## **2.2 Identify and don't tolerate problems.**

- a. View painful problems as potential improvements that are screaming at you.
- b. Don't avoid confronting problems because they are rooted in harsh realities that are unpleasant to look at.
- c. Be specific in identifying your problem.
- d. Don't mistake a cause of a problem with the real problem.
- e. Distinguish big problems from small ones.
- f. Once you identify a problem, don't tolerate it.

## **2.3 Diagnose problems to get at their root causes.**

- a. Focus on the “what is” before deciding “what to do about it.”
- b. Distinguish proximate causes from root causes.
- c. Recognize that knowing what someone (including you) is like will tell you what you can expect from them.

## **2.4 Design a plan.**

- a. Go back before you go forward.
- b. Think about your problem as a set of outcomes produced by a machine.
- c. Remember that there are typically many paths to achieving your goals.
- d. Think of your plan as being like a movie script in that you visualize who will do what through time.
- e. Write down your plan for everyone to see and to measure your progress against.
- f. Recognize that it doesn't take a lot of time to design a good plan.

## **2.5 Push through to completion.**

- a. Great planners who don't execute their plans go nowhere.
- b. Good work habits are vastly underrated.
- c. Establish clear metrics to make certain that you are following your plan.

## **2.6 Remember that weaknesses don't matter if you find solutions.**

- a. Look at the patterns of your mistakes and identify at which step in the 5-Step Process you typically fail.
- b. Everyone has at least one big thing that stands in the way of their success; find yours and deal with it.

## **2.7 Understand your own and others' mental maps and humility.**

# **3 Be Radically Open-Minded**

## **3.1 Recognize your two barriers.**

- a. Understand your ego barrier.
- b. Your two “yous” fight to control you.
- c. Understand your blind spot barrier.

### **3.2 Practice radical open-mindedness.**

- a. Sincerely believe that you might not know the best possible path and recognize that your ability to deal well with “not knowing” is more important than whatever it is you do know.
- b. Recognize that decision making is a two-step process: First take in all the relevant information, then decide.
- c. Don’t worry about looking good; worry about achieving your goal.
- d. Realize that you can’t put out without taking in.
- e. Recognize that to gain the perspective that comes from seeing things through another’s eyes, you must suspend judgment for a time—only by empathizing can you properly evaluate another point of view.
- f. Remember that you’re looking for the best answer, not simply the best answer that you can come up with yourself.
- g. Be clear on whether you are arguing or seeking to understand, and think about which is most appropriate based on your and others’ believability.

### **3.3 Appreciate the art of thoughtful disagreement.**

#### **3.4 Triangulate your view with believable people who are willing to disagree.**

- a. Plan for the worst-case scenario to make it as good as possible.

#### **3.5 Recognize the signs of closed-mindedness and open-mindedness that you should watch out for.**

#### **3.6 Understand how you can become radically open-minded.**

- a. Regularly use pain as your guide toward quality reflection.
- b. Make being open-minded a habit.
- c. Get to know your blind spots.
- d. If a number of different believable people say you are doing something wrong and you are the only one who doesn’t see it that way, assume that you are probably biased.
- e. Meditate.
- f. Be evidence-based and encourage others to be the same.
- g. Do everything in your power to help others also be open-minded.
- h. Use evidence-based decision-making tools.
- i. Know when it’s best to stop fighting and have faith in your decision-making process.

## **4 Understand That People Are Wired Very Differently**

### **4.1 Understand the power that comes from knowing how you and others are wired.**

- a. We are born with attributes that can both help us and hurt us, depending on their application.

### **4.2 Meaningful work and meaningful relationships aren’t just nice things we chose for ourselves—they are genetically programmed into us.**

### **4.3 Understand the great brain battles and how to control them to get what “you” want.**

- a. Realize that the conscious mind is in a battle with the subconscious mind.
- b. Know that the most constant struggle is between feeling and thinking.
- c. Reconcile your feelings and your thinking.
- d. Choose your habits well.
- e. Train your “lower-level you” with kindness and persistence to build the right habits.
- f. Understand the differences between right-brained and left-brained thinking.
- g. Understand how much the brain can and cannot change.

#### **4.4 Find out what you and others are like.**

- a. Introversion vs. extroversion.
- b. Intuiting vs. sensing.
- c. Thinking vs. feeling.
- d. Planning vs. perceiving.
- e. Creators vs. refiners vs. advancers vs. executors vs. flexors.
- f. Focusing on tasks vs. focusing on goals.
- g. Workplace Personality Inventory.
- h. Shapers are people who can go from visualization to actualization.

#### **4.5 Getting the right people in the right roles in support of your goal is the key to succeeding at whatever you choose to accomplish.**

- a. Manage yourself and orchestrate others to get what you want.

### **5 Learn How to Make Decisions Effectively**

#### **5.1 Recognize that 1) the biggest threat to good decision making is harmful emotions, and 2) decision making is a two-step process (first learning and then deciding).**

#### **5.2 Synthesize the situation at hand.**

- a. One of the most important decisions you can make is who you ask questions of.
- b. Don’t believe everything you hear.
- c. Everything looks bigger up close.
- d. New is overvalued relative to great.
- e. Don’t oversqueeze dots.

#### **5.3 Synthesize the situation through time.**

- a. Keep in mind both the rates of change and the levels of things, and the relationships between them.
- b. Be imprecise.
- c. Remember the 80/20 Rule and know what the key 20 percent is.
- d. Be an imperfectionist.

#### **5.4 Navigate levels effectively.**

- a. Use the terms “above the line” and “below the line” to establish which level a conversation is on.

- b. Remember that decisions need to be made at the appropriate level, but they should also be consistent across levels.

**5.5 Logic, reason, and common sense are your best tools for synthesizing reality and understanding what to do about it.**

**5.6 Make your decisions as expected value calculations.**

- a. Raising the probability of being right is valuable no matter what your probability of being right already is.
- b. Knowing when not to bet is as important as knowing what bets are probably worth making.
- c. The best choices are the ones that have more pros than cons, not those that don't have any cons at all.

**5.7 Prioritize by weighing the value of additional information against the cost of not deciding.**

- a. All of your "must-dos" must be above the bar before you do your "like-to-dos."
- b. Chances are you won't have time to deal with the unimportant things, which is better than not having time to deal with the important things.
- c. Don't mistake possibilities for probabilities.

**5.8 Simplify!**

**5.9 Use principles.**

**5.10 Believability weight your decision making.**

**5.11 Convert your principles into algorithms and have the computer make decisions alongside you.**

**5.12 Be cautious about trusting AI without having deep understanding.**

# **PART III**

# **WORK PRINCIPLES**

## **SUMMARY AND TABLE OF WORK PRINCIPLES**

*I'm including this summary and table of Work Principles here so that you have the choice of skimming them all, finding the ones you're most interested in, or skipping this section and continuing your reading on page 296.*

### **PART III: WORK PRINCIPLES**

- An organization is a machine consisting of two major parts: culture and people.
  - a. A great organization has both great people and a great culture.
  - b. Great people have both great character and great capabilities.
  - c. Great cultures bring problems and disagreements to the surface and solve them well, and they love imagining and building great things that haven't been built before.
- Tough love is effective for achieving both great work and great relationships.
  - a. In order to be great, one can't compromise the uncompromisable.
- A believability-weighted idea meritocracy is the best system for making effective decisions.
- Make your passion and your work one and the same and do it with people you want to be with.

### **TO GET THE CULTURE RIGHT . . .**

#### **1 Trust in Radical Truth and Radical Transparency**

##### **1.1 Realize that you have nothing to fear from knowing the truth.**

##### **1.2 Have integrity and demand it from others.**

- a. Never say anything about someone that you wouldn't say to them directly and don't try people without accusing them to their faces.
- b. Don't let loyalty to people stand in the way of truth and the well-being of the organization.

##### **1.3 Create an environment in which everyone has the right to understand what makes sense and no one has the right to hold a critical opinion without speaking up.**

- a. Speak up, own it, or get out.
- b. Be extremely open.
- c. Don't be naive about dishonesty.

##### **1.4 Be radically transparent.**

- a. Use transparency to help enforce justice.
- b. Share the things that are hardest to share.
- c. Keep exceptions to radical transparency very rare.
- d. Make sure those who are given radical transparency recognize their responsibilities to handle it well and to weigh things intelligently.

- e. Provide transparency to people who handle it well and either deny it to people who don't handle it well or remove those people from the organization.
- f. Don't share sensitive information with the organization's enemies.

## 1.5 Meaningful relationships and meaningful work are mutually reinforcing, especially when supported by radical truth and radical transparency.

### 2 Cultivate Meaningful Work and Meaningful Relationships

#### 2.1 Be loyal to the common mission and not to anyone who is not operating consistently with it.

#### 2.2 Be crystal clear on what the deal is.

- a. Make sure people give more consideration to others than they demand for themselves.
- b. Make sure that people understand the difference between fairness and generosity.
- c. Know where the line is and be on the far side of fair.
- d. Pay for work.

#### 2.3 Recognize that the size of the organization can pose a threat to meaningful relationships.

#### 2.4 Remember that most people will pretend to operate in your interest while operating in their own.

#### 2.5 Treasure honorable people who are capable and will treat you well even when you're not looking.

### 3 Create a Culture in Which It Is Okay to Make Mistakes and Unacceptable Not to Learn from Them

#### 3.1 Recognize that mistakes are a natural part of the evolutionary process.

- a. Fail well.
- b. Don't feel bad about your mistakes or those of others. Love them!

#### 3.2 Don't worry about looking good—worry about achieving your goals.

- a. Get over "blame" and "credit" and get on with "accurate" and "inaccurate."

#### 3.3 Observe the patterns of mistakes to see if they are products of weaknesses.

#### 3.4 Remember to reflect when you experience pain.

- a. Be self-reflective and make sure your people are self-reflective.
- b. Know that nobody can see themselves objectively.
- c. Teach and reinforce the merits of mistake-based learning.

#### 3.5 Know what types of mistakes are acceptable and what types are unacceptable, and don't allow the people who work for you to make the unacceptable ones.

### 4 Get and Stay in Sync

#### 4.1 Recognize that conflicts are essential for great relationships because they are how people determine whether their principles are aligned and resolve their differences.

- a. Spend lavishly on the time and energy you devote to getting in sync, because it's the best investment you can make.

#### **4.2 Know how to get in sync and disagree well.**

- a. Surface areas of possible out-of-syncness.
- b. Distinguish between idle complaints and complaints meant to lead to improvement.
- c. Remember that every story has another side.

#### **4.3 Be open-minded and assertive at the same time.**

- a. Distinguish open-minded people from closed-minded people.
- b. Don't have anything to do with closed-minded people.
- c. Watch out for people who think it's embarrassing not to know.
- d. Make sure that those in charge are open-minded about the questions and comments of others.
- e. Recognize that getting in sync is a two-way responsibility.
- f. Worry more about substance than style.
- g. Be reasonable and expect others to be reasonable.
- h. Making suggestions and questioning are not the same as criticizing, so don't treat them as if they are.

#### **4.4 If it is your meeting to run, manage the conversation.**

- a. Make it clear who is directing the meeting and whom it is meant to serve.
- b. Be precise in what you're talking about to avoid confusion.
- c. Make clear what type of communication you are going to have in light of the objectives and priorities.
- d. Lead the discussion by being assertive and open-minded.
- e. Navigate between the different levels of the conversation.
- f. Watch out for "topic slip."
- g. Enforce the logic of conversations.
- h. Be careful not to lose personal responsibility via group decision making.
- i. Utilize the "two-minute rule" to avoid persistent interruptions.
- j. Watch out for assertive "fast talkers."
- k. Achieve completion in conversations.
- l. Leverage your communication.

#### **4.5 Great collaboration feels like playing jazz.**

- a.  $1+1=3$ .
- b. 3 to 5 is more than 20.

#### **4.6 When you have alignment, cherish it.**

#### **4.7 If you find you can't reconcile major differences—especially in values—consider whether the relationship is worth preserving.**

### **5 Believability Weight Your Decision Making**

**5.1 Recognize that having an effective idea meritocracy requires that you understand the merit of each person's ideas.**

- a. If you can't successfully do something, don't think you can tell others how it should be done.
- b. Remember that everyone has opinions and they are often bad.

**5.2 Find the most believable people possible who disagree with you and try to understand their reasoning.**

- a. Think about people's believability in order to assess the likelihood that their opinions are good.
- b. Remember that believable opinions are most likely to come from people 1) who have successfully accomplished the thing in question at least three times, and 2) who have great explanations of the cause-effect relationships that lead them to their conclusions.
- c. If someone hasn't done something but has a theory that seems logical and can be stress-tested, then by all means test it.
- d. Don't pay as much attention to people's conclusions as to the reasoning that led them to their conclusions.
- e. Inexperienced people can have great ideas too, sometimes far better ones than more experienced people.
- f. Everyone should be up-front in expressing how confident they are in their thoughts.

**5.3 Think about whether you are playing the role of a teacher, a student, or a peer and whether you should be teaching, asking questions, or debating.**

- a. It's more important that the student understand the teacher than that the teacher understand the student, though both are important.
- b. Recognize that while everyone has the right and responsibility to try to make sense of important things, they must do so with humility and radical open-mindedness.

**5.4 Understand how people came by their opinions.**

- a. If you ask someone a question, they will probably give you an answer, so think through to whom you should address your questions.
- b. Having everyone randomly probe everyone else is an unproductive waste of time.
- c. Beware of statements that begin with "I think that . . ."
- d. Assess believability by systematically capturing people's track records over time.

**5.5 Disagreeing must be done efficiently.**

- a. Know when to stop debating and move on to agreeing about what should be done.
- b. Use believability weighting as a tool rather than a substitute for decision making by Responsible Parties.
- c. Since you don't have the time to thoroughly examine everyone's thinking yourself, choose your believable people wisely.
- d. When you're responsible for a decision, compare the believability-weighted decision making of the crowd to what you believe.

**5.6 Recognize that everyone has the right and responsibility to try to make sense of important things.**

- a. Communications aimed at getting the best answer should involve the most relevant people.
- b. Communication aimed at educating or boosting cohesion should involve a broader set of people than would be needed if the aim were just getting the best answer.
- c. Recognize that you don't need to make judgments about everything.

**5.7 Pay more attention to whether the decision-making system is fair than whether you get your way.**

**6 Recognize How to Get Beyond Disagreements**

**6.1 Remember: Principles can't be ignored by mutual agreement.**

- a. The same standards of behavior apply to everyone.

**6.2 Make sure people don't confuse the right to complain, give advice, and openly debate with the right to make decisions.**

- a. When challenging a decision and/or a decision maker, consider the broader context.

**6.3 Don't leave important conflicts unresolved.**

- a. Don't let the little things divide you when your agreement on the big things should bind you.
- b. Don't get stuck in disagreement—escalate or vote!

**6.4 Once a decision is made, everyone should get behind it even though individuals may still disagree.**

- a. See things from the higher level.
- b. Never allow the idea meritocracy to slip into anarchy.
- c. Don't allow lynch mobs or mob rule.

**6.5 Remember that if the idea meritocracy comes into conflict with the well-being of the organization, it will inevitably suffer.**

- a. Declare "martial law" only in rare or extreme circumstances when the principles need to be suspended.
- b. Be wary of people who argue for the suspension of the idea meritocracy for the "good of the organization."

**6.6 Recognize that if the people who have the power don't want to operate by principles, the principled way of operating will fail.**

**TO GET THE PEOPLE RIGHT . . .**

**7 Remember That the WHO Is More Important than the WHAT**

**7.1 Recognize that the most important decision for you to make is who you choose as your Responsible Parties.**

- a. Understand that the most important RPs are those responsible for the goals, outcomes, and machines at the highest levels.

## **7.2 Know that the ultimate Responsible Party will be the person who bears the consequences of what is done.**

- a. Make sure that everyone has someone they report to.

## **7.3 Remember the force behind the thing.**

# **8 Hire Right, Because the Penalties for Hiring Wrong Are Huge**

## **8.1 Match the person to the design.**

- a. Think through which values, abilities, and skills you are looking for (in that order).
- b. Make finding the right people systematic and scientific.
- c. Hear the click Find the right fit between the role and the person.
- d. Look for people who sparkle, not just “any ol’one of those.”
- e. Don’t use your pull to get someone a job.

## **8.2 Remember that people are built very differently and that different ways of seeing and thinking make people suitable for different jobs.**

- a. Understand how to use and interpret personality assessments.
- b. Remember that people tend to pick people like themselves, so choose interviewers who can identify what you are looking for.
- c. Look for people who are willing to look at themselves objectively.
- d. Remember that people typically don’t change all that much.

## **8.3 Think of your teams the way that sports managers do: No one person possesses everything required to produce success, yet everyone must excel.**

## **8.4 Pay attention to people’s track records.**

- a. Check references.
- b. Recognize that performance in school doesn’t tell you much about whether a person has the values and abilities you are looking for.
- c. While it’s best to have great conceptual thinkers, understand that great experience and a great track record also count for a lot.
- d. Beware of the impractical idealist.
- e. Don’t assume that a person who has been successful elsewhere will be successful in the job you’re giving them.
- f. Make sure your people have character and are capable.

## **8.5 Don’t hire people just to fit the first job they will do; hire people you want to share your life with.**

- a. Look for people who have lots of great questions.
- b. Show candidates your warts.
- c. Play jazz with people with whom you are compatible but who will also challenge you.

## **8.6 When considering compensation, provide both stability and opportunity.**

- a. Pay for the person, not the job.
- b. Have performance metrics tied at least loosely to compensation.
- c. Pay north of fair.
- d. Focus more on making the pie bigger than on exactly how to slice it so that you or any one else gets the biggest piece.

## **8.7 Remember that in great partnerships, consideration and generosity are more important than money.**

- a. Be generous and expect generosity from others.

## **8.8 Great people are hard to find so make sure you think about how to keep them.**

# **9 Constantly Train, Test, Evaluate, and Sort People**

## **9.1 Understand that you and the people you manage will go through a process of personal evolution.**

- a. Recognize that personal evolution should be relatively rapid and a natural consequence of discovering one's strengths and weaknesses; as a result, career paths are not planned at the outset.
- b. Understand that training guides the process of personal evolution.
- c. Teach your people to fish rather than give them fish, even if that means letting them make some mistakes.
- d. Recognize that experience creates internalized learning that book learning can't replace.

## **9.2 Provide constant feedback**

## **9.3 Evaluate accurately, not kindly.**

- a. In the end, accuracy and kindness are the same thing.
- b. Put your compliments and criticisms in perspective.
- c. Think about accuracy, not implications.
- d. Make accurate assessments.
- e. Learn from success as well as from failure.
- f. Know that most everyone thinks that what they did, and what they are doing, is much more important than it really is.

## **9.4 Recognize that tough love is both the hardest and the most important type of love to give (because it is so rarely welcomed).**

- a. Recognize that while most people prefer compliments, accurate criticism is more valuable.

## **9.5 Don't hide your observations about people.**

- a. Build your synthesis from the specifics up.
- b. Squeeze the dots.
- c. Don't oversqueeze a dot.
- d. Use evaluation tools such as performance surveys, metrics, and formal reviews to

document all aspects of a person's performance.

**9.6 Make the process of learning what someone is like open, evolutionary, and iterative.**

- a. Make your metrics clear and impartial.
- b. Encourage people to be objectively reflective about their performance.
- c. Look at the whole picture.
- d. For performance reviews, start from specific cases, look for patterns, and get in sync with the person being reviewed by looking at the evidence together.
- e. Remember that when it comes to assessing people, the two biggest mistakes you can make are being overconfident in your assessment and failing to get in sync on it.
- f. Get in sync on assessments in a nonhierarchical way.
- g. Learn about your people and have them learn about you through frank conversations about mistakes and their root causes.
- h. Understand that making sure people are doing a good job doesn't require watching everything that everybody is doing at all times.
- i. Recognize that change is difficult.
- j. Help people through the pain that comes with exploring their weaknesses.

**9.7 Knowing how people operate and being able to judge whether that way of operating will lead to good results is more important than knowing what they did.**

- a. If someone is doing their job poorly, consider whether it is due to inadequate learning or inadequate ability.
- b. Training and testing a poor performer to see if he or she can acquire the required skills without simultaneously trying to assess their abilities is a common mistake.

**9.8 Recognize that when you are really in sync with someone about their weaknesses, the weaknesses are probably true.**

- a. When judging people, remember that you don't have to get to the point of "beyond a shadow of a doubt."
- b. It should take you no more than a year to learn what a person is like and whether they are a click for their job.
- c. Continue assessing people throughout their tenure.
- d. Evaluate employees with the same rigor as you evaluate job candidates.

**9.9 Train, guardrail, or remove people; don't rehabilitate them.**

- a. Don't collect people.
- b. Be willing to "shoot the people you love."
- c. When someone is "without a box," consider whether there is an open box that would be a better fit or whether you need to get them out of the company.
- d. Be cautious about allowing people to step back to another role after failing.

**9.10 Remember that the goal of a transfer is the best, highest use of the person in a way that benefits the community as a whole.**

- a. Have people "complete their swings" before moving on to new roles.

**9.11 Don't lower the bar.**

# **TO BUILD AND EVOLVE YOUR MACHINE . . .**

## **10 Manage as Someone Operating a Machine to Achieve a Goal**

### **10.1 Lookdown on your machine and yourself within it from the higher level.**

- a. Constantly compare your outcomes to your goals.
- b. Understand that a great manager is essentially an organizational engineer.
- c. Build great metrics.
- d. Beware of paying too much attention to what is coming at you and not enough attention to your machine.
- e. Don't get distracted by shiny objects.

### **10.2 Remember that for every case you deal with, your approach should have two purposes:**

- 1) to move you closer to your goal, and 2) to train and test your machine (i.e., your people and your design).**
- a. Everything is a case study.
- b. When a problem occurs, conduct the discussion at two levels: 1) the machine level (why that outcome was produced) and 2) the case-at-hand level (what to do about it).
- c. When making rules, explain the principles behind them.
- d. Your policies should be natural extensions of your principles.
- e. While good principles and policies almost always provide good guidance, remember that there are exceptions to every rule.

### **10.3 Understand the differences between managing, micromanaging, and not managing.**

- a. Managers must make sure that what they are responsible for works well.
- b. Managing the people who report to you should feel like skiing together.
- c. An excellent skier is probably going to be a better ski coach than a novice skier.
- d. You should be able to delegate the details.

### **10.4 Know what your people are like and what makes them tick, because your people are your most important resource.**

- a. Regularly take the temperature of each person who is important to you and to the organization.
- b. Learn how much confidence to have in your people—don't assume it.
- c. Vary your involvement based on your confidence.

### **10.5 Clearly assign responsibilities.**

- a. Remember who has what responsibilities.
- b. Watch out for “job slip.”

### **10.6 Probe deep and hard to learn what you can expect from your machine.**

- a. Get a threshold level of understanding.
- b. Avoid staying too distant.
- c. Use daily updates as a tool for staying on top of what your people are doing and thinking.

- d.** Probe so you know whether problems are likely to occur before they actually do.
- e.** Probe to the level below the people who report to you.
- f.** Have the people who report to the people who report to you feel free to escalate their problems to you.
- g.** Don't assume that people's answers are correct.
- h.** Train your ear.
- i.** Make your probing transparent rather than private.
- j.** Welcome probing.
- k.** Remember that people who see things and think one way often have difficulty communicating with and relating to people who see things and think another way.
- l.** Pull all suspicious threads.
- m.** Recognize that there are many ways to skin a cat.

**10.7 Think like an owner, and expect the people you work with to do the same.**

- a.** Going on vacation doesn't mean one can neglect one's responsibilities.
- b.** Force yourself and the people who work for you to do difficult things.

**10.8 Recognize and deal with key-man risk**

**10.9 Don't treat everyone the same—treat them appropriately.**

- a.** Don't let yourself get squeezed.
- b.** Care about the people who work for you.

**10.10 Know that great leadership is generally not what it's made out to be.**

- a.** Be weak and strong at the same time.
- b.** Don't worry about whether or not your people like you and don't look to them to tell you what you should do.
- c.** Don't give orders and try to be followed; try to be understood and to understand others by getting in sync.

**10.11 Hold yourself and your people accountable and appreciate them for holding you accountable.**

- a.** If you've agreed with someone that something is supposed to go a certain way, make sure it goes that way—unless you get in sync about doing it differently.
- b.** Distinguish between a failure in which someone broke their "contract" and a failure in which there was no contract to begin with.
- c.** Avoid getting sucked down.
- d.** Watch out for people who confuse goals and tasks, because if they can't make that distinction, you can't trust them with responsibilities.
- e.** Watch out for the unfocused and unproductive "theoretical should."

**10.12 Communicate the plan clearly and have clear metrics conveying whether you are progressing according to it.**

- a.** Put things in perspective by going back before going forward.

**10.13 Escalate when you can't adequately handle your responsibilities and make sure that the people who work for you are proactive about doing the same.**

## **11 Perceive and Don't Tolerate Problems**

**11.1 If you're not worried, you need to worry—and if you're worried, you don't need to worry.**

**11.2 Design and oversee a machine to perceive whether things are good enough or not good enough, or do it yourself.**

- a. Assign people the job of perceiving problems, give them time to investigate, and make sure they have independent reporting lines so that they can convey problems without any fear of recrimination.
- b. Watch out for the “Frog in the Boiling Water Syndrome.”
- c. Beware of group-think: The fact that no one seems concerned doesn’t mean nothing is wrong.
- d. To perceive problems, compare how the outcomes are lining up with your goals.
- e. “Taste the soup.”
- f. Have as many eyes looking for problems as possible.
- g. “Pop the cork.”
- h. Realize that the people closest to certain jobs probably know them best.

**11.3 Be very specific about problems; don't start with generalizations.**

- a. Avoid the anonymous “we” and “they,” because they mask personal responsibility.

**11.4 Don't be afraid to fix the difficult things.**

- a. Understand that problems with good, planned solutions in place are completely different from those without such solutions.
- b. Think of the problems you perceive in a machinelike way.

## **12 Diagnose Problems to Get at Their Root Causes**

**12.1 To diagnose well, ask the following questions: 1. Is the outcome good or bad? 2. Who is responsible for the outcome? 3. If the outcome is bad, is the Responsible Party incapable and/or is the design bad?**

- a. Ask yourself: “Who should do what differently?”
- b. Identify at which step in the 5-Step Process the failure occurred.
- c. Identify the principles that were violated.
- d. Avoid Monday morning quarterbacking.
- e. Don't confuse the quality of someone's circumstances with the quality of their approach to dealing with the circumstances.
- f. Identifying the fact that someone else doesn't know what to do doesn't mean that you know what to do.
- g. Remember that a root cause is not an action but a reason.

- h. To distinguish between a capacity issue and a capability issue, imagine how the person would perform at that particular function if they had ample capacity.
    - i. Keep in mind that managers usually fail or fall short of their goals for one (or more) of five reasons.

#### **12.2 Maintain an emerging synthesis by diagnosing continuously.**

#### **12.3 Keep in mind that diagnoses should produce outcomes.**

- a. Remember that if you have the same people doing the same things, you should expect the same results.

#### **12.4 Use the following “drill-down” technique to gain an 80/20 understanding of a department or sub-department that is having problems.**

#### **12.5 Understand that diagnosis is foundational to both progress and quality relationships.**

### **13 Design Improvements to Your Machine to Get Around Your Problems**

#### **13.1 Build your machine.**

#### **13.2 Systemize your principles and how they will be implemented.**

- a. Create great decision-making machines by thinking through the criteria you are using to make decisions while you are making them.

#### **13.3 Remember that a good plan should resemble a movie script.**

- a. Put yourself in the position of pain for a while so that you gain a richer understanding of what you’re designing for.
- b. Visualize alternative machines and their outcomes, and then choose.
- c. Consider second- and third-order consequences, not just first-order ones.
- d. Use standing meetings to help your organization run like a Swiss clock.
- e. Remember that a good machine takes into account the fact that people are imperfect.

#### **13.4 Recognize that design is an iterative process. Between a bad “now” and a good “then” is a “working through it” period.**

- a. Understand the power of the “cleansing storm.”

#### **13.5 Build the organization around goals rather than tasks.**

- a. Build your organization from the top down.
- b. Remember that everyone must be overseen by a believable person who has high standards.
- c. Make sure the people at the top of each pyramid have the skills and focus to manage their direct reports and a deep understanding of their jobs.
- d. In designing your organization, remember that the 5-Step Process is the path to success and that different people are good at different steps.
- e. Don’t build the organization to fit the people.
- f. Keep scale in mind.
- g. Organize departments and sub-departments around the most logical groupings based on “gravitational pull.”

- h.** Make departments as self-sufficient as possible so that they have control over the resources they need to achieve their goals.
- i.** Ensure that the ratios of senior managers to junior managers and of junior managers to their reports are limited to preserve quality communication and mutual understanding.
- j.** Consider succession and training in your design.
- k.** Don't just pay attention to your job; pay attention to how your job will be done if you are no longer around.
- l.** Use "double-do" rather than "double-check" to make sure mission-critical tasks are done correctly.
- m.** Use consultants wisely and watch out for consultant addiction.

**13.6 Create an organizational chart to look like a pyramid, with straight lines down that don't cross.**

- a.** Involve the person who is the point of the pyramid when encountering cross-departmental or cross-sub-departmental issues.
- b.** Don't do work for people in another department or grab people from another department to do work for you unless you speak to the person responsible for overseeing the other department.
- c.** Watch out for "department slip."

**13.7 Create guardrails when needed—and remember it's better not to guardrail at all.**

- a.** Don't expect people to recognize and compensate for their own blind spots.
- b.** Consider the clover-leaf design.

**13.8 Keep your strategic vision the same while making appropriate tactical changes as circumstances dictate.**

- a.** Don't put the expedient ahead of the strategic.
- b.** Think about both the big picture and the granular details, and understand the connections between them.

**13.9 Have good controls so that you are not exposed to the dishonesty of others.**

- a.** Investigate and let people know you are going to investigate.
- b.** Remember that there is no sense in having laws unless you have policemen (auditors).
- c.** Beware of rubber-stamping.
- d.** Recognize that people who make purchases on your behalf probably will not spend your money wisely.
- e.** Use "public hangings" to deter bad behavior.

**13.10 Have the clearest possible reporting lines and delineations of responsibilities.**

- a.** Assign responsibilities based on workflow design and people's abilities, not job titles.
- b.** Constantly think about how to produce leverage.
- c.** Recognize that it is far better to find a few smart people and give them the best technology than to have a greater number of ordinary people who are less well equipped.

**d.** Use leveragers.

### **13.11 Remember that almost everything will take more time and cost more money than you expect.**

## **14 Do What You Set Out to Do**

### **14.1 Work for goals that you and your organization are excited about and think about how your tasks connect to those goals.**

- a.** Be coordinated and consistent in motivating others.
- b.** Don't act before thinking. Take the time to come up with a game plan.
- c.** Look for creative, cut-through solutions.

### **14.2 Recognize that everyone has too much to do.**

- a.** Don't get frustrated.

### **14.3 Use checklists.**

- a.** Don't confuse checklists with personal responsibility.

### **14.4 Allow time for rest and renovation.**

### **14.5 Ring the bell.**

## **15 Use Tools and Protocols to Shape How Work Is Done**

### **15.1 Having systemized principles embedded in tools is especially valuable for an idea meritocracy.**

- a.** To produce real behavioral change, understand that there must be internalized or habitualized learning.
- b.** Use tools to collect data and process it into conclusions and actions.
- c.** Foster an environment of confidence and fairness by having clearly-stated principles that are implemented in tools and protocols so that the conclusions reached can be assessed by tracking the logic and data behind them.

## **16 And for Heaven's Sake, Don't Overlook Governance!**

### **16.1 To be successful, all organizations must have checks and balances.**

- a.** Even in an idea meritocracy, merit cannot be the only determining factor in assigning responsibility and authority.
- b.** Make sure that no one is more powerful than the system or so important that they are irreplaceable.
- c.** Beware of fiefdoms.
- d.** Make clear that the organization's structure and rules are designed to ensure that its checks-and-balances system functions well.
- e.** Make sure reporting lines are clear.
- f.** Make sure decision rights are clear.
- g.** Make sure that the people doing the assessing 1) have the time to be fully informed about how the person they are checking on is doing, 2) have the ability to make the

assessments, and 3) are not in a conflict of interest that stands in the way of carrying out oversight effectively.

**h.** Recognize that decision makers must have access to the information necessary to make decisions and must be trustworthy enough to handle that information safely.

**16.2 Remember that in an idea meritocracy a single CEO is not as good as a great group of leaders.**

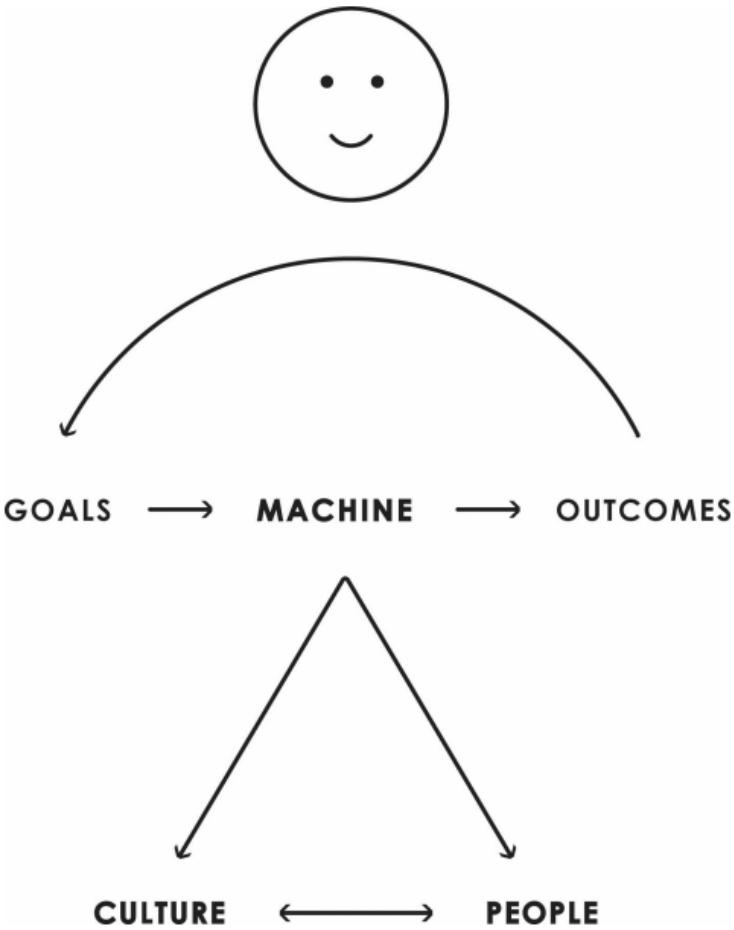
**16.3 No governance system of principles, rules, and checks and balances can substitute for a great partnership.**

**For any group or organization to function well,  
its work principles must be aligned with its  
members' life principles.**

I don't mean that they must be aligned on everything, but I do mean that they have to be aligned on the most important things, like the mission they're on and how they will be with each other.

If people in an organization feel that alignment, they will treasure their relationships and work together harmoniously; its culture will permeate everything they do. If they don't, they will work for different, often conflicting, goals and will be confused about how they should be with each other. For that reason, it pays for all organizations—companies, governments, foundations, schools, hospitals, and so on—to spell out their principles and values clearly and explicitly and to operate by them consistently.

Those principles and values aren't vague slogans, like "the customer always comes first" or "we should strive to be the best in our industry," but a set of concrete directives anyone can understand, get aligned on, and carry out. As we shift our attention from Life Principles to Work Principles, I will explain how we went about achieving these alignments at Bridgewater and how that affected our results. But first, I want to explain how I think about organizations.



- An organization is a machine consisting of two major parts: culture and people.

Each influences the other, because the people who make up an organization determine the kind of culture it has, and the culture of the organization determines the kinds of people who fit in.

- A great organization has both great people and a great culture.** Companies that get progressively better over time have both. Nothing is more important or more difficult than to get the culture and people right.

**b. Great people have both great character and great capabilities.** By great character, I mean they are radically truthful, radically transparent, and deeply committed to the mission of the organization. By great capabilities, I mean they have the abilities and skills to do their jobs excellently. People who have one without the other are dangerous and should be removed from the organization. People who have both are rare and should be treasured.

**c. Great cultures bring problems and disagreements to the surface and solve them well, and they love imagining and building great things that haven't been built before.** Doing that sustains their evolution. In our case, we do that by having an idea meritocracy that strives for meaningful work and meaningful relationships through radical truth and radical transparency. By meaningful work, I mean work that people are excited to get their heads into, and by meaningful relationships I mean those in which there is genuine caring for each other (like an extended family). I find that these reinforce each other and that being radically truthful and radically transparent with each other makes both the work and the relationships go better.

By constantly looking down on the machine, its managers can objectively compare the outcomes it produces with their goals. If those outcomes are consistent with those goals, then the machine is working effectively; if the outcomes are inconsistent with the goals, then something is wrong with either the design of the machine or the people who are a part of it and the problem needs to be diagnosed so the machine can be modified. As laid out in Chapter Two of Life Principles, this ideally happens in a 5-Step Process: 1) having clear goals, 2) identifying the problems preventing the goals from being achieved, 3) diagnosing what parts of the machine (i.e., which people or which designs) are not working well, 4) designing changes, and 5) doing what is needed. This is the fastest and most efficient way that an organization improves.

I call this process of converting problems into progress “looping,” and how it happens through time is visualized in the diagrams to the right. In the first, a problem occurs that takes you off track from your goals and makes things worse than you planned.

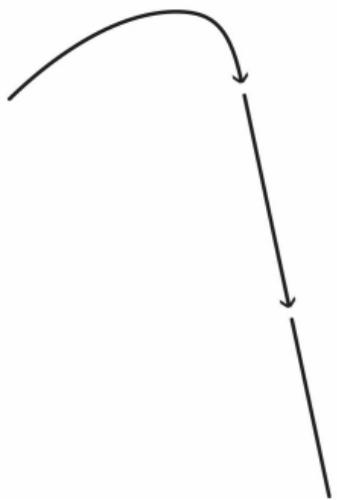
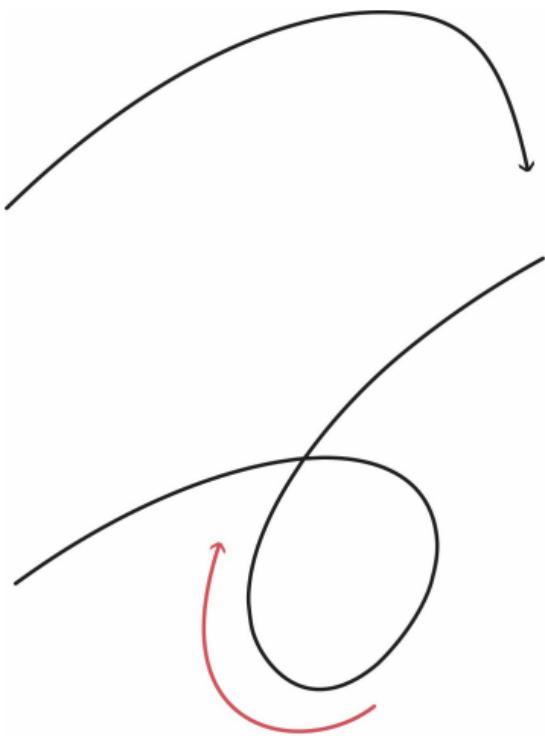
If you identify the decline, diagnose the problems that caused it so as to get at their root causes, come up with new designs, and then push them through, the trajectory will loop back on itself and continue its upward ascent, like in the second diagram.

If you don’t identify the problem, design a suboptimal solution, or fail to push it through effectively, the decline will continue as shown in the diagram at the bottom.

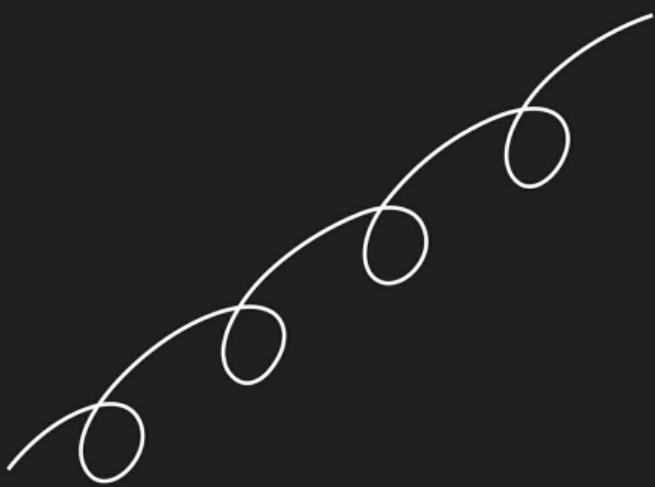
A manager’s ability to recognize when outcomes are inconsistent with goals and then modify designs and assemble people to rectify them makes all the difference in the world. The more often and more effectively a manager does this, the steeper the upward trajectory.

As I explained in Life Principles, this is what I believe evolution looks like for all organisms and organizations. Having a culture and people that will evolve in this way is critical because the world changes quickly and in ways that can’t possibly be anticipated. I’m sure you can think of a number of companies that failed to identify and address their problems on time and ended up in a terminal decline (see: BlackBerry and Palm) and a rare few that have consistently looped well. Most don’t. For example, only six of the companies that forty years ago made up the Dow Jones 30, which is about when Bridgewater got started, are still in the Dow 30 today. Many of them—American Can, American Tobacco, Bethlehem Steel, General Foods, Inc., F. W. Woolworth—

don't even exist; some (Sears Roebuck, Johns-Manville, Eastman Kodak) are so different as to be almost unrecognizable. And many of the standouts on the list today—Apple, Cisco—were yet to be founded.







The rare few that have been able to evolve well over the decades have been successful at that evolutionary/looping process, which also is the process that has made Bridgewater progressively more successful for forty years. That is the process I want to pass along to you.

As I mentioned earlier, nothing is more important or more difficult than to get the culture and the people right. Whatever successes we've had at Bridgewater were the result of doing that well—and whatever failures were due to our not doing it adequately. That might seem odd because, as a global macroeconomic investor, one might think that, above all else, I had to get the economics and investments right, which is true. But to do that, I needed to get the people and culture right first. And, to inspire me to do what I did, I needed to have meaningful work and meaningful relationships.

As the entrepreneur/builder of Bridgewater, I naturally shaped the organization to be consistent with my values and principles. I went after what I wanted most, in the way that seemed most natural to me with the people I chose to be with, and we and Bridgewater evolved together.

If you had asked me what my objective was when I started out, I would've said it was to have fun working with people I like. Work was a game I played with passion and I wanted to have a blast playing it with people I enjoyed and respected. I started Bridgewater out of my apartment with a pal I played rugby with who had no experience in the markets and a friend we hired as our assistant. I certainly wasn't thinking about management at the time. Management seemed to me like something people in gray suits with slide presentations did. I never set out to manage, let alone to have principles about work and management.

From reading Life Principles, you know that I liked to imagine and build out new, practical concepts that never existed before. I especially loved doing these things with people who were on the same mission with me. I treasured thoughtful disagreement with them as a way of learning and raising our odds of making good decisions, and I wanted *all* the people I worked with to be my "partners" rather than my "employees." In a nutshell, I was looking for meaningful work and meaningful relationships. I quickly learned that the best way to do that was to have great partnerships with great people.

To me, great partnerships come from sharing common values and interests, having similar approaches to pursuing them, and being reasonable with, and having consideration for, each other. At the same time, partners must be willing to hold each other to high standards and work through their disagreements. The main test of a great partnership is not whether the partners ever disagree—people in all healthy relationships disagree—but whether they can bring their disagreements to the surface and get through them well. Having clear processes for resolving disagreements efficiently and clearly is essential for business partnerships, marriages, and all other forms of partnership.

My wanting these things attracted others who wanted the same things, which drove how we shaped Bridgewater together.<sup>36</sup> When there were five of us it was totally different than when there were fifty of us, which was totally different than it was when we were five hundred, a thousand, and so on. As we grew, most everything changed beyond recognition, except for our core values and principles.

When Bridgewater was still a small company, the principles by which we operated were more implicit than explicit. But as more and more new people came in, I couldn't take for granted that they would understand and preserve them. I realized that I needed to write our principles out

explicitly and explain the logic behind them. I remember the precise moment when this shift occurred—it was when the number of people at Bridgewater passed sixty-seven. Up until then, I had personally chosen each employee's holiday gift and written them a lengthy personalized card, but trying to do it that year broke my back. From that point on, an increasing number of people came in who didn't work closely with me, so I couldn't assume they would understand where I was coming from or what I was striving to create, which was an idea meritocracy built on tough love.

- Tough love is effective for achieving both great work and great relationships.

To give you an idea of what I mean by tough love, think of Vince Lombardi, who for me personified it. From when I was ten years old until I was eighteen, Lombardi was head coach of the Green Bay Packers. With limited resources, he led his team to five NFL championships. He won two NFL Coach of the Year awards and many still call him the best coach of all time. Lombardi loved his players and he pushed them to be great. I admired, and still admire, how uncompromising his standards were. His players, their fans, and he himself all benefited from his approach. I wish Lombardi had written out his principles for me to read.

**a. In order to be great, one can't compromise the uncompromisable.** Yet I see people doing it all the time, usually to avoid making others or themselves feel uncomfortable, which is not just backward but counterproductive. Putting comfort ahead of success produces worse results for everyone. I both loved the people I worked with and pushed them to be great, and I expected them to do the same with me.

From the very beginning, I felt that the people I worked with at Bridgewater were a part of my extended family. When they or members of their families got sick, I put them in touch with my personal doctor to make sure that they were well taken care of. I invited all of them to stay at my house in Vermont on weekends and loved it when they took me up on it. I celebrated their marriages and the births of their children with them and mourned the losses of their loved ones. But to be clear, this was no lovefest. We were tough on each other too, so we could all be as great as we could be. I learned that the more caring we gave each other, the tougher we could be on each other, and the tougher we were on each other, the better we performed and the more rewards there were for us to share. This cycle was self-reinforcing. I found that operating this way made the lows less low and the highs higher. It even made the bad times better than the good ones in some important ways.

Think about some of your toughest experiences in life. I bet it is as true for you as it has been for me that going through them with people you cared about, who cared about you, and who were working as hard as you were for the same mission, was incredibly rewarding. As hard as they were, we look back on some of these challenging times as our finest moments. For most people, being part of a great community on a shared mission is even more rewarding than money. Numerous studies have shown there is little to no correlation between one's happiness and

the amount of money one accumulates, yet there is a strong correlation between one's happiness and the quality of one's relationships.

I laid this out in a memo to Bridgewater in 1996:

*Bridgewater is not about plodding along at some kind of moderate standard, it is about working like hell to achieve a standard that is extraordinarily high, and then getting the satisfaction that comes along with that sort of super-achievement.*

*Our overriding objective is excellence, or more precisely, constant improvement, a superb and constantly improving company in all respects.*

*Conflict in the pursuit of excellence is a terrific thing. There should be no hierarchy based on age or seniority. Power should lie in the reasoning, not the position, of the individual. The best ideas win no matter who they come from.*

*Criticism (by oneself and by others) is an essential ingredient in the improvement process, yet, if handled incorrectly, can be destructive. It should be handled objectively. There should be no hierarchy in the giving or receiving of criticism.*

*Teamwork and team spirit are essential, including intolerance of substandard performance. This is referring to 1) one's recognition of the responsibilities one has to help the team achieve its common goals and 2) the willingness to help others (work within a group) toward these common goals. Our fates are intertwined. One should know that others can be relied upon to help. As a corollary, substandard performance cannot be tolerated anywhere because it would hurt everyone.*

*Long-term relationships are both a) intrinsically gratifying and b) efficient, and should be intentionally built. Turnover requires re-training and therefore creates setbacks.*

*Money is a byproduct of excellence, not a goal. Our overriding objective is excellence and constant improvement at Bridgewater. To be clear, it is not to make lots of money. The natural extension of this is not that you should be happy with little money. On the contrary—you should expect to make a lot. If we operate consistently with this philosophy we should be productive and the company should do well financially. There is comparatively little age- and seniority-based hierarchy.*

*Each person at Bridgewater should act like an owner, responsible for operating in this way and for holding others accountable to operate in this way.*

- A believability-weighted idea meritocracy is the best system for making effective decisions.

Unlike Lombardi, whose success depended on having his players follow his instructions, I needed my players to be independent thinkers who could bang around their different points of view and reach better conclusions than any one of us could come up with on our own. I needed to create an environment in which everyone had the right and the responsibility to make sense of things for themselves and to fight openly for what they think is best—and where the best thinking won out. I needed a *real* idea meritocracy, not some theoretical version of one. That's because an idea meritocracy—i.e., a system that brings together smart, independent thinkers and has them productively disagree to come up with the best possible collective thinking and resolve their disagreements in a believability-weighted way—will outperform any other decision-making system.

Our idea-meritocratic system evolved over the decades. At first, we just argued like hell with each other about what was best and by thrashing through our disagreements came up with better paths than if we had made our decisions individually. But as Bridgewater grew and our range of disagreements and needs to resolve them changed, we became more explicit in how this idea meritocracy would work. We needed a system that could both effectively weigh the believability of different people to come to the best decisions and do that in a way that was so obviously fair everyone would recognize it as such. I knew that without such a system, we would lose both the best thinking and the best thinkers, and I'd be stuck with either kiss-asses or subversives who kept their disagreements and hidden resentments to themselves.

For this all to work, I believed and still believe that we need to be radically truthful and radically transparent with each other.

## RADICAL TRUTH AND RADICAL TRANSPARENCY

By radical truth, I mean not filtering one's thoughts and one's questions, especially the critical ones. If we don't talk openly about our issues and have paths for working through them, we won't have partners who collectively own our outcomes.

By radical transparency, I mean giving most everyone the ability to see most everything. To give people anything less than total transparency would make them vulnerable to others' spin and deny them the ability to figure things out for themselves. Radical transparency reduces harmful office politics and the risks of bad behavior because bad behavior is more likely to take place behind closed doors than out in the open.

Some people have called this way of operating radical straightforwardness.

I knew that if radical truth and radical transparency didn't apply across the board, we would develop two classes of people at the company—those with power who are in the know, and those who aren't—so I pushed them both to their limits. To me, a pervasive **Idea Meritocracy = Radical Truth + Radical Transparency + Believability-Weighted Decision Making.**

From a small group of people arguing informally about what's true and what to do about it, we developed approaches, technologies, and tools over the last forty years that have taken us to a whole other level, which has been eye-opening and invaluable in ways that you can read about in the tools chapter at the end of this book. We have always been unwavering in providing this environment, and we let the people who didn't like it self-select themselves out of the company.

By being radically truthful and radically transparent, we could see that we all have terribly incomplete and/or distorted perspectives. This isn't unique to Bridgewater—you would recognize the same thing if you could see into the heads of the people around you. As explained in *Understand That People Are Wired Very Differently*, people tend to see the same situations in dramatically different ways, depending on how their brains are wired.

Seeing this will help you evolve. At first most people remain stuck in their own heads, stubbornly clinging to the idea that their views are best and that something is wrong with other people who don't see things their way. But when they repeatedly face the questions "How do you know that you're not the wrong one?" and "What process would you use to draw upon these different perspectives to make the best decisions?" they are forced to confront their own

believability and see things through others' eyes as well as their own. This shift in perspective is what produces great collective decision making. Ideally, this takes place in an "open-source" way, with the best ideas flowing freely, living, dying, and producing rapid evolution based on their merits.

Most people initially find this process very uncomfortable. While most appreciate it intellectually, they typically are challenged by it emotionally because it requires them to separate themselves from their ego's attachment to being right and try to see what they have a hard time seeing. A small minority get it and love it from the start, a slightly larger minority can't stand it and leave the company, and the majority stick with it, get better at it with time, and eventually wouldn't want to operate any other way.

**IDEA MERITOCRACY**

=

**RADICAL TRUTH**

+

**RADICAL  
TRANSPARENCY**

+

**BELIEVABILITY-  
WEIGHTED DECISION  
MAKING**

While operating this way might sound difficult and inefficient, it is actually extremely efficient. In fact, it is much harder and much less efficient to work in an organization in which most people don't know what their colleagues are really thinking. Also, when people can't be totally open, they can't be themselves. As Harvard developmental psychologist Bob Kegan, who has studied Bridgewater, likes to say, in most companies people are doing two jobs: their actual job and the job of managing others' impressions of how they're doing their job. For us, that's terrible. We've found that bringing everything to the surface 1) removes the need to try to look

good and 2) eliminates time required to guess what people are thinking. In doing so, it creates more meaningful work and more meaningful relationships.

Here are the forces behind Bridgewater's self-reinforcing evolutionary spiral:

1. We went from one independent thinker who wanted to achieve audacious goals to a group of independent thinkers who wanted to achieve audacious goals.
2. To enable these independent thinkers to have effective collective decision making, we created an idea meritocracy based on principles that ensured we would be radically honest and transparent with each other, have thoughtful disagreements, and have idea-meritocratic ways of getting past our disagreements to make decisions.
3. We recorded these decision-making principles on paper and later encoded them into computers and made our decisions based on them.
4. This produced our successes and failures, which produced more learnings, which were written into more principles that were systemized and acted upon.
5. This process resulted in excellent work and excellent relationships that led us to having well-rewarded and happy employees and clients.
6. That led us to be able to bring in more audacious independent thinkers with more audacious goals to strengthen this self-reinforcing upward spiral.

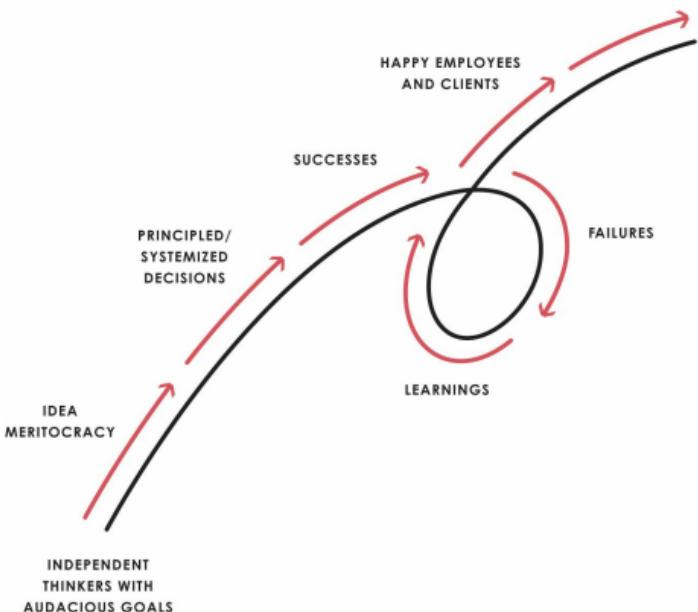
We did that over and over again, which produced the evolutionary looping behind Bridgewater's forty-plus years of success. It's shown in the diagram on the facing page.

This really works! You don't have to take my word for it. There are two ways you can evaluate the likelihood that this approach and the principles that follow from it are as powerful as I believe they are. You can 1) look at the results they produced and 2) look at the logic behind them.

As for the results, like Lombardi's and the Packers', our track record speaks for itself. We consistently got better over forty years, going from my two-bedroom apartment to become the fifth most important private company in the U.S., according to *Fortune*, and the world's largest hedge fund, making more total money for our clients than any other hedge fund in history. We have received over one hundred industry awards and I've earned three lifetime achievement awards—not to mention remarkable financial and psychological rewards, and most importantly, amazing relationships.

But even more important than these results is the underlying cause-effect logic behind these principles, which came before the results. Over forty years ago, this way of being was a controversial, untested theory that nevertheless seemed logical to me. I will explain this logic to you in the pages that follow. That way, you can assess it for yourself.

There's no doubt that our approach is very different. Some people have even described Bridgewater as a cult. The truth is that Bridgewater succeeds because it is the opposite of a cult. The essential difference between a culture of people with shared values (which is a great thing) and a cult (which is a terrible thing) is the extent to which there is independent thinking. Cults demand unquestioning obedience. Thinking for yourself and challenging each other's ideas is anti-cult behavior, and that is the essence of what we do at Bridgewater.



## WHO'S CRAZY?

Some people say that our approach is crazy, but think about it: Which approach do you think is crazy and which one is sensible?

- One where people are truthful and transparent, or one in which most people keep their real thoughts hidden?
- One where problems, mistakes, weaknesses, and disagreements are brought to the surface and thoughtfully discussed, or one in which they are not forthrightly brought to the surface and discussed?
- One in which the right to criticize is nonhierarchical, or one in which it primarily comes from the top down?
- One in which objective pictures of what people are like are derived through lots of data and broad triangulations of people, or one in which evaluations of people are more arbitrary?
- One in which the organization pursues very high standards for achieving both meaningful work and meaningful relationships, or one in which work quality and relationship quality are not equally valued and/or the standards aren't as high?

Which kind of organization do you think will enable better development for the people who work there, foster deeper relationships between them, and produce better results? Which approach would you prefer to see the leaders and organizations that you deal with follow? Which way of being would you prefer the people who run our government to follow?

My bet is that after reading this book, you will agree that our way of operating is far more sensible than conventional ways of operating. But remember that my most fundamental principle is that you have to think for yourself.

## WHY I WROTE THIS BOOK AND HOW YOU CAN GET THE MOST OUT OF IT

If you are inside Bridgewater, I am passing these principles on in my own words so that you can see the dream and the approach through my eyes. Bridgewater will evolve from where it is now based on what you and others in the next generation of leadership want and how you go about getting it. This book is intended to help you. How you use it is up to you. Whether or not this culture continues is up to you and those who succeed me in the leadership role. It is my responsibility to not be attached to Bridgewater being the way *I* would want it to be. It is most important that you and others who succeed me make your own independent choices. Like a parent with adult children, I want you all to be strong, independent thinkers who will do well without me. I have done my best to bring you to this point; now is the time for you to step up and for me to fade away.

If you are outside Bridgewater and thinking about how these principles might apply to your organization, this book is meant to prompt your thinking, not to give you an exact formula to follow. You don't have to adopt all or any of these principles, though I do recommend that you consider them all. Many people who run other organizations have adopted some of these principles, modified others, and rejected many. Whatever you want to do with them is fine with me. These principles provide a framework you can modify to suit your needs. Maybe you will pursue the same goal and maybe you won't; chances are that, in either case, you will collect some valuable stuff. If you share my goal of having your organization be a real idea meritocracy, I believe this book will be invaluable for you because I'm told that no organization has thought through or pushed the concepts of how to make a real idea meritocracy as far as Bridgewater. If doing that is important to you and you pursue it with unwavering determination you will encounter your own barriers, you will find your own ways around them, and you will get there, even if imperfectly.

While these principles are good general rules, it's important to remember that every rule has exceptions and that no set of rules can ever substitute for common sense. Think of these principles as being like a GPS. A GPS helps you get where you're going, but if you follow it blindly off a bridge—well, that would be your fault, not the GPS's. And just as a GPS that gives bad directions can be fixed by updating its software, it's important to raise and discuss exceptions to the principles as they occur so they can evolve and improve over time.

No matter what path you choose to follow, your organization is a machine made up of culture and people that will interact to produce outcomes, and those outcomes will provide feedback

about how well your organization is working. Learning from this feedback should lead you to modify the culture and the people so your organizational machine improves.

This dynamic is so important that I've organized Work Principles around it in three sections: To Get the Culture Right, To Get the People Right, and To Build and Evolve Your Machine. Each chapter within these sections begins with a higher-level principle. Reading these will give you a good sense of the main concepts in each chapter.

Under these higher-level principles there are a number of supporting principles built around the many different types of decisions that need to be made. These principles are meant for reference. Though you might want to skim through them, I recommend using them as one would use an encyclopedia or search engine to answer a specific question. For example, if you have to fire (or transfer) someone, you should use the Table of Principles and go to the section of principles about that. To make this easier, at Bridgewater we created a tool called the "Coach" that allows people to type in their particular issue and find the appropriate principles to help them with it.<sup>37</sup> I will soon be making that available to the public, along with many of the other management tools you'll read about in the final section of the book.

My main objective is not to sell you on these principles but to share the most valuable lessons I've learned over my more than forty-year journey. My goal is to get you to think hard about the tough tradeoffs that you will face in many types of situations. By thinking about the tradeoffs behind the principles, you will be able to decide for yourself which principles are best for you.

This brings me to my most fundamental work principle:

- **Make your passion and your work one and the same and do it with people you want to be with.**

Work is either 1) a job you do to earn the money to pay for the life you want to have or 2) what you do to achieve your mission, or some mix of the two. I urge you to make it as much 2) as possible, recognizing the value of 1). If you do that, most everything will go better than if you don't.

Work Principles is written for those for whom work is primarily the game that you play to follow your passion and achieve your mission.

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<sup>36</sup> We applied these ways of operating to the businesses of investing and managing. In the process of investing I developed a practical understanding of what makes businesses and economies succeed, and in the process of managing my company I had to develop a practical understanding of how to manage businesses well. And I liked that my understanding of these subjects could be objectively measured via our investment performance as well as our business performance.

<sup>37</sup> Because *Principles* is an evolving document, with new principles being added and old ones getting refined all the time, they will be changed. You will be able to find them in my forthcoming *Principles* app, which you can learn about at [www.principles.com](http://www.principles.com).

**TO GET THE CULTURE RIGHT . . .**

You have to work in a culture that suits you. That's fundamental to your happiness and your effectiveness. You also must work in a culture that is effective in producing great outcomes, because if you don't, you won't get the psychic and material rewards that keep you motivated. In this section on culture I will share my thoughts on how to match your culture to your needs, and I will explain the type of culture that I wanted and that has worked so well for me: an idea meritocracy.

In Chapter One, I explain what an idea meritocracy looks like, and explore why radical truth and radical transparency are essential for it to work well. Being radically truthful and radically transparent are probably the most difficult principles to internalize, because they are so different from what most people are used to. Because this way of being is frequently misunderstood, I tried especially hard to be crystal clear in conveying why we operate this way and how it works in practice.

In Chapter Two, we will turn our attention to why and how to build a culture that fosters meaningful relationships. Besides being rewarding themselves, meaningful relationships enable the radical truth and transparency that allow us to hold each other accountable for producing excellence.

I believe that great cultures, like great people, recognize that making mistakes is part of the process of learning, and that continuous learning is what allows an organization to evolve successfully over time. In Chapter Three, we will explore the principles for doing that well.

Of course, an idea meritocracy is based on the belief that pulling people's thinking together and stress-testing it produces better outcomes than when people keep their disparate thoughts in their own heads. Chapter Four contains principles for "getting in sync" well. Knowing how to have thoughtful disagreements is key.

Idea meritocracies carefully weigh the merits of its members' opinions. Since many opinions are bad and virtually everyone is confident that theirs are good, the process of being able to sort through them well is important to understand. Chapter Five explains our system for believability-weighted decision making.

Since disagreements sometimes remain even after decisions are made, one also needs principles for resolving them that are clearly communicated, consistently adhered to, and universally recognized as fair. I go over these in Chapter Six.

## **MAKE YOUR IDEA MERITOCRACY WORK IN A WAY THAT SUITS YOU**

While all of what you read here may seem challenging and complicated in practice, if you believe as I do that there is no better way to make decisions than to have believable people open-mindedly and assertively surface, explore, and resolve their differences, then you will figure out what it takes to operate that way. If an idea meritocracy doesn't work well, the fault doesn't lie in the concept; it lies in people not valuing it enough to make sure that it works.

If you take nothing else away from this book, you owe it to yourself to see what it's like to experience an idea meritocracy. If it makes sense to you, I hope you will take the plunge. It won't

take long for you to understand what a radical difference it will make to your work and your relationships.

### **To have an Idea Meritocracy:**

- 1) Put your honest thoughts on  
the table**
- 2) Have thoughtful  
disagreement**
- 3) Abide by agreed-upon ways  
of getting past disagreement**

# **1 Trust in Radical Truth and Radical Transparency**

Understanding what is true is essential for success, and being radically transparent about everything, including mistakes and weaknesses, helps create the understanding that leads to improvements. That's not just a theory; we have put this into practice at Bridgewater for over forty years, so we know how it works. But like most things in life, being radically truthful and transparent has cons as well as pros, which I will describe as accurately as possible in this chapter.

Being radically truthful and transparent with your colleagues and expecting your colleagues to be the same with you ensures that important issues are apparent instead of hidden. It also enforces good behavior and good thinking, because when you have to explain yourself, everyone can openly assess the merits of your logic. If you are handling things well, radical transparency will make that clear, and if you are handling things badly, radical transparency will make that clear as well, so it helps to maintain high standards.

Radical truth and radical transparency are fundamental to having a real idea meritocracy. The more people can see what is happening—the good, the bad, and the ugly—the more effective they are at deciding the appropriate ways of handling things. This approach is also invaluable for training: Learning is compounded and accelerated when everyone has the opportunity to hear what everyone else is thinking. As a leader, you will get the feedback essential for your learning and for the continual improvement of the organization's decision-making rules. And seeing firsthand what's happening and why builds trust and allows people to make the independent assessments of the evidence that a functioning idea meritocracy requires.

## **ADAPTING TO RADICAL TRUTH AND RADICAL TRANSPARENCY**

It takes getting used to. Virtually everyone who joins Bridgewater believes intellectually that radical truth and radical transparency are what they want, because, after careful thought, that's what they signed up for. Yet most find it difficult to adjust to it because they struggle with the "two yous" as explained in *Understand That People Are Wired Very Differently*. While their "upper-level yous" understand the benefits of it, their "lower-level yous" tend to react with a flight-or-fight response. Adapting typically takes about eighteen months, though it varies from individual to individual, and there are those who never successfully adapt to it.

Some people tell me it's inconsistent with human nature to operate this way—that people need to be protected from harsh truths and that such a system could never work in practice. Our experience—and our success—have proven that wrong. While it's true that our way of being is not what most people are used to, that doesn't make it unnatural, any more than the hard physical exercise athletes and soldiers do is unnatural. It is a fundamental law of nature that you get

stronger only by doing difficult things. While our idea meritocracy is not for everyone, for those who do adapt to it—which is about two-thirds of those who try it—it is so liberating and effective that it's hard for them to imagine any other way to be. What most people like best is knowing there is no spin.

## RADICAL TRUTH AND TRANSPARENCY IN PRACTICE

To give you an idea of what radical truth and transparency look like, I'll share a difficult situation we faced a few years ago when our Management Committee began thinking about reorganizing our back office. Our back office provides the services we need to support our trading in the markets, including trade confirmations, settlements, record maintenance, and accounting. We had built this team up over many years and it was full of hardworking, close-knit employees who were part of our extended family. But at the time we were seeing a need for new capacities that would stretch us beyond what we could do in-house. This led our COO, Eileen Murray, to devise an innovative strategy for spinning off this team and having them incorporated into a tailor-made group within the Bank of New York/Mellon. It was just an exploratory conversation at first; we had no idea whether we would pursue it, how we would pursue it, or what that would ultimately mean for the members of our back office team.

Put yourself in the shoes of the Management Committee. When would you tell the back office team that you were thinking of spinning off their group into another company? Would you wait until the picture was clear? In most organizations this kind of strategic decision would typically be kept under wraps until it was a done deal, because bosses generally think it's bad to create uncertainty among employees. We believe the opposite: that the only responsible way to operate is truthfully and transparently, so that people know what's really going on and can help us sort through any issues that arise. In this case, Eileen led a town-hall meeting with the back office team right away. In the way typical of leaders at Bridgewater, she explained that there was a lot she didn't know and there were a lot of questions that she wouldn't be able to answer. This was the harsh reality at that moment, and while it did create uncertainty, had she followed the more traditional approach of being less open, the inevitable rumors and speculation would've made things much worse.

Though the group ultimately did get spun off, we continue to have wonderful relationships with the people in it. Not only did they cooperate fully throughout the transition, they still come to our Christmas and Fourth of July parties and remain a part of our extended family. Today, we have an award-winning back office because of the innovative things this change allowed us to do. Most importantly, since we were operating openly even while we hadn't figured things out, the back office team had their confidence in our truthfulness and consideration for them reinforced, and they returned it in kind.

For me, not telling people what's really going on so as to protect them from the worries of life is like letting your kids grow into adulthood believing in the Tooth Fairy or Santa Claus. While concealing the truth might make people happier in the short run, it won't make them smarter or more trusting in the long run. It's a real asset that people know they can trust what we say. For that reason I believe that it's almost always better to shoot straight, even when you don't have all the

answers or when there's bad news to convey. As Winston Churchill said, "There is no worse course in leadership than to hold out false hopes soon to be swept away." People need to face harsh and uncertain realities if they are going to learn how to deal with them—and you'll learn a lot about the people around you by seeing how well they do.

## **1.1 Realize that you have nothing to fear from knowing the truth.**

If you're like most people, the idea of facing the unvarnished truth makes you anxious. To get over that, you need to understand intellectually why untruths are scarier than truths and then, through practice, get accustomed to living with them.

If you're sick, it's natural to fear your doctor's diagnosis—what if it's cancer or some other deadly disease? As scary as the truth may turn out to be, you will be better off knowing it in the long run because it will allow you to seek the most appropriate treatment. The same holds for learning painful truths about your own strengths and weaknesses. Knowing and acting on the truth is what we call the "big deal" at Bridgewater. It's important not to get hung up on all those emotion- and ego-laden "little deals" that can distract you from the overall mission.

## **1.2 Have integrity and demand it from others.**

Integrity comes from the Latin word *integritas*, meaning "one" or "whole." People who are one way on the inside and another way on the outside—i.e., not "whole"—lack integrity; they have "duality" instead. While presenting your view as something other than it is can sometimes be easier in the moment (because you can avoid conflict, or embarrassment, or achieve some other short-term goal), the second- and third-order effects of having integrity and avoiding duality are immense. People who are one way on the inside and another on the outside become conflicted and often lose touch with their own values. It's difficult for them to be happy and almost impossible for them to be their best.

Aligning what you say with what you think and what you think with what you feel will make you much happier and much more successful. Thinking solely about what's accurate instead of how it is perceived pushes you to focus on the most important things. It helps you sort through people and places because you'll be drawn to people and places that are open and honest. It's also fairer to those around you: Making judgments about people so that they are tried and sentenced in your head, without asking for their perspective, is both unethical and unproductive. Having nothing to hide relieves stress and builds trust.

**a. Never say anything about someone that you wouldn't say to them directly and don't try people without accusing them to their faces.** Criticism is welcomed and encouraged at Bridgewater, but there is never a good reason to bad-mouth people behind their backs. It is counterproductive and shows a serious lack of integrity, it doesn't yield any beneficial change, and it subverts both the person being badmouthed and the environment as a whole. Next to being dishonest, it is the worst thing you can do in our community.

Managers should not talk about people who work for them if they are not in the room. If someone is not present at a meeting where something relevant to them is discussed, we always make sure to send them a recording of the meeting and other relevant information.

**b. Don't let loyalty to people stand in the way of truth and the well-being of the organization.** In some companies, employees hide their employer's mistakes, and employers do the same in return. This is unhealthy and stands in the way of improvement because it prevents people from bringing their mistakes and weaknesses to the surface, encourages deception, and eliminates subordinates' right of appeal.

The same thing applies to the idea of personal loyalty. I have regularly seen people kept in jobs that they don't deserve because of their personal relationship to the boss, and this leads to unscrupulous managers trading on personal loyalties to build fiefdoms for themselves. Judging one person by a different set of rules than another is an insidious form of corruption that undermines the meritocracy.

I believe in a healthier form of loyalty founded on openly exploring what is true. Explicit, principled thinking and radical transparency are the best antidotes for self-dealing. When everyone is held to the same principles and decision making is done publicly, it is difficult for people to pursue their own interests at the expense of the organization's. In such an environment, those who face their challenges have the most admirable character; when mistakes and weaknesses are hidden, unhealthy character is rewarded instead.

### **1.3 Create an environment in which everyone has the right to understand what makes sense and no one has the right to hold a critical opinion without speaking up.**

Whether people have the independence and character to fight for the best answers will depend upon their nature, but you can encourage them by creating an atmosphere in which everyone's first thought is to ask "Is it true?"

**a. Speak up, own it, or get out.** In an idea meritocracy, openness is a responsibility; you not only have the privilege to speak up and "fight for right" but are obliged to do so. This extends especially to principles. Just like everything else, principles need to be questioned and debated. What you're not allowed to do is complain and criticize privately—either to others or in your own head. If you can't fulfill this obligation, then you must go.

Of course open-mindedly exploring what's true with others is not the same thing as stubbornly insisting that only you are right, even after the decision-making machine has settled an issue and moved on. There will inevitably be cases where you must abide by some policy or decision that you disagree with.

**b. Be extremely open.** Discuss your issues until you are in sync with each other or until you understand each other's positions and can determine what should be done. As someone I worked with once explained, "It's simple—just don't filter."

**c. Don't be naive about dishonesty.** People lie more than most people imagine. I learned that by being in the position of being responsible for everyone in the company. While we have an exceptionally ethical group of people, in all organizations there are dishonest people who have to be dealt with in practical ways. For example, don't believe most people who are caught being dishonest when they say that they've seen the light and will never do it again because chances are they will. Dishonest people are dangerous, so keeping them around isn't smart.

At the same time, let's be practical. If I tried to limit my relationships to people who never lied, I'd have nobody to work with. While I have extremely high standards when it comes to integrity, I don't view it in a black-and-white, one-strike-and-you're-out way. I look at the severity, the circumstances, and the patterns to try to understand whether I am dealing with a person who is a habitual liar and will lie to me again, or with a person who is fundamentally honest yet imperfect. I consider the significance of the dishonesty itself (Was the person stealing a piece of cake or were they committing a felony?) as well as the nature of our existing relationship (Is it my spouse telling the lie, a casual acquaintance, or an employee?). Treating such cases differently is appropriate because a basic law of justice is that the punishment should fit the crime.

## 1.4 Be radically transparent.

If you agree that a real idea meritocracy is an extremely powerful thing, it should not be a great leap for you to see that giving people the right to see things for themselves is better than forcing them to rely on information processed for them by others. Radical transparency forces issues to the surface—most importantly (and most uncomfortably) the problems that people are dealing with and how they're dealing with them—and it allows the organization to draw on the talents and insights of all its members to solve them. Eventually, for people who get used to it, living in a culture of radical transparency is more comfortable than living in the fog of not knowing what's going on and not knowing what people really think. And it is incredibly effective. But, to be clear, like most great things it also has drawbacks. Its biggest drawback is that it is initially very difficult for most people to deal with uncomfortable realities. If unmanaged, it can lead to people getting involved with more things than they should, and can lead people who aren't able to weigh all the information to draw the wrong conclusions.

For example, bringing all an organization's problems to the surface and regarding every one of them as intolerable may lead some people to wrongly conclude that their organization has more intolerable problems than another organization that keeps its issues under wraps. Yet which organization is more likely to achieve excellence? One that highlights its problems and considers them intolerable or one that doesn't?

Don't get me wrong: Radical transparency isn't the same as total transparency. It just means much more transparency than is typical. We do keep some things confidential, such as private health matters or deeply personal problems, sensitive details about intellectual property or security issues, the timing of a major trade, and at least for the short term, matters that are likely to be distorted, sensationalized, and harmfully misunderstood if leaked to the press. In the following principles, you will get a good explanation of when and why we've found it helpful to be transparent and when and why we've found it inappropriate.

Frankly, when I started off being so radically transparent, I had no idea how it would go; I just knew that it was extremely important and that I had to fight hard and find ways to make it happen. I pushed the limits and was surprised by how well it worked. For example, when I started taping all our meetings our lawyers told us we were crazy because we were creating evidence that could be used against us in court or by regulators such as the SEC. In response, I theorized that radical transparency would reduce the risk of our doing anything wrong—and of not dealing appropriately with our mistakes—and that the tapes would in fact protect us. If we were handling things well, our transparency would make that clear (provided, of course, that all parties are reasonable, which isn't something you can always take for granted), and if we were handling things badly, our transparency would ensure that we would get what we deserve, which, in the long run, would be good for us.

I didn't know for sure at the time, but our experience has proven this theory correct time and again. Bridgewater has had uncommonly few legal or regulatory encounters, largely because of our radical transparency. That's because it's tougher to do bad things and easier to find out what's true and resolve claims through radical transparency. Over the last several decades, we have not had a single material legal or regulatory judgment against us.

Naturally, growing bigger and more successful attracts more media attention, and reporters know that salacious and controversial stories draw more eyeballs than balanced ones. Bridgewater is especially vulnerable to this kind of reporting because, with our culture of bringing problems to the surface and sharing them transparently within the company, we leave ourselves open to leaks. Would it be better not to be transparent and so avoid such problems?

I've learned that the people whose opinions matter most are those who know us best—our clients and our employees—and that our radical transparency serves us well with them. Not only has it led to our producing better results, but it also builds trust with our employees and clients so that mischaracterizations in the press roll off their backs. When we discuss such situations with them, they say that for us to not operate transparently would scare them much more.

Having this sort of understanding and support to do the right things has been immeasurably valuable. But we wouldn't have known about these great payoffs if we hadn't so steadfastly pushed the limits of this truth and transparency.

**a. Use transparency to help enforce justice.** When everyone can follow the discussion leading up to a decision—either in real time in person or via taped records and email threads—justice is more likely to prevail. Everyone is held accountable for their thinking and anyone can weigh in on who should do what according to shared principles. Absent such a transparent process, decisions would be settled behind closed doors by those who have the power to do whatever they want. With transparency, everyone is held to the same high standards.

**b. Share the things that are hardest to share.** While it might be tempting to limit transparency to the things that can't hurt you, it is especially important to share the things that are most difficult to share, because if you don't share them you will lose the trust and partnership of the people you are not sharing with. So, when faced with the decision to share the hardest things, the question should not be whether to share but how. The following principles will help you do this well.

**c. Keep exceptions to radical transparency very rare.** While I would like virtually total transparency and wish that everyone would handle the information they have access to responsibly to work out what's true and what to do about it, I realize that's an ideal to be approached but never fully achieved. There are exceptions to every rule, and in very rare cases, it is better not to be radically transparent. In those unusual cases, you will need to figure out a way that preserves the culture of radical transparency without exposing you and those you care about to undue risks.

When weighing an exception, approach it as an expected value calculation, taking into consideration the second- and third-order consequences. Ask yourself whether the costs of making the case transparent and managing the risks of that transparency outweigh the benefits. In the vast majority of cases, they don't. I've found that the most common reasons to limit broad transparency are:

1. Where the information is of a private, personal, or confidential nature and doesn't meaningfully impact the community at large.
2. Where sharing and managing such information puts the long-term interests of the Bridgewater community, its clients, and our ability to uphold our principles at risk (for instance, our proprietary investment logic or a legal dispute).
3. Where the value of sharing the information broadly with the community is very low and the distraction it would cause would be significant (compensation, for instance).

What I'm saying is that I believe one should push the limits of being transparent while remaining prudent. Because we tape virtually everything—including our mistakes and weaknesses—for everyone to see, we are a target-rich environment for media that thrives on sensationalistic or critical gossip and can find ways of having information leaked to them. In one case when we faced the problem of having information leaked to the press that was intentionally distorted and hurt our recruiting efforts, we were forced to institute some controls on ultrasensitive information, so that only a significant number of ultratrustworthy people received it in real time, and it was distributed to others after a delay. The information was the sort that, in a typical company, would be shared with just a handful but at Bridgewater was shared with nearly a hundred trusted people. In other words, while our radical transparency in that case wasn't total, I pushed its limits in a practical way. It served us well because the people who most needed the transparency got it right away and most everyone understood that the commitment to being transparent remained very much intact, even in challenging circumstances. People know that my intent is to always push the limits of trying to be transparent and that the only things that would prevent me from doing that will be the interests of the company and that I will tell them if I can't be transparent and why. It is in our culture to be that way and that fosters trust, even when the transparency is less than we would like it to be.

**d. Make sure those who are given radical transparency recognize their responsibilities to handle it well and to weigh things intelligently.**

People cannot be given the privilege of receiving information and then use the information to harm the company, so rules and procedures must be in place to ensure that doesn't happen. For

example, we provide great transparency inside Bridgewater on the condition that Bridgewater citizens do not leak it outside; if they do, they will be dismissed for cause (for unethical behavior). Additionally, the rules for how issues are explored and decisions are made must be maintained, and because different people have different perspectives, it's important that the paths for resolving them are followed. For example, some people are going to make big deals out of little deals, come up with their own wrong theories, or have problems seeing how things are evolving. Remind them of the risks that the company takes to give them that transparency and their responsibilities to handle the information that they get responsibly. I have found that people appreciating this transparency and knowing that they will lose it if it is not handled well leads them to enforce good behavior with each other.

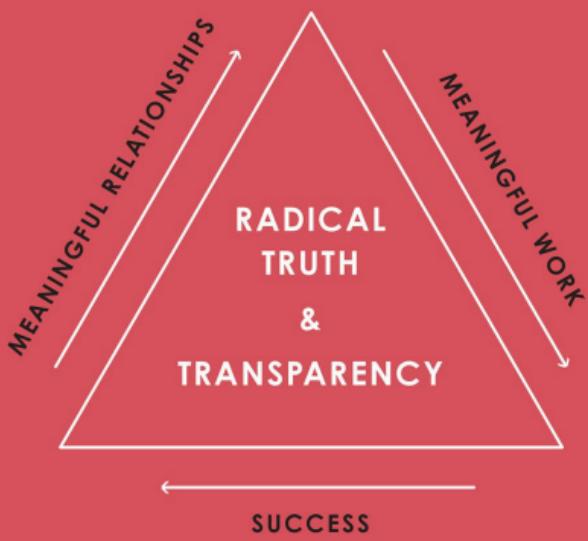
**e. Provide transparency to people who handle it well and either deny it to people who don't handle it well or remove those people from the organization.** It is the right and responsibility of management, and not the right of all employees, to determine when exceptions to radical transparency should be made. Management should restrict transparency sparingly and wisely because every time they do, it undermines the idea meritocracy and people's trust.

**f. Don't share sensitive information with the organization's enemies.**

Both inside and outside of any organization, there are some people who will intentionally cause the organization harm. If these enemies are within your organization, you need to call them out to resolve this conflict through the organization's system for achieving such resolutions, because working with enemies within your "extended family" will undermine you and the "family." If the enemies are outside your organization and will use the information to harm you, of course don't share it.

## **1.5 Meaningful relationships and meaningful work are mutually reinforcing, especially when supported by radical truth and radical transparency.**

The most meaningful relationships are achieved when you and others can speak openly to each other about everything that's important, learn together, and understand the need to hold each other accountable to be as excellent as you can be. When you have such relationships with those you work with, you pull each other through challenging times; at the same time, sharing challenging work draws you closer and strengthens your relationships. This self-reinforcing cycle creates the success that allows you to pursue more and more ambitious goals.





## **2 Cultivate Meaningful Work and Meaningful Relationships**

Meaningful relationships are invaluable for building and sustaining a culture of excellence, because they create the trust and support that people need to push each other to do great things. If the overwhelming majority of people care about having an excellent community, they will take care of it, which will yield both better work and better relationships. Relationships have to be genuine, not forced; at the same time, the culture of the community will have a big influence on how people value relationships and how they behave with each other. To me, a meaningful relationship is one in which people care enough about each other to be there whenever someone needs support and they enjoy each other's company so much that they can have great times together both inside and outside of work. I literally love many of the people I work with, and I respect them deeply.

I have often been asked whether relationships at Bridgewater are more like those of a family or those of a team, the implication being that in a family there is unconditional love and a permanent relationship, while in a team the attachment is only as strong as the person's contribution. Before answering this question, I want to emphasize that either is good by me, because both families and teams provide meaningful relationships and that neither is anything like a typical job at a typical company, where the relationships are primarily utilitarian. But to answer the question directly, I wanted Bridgewater to be like a family business in which family members have to perform excellently or be cut. If I had a family business and a family member wasn't performing well, I would want to let them go because I believe that it isn't good for either the family member (because staying in a job they're not suited to stands in the way of their personal evolution) or the company (because it holds back the whole community). That's tough love.

To give you an idea of how Bridgewater's culture developed and how it's different from what you'd find at most companies, I will tell you about how we handled benefits in our early days. When the company was just me and a small group of people, I didn't provide employees with health insurance; I assumed that they would buy it on their own. But I did want to help the people I shared my life with during their times of need. If someone I worked with got seriously sick and couldn't afford proper care, what was I going to do, stand by and not help them? Of course I'd help them financially, to whatever extent I could. So when I did begin providing health insurance to my employees, I felt that I was insuring myself against the money I knew I'd give them if they were injured or fell ill as much as I was insuring them.

Because I wanted to make certain that they received the best care possible, the policies I provided allowed them to go to any doctor they chose and spend whatever amount was required. On the other hand, I didn't protect them against the little things. For example, I didn't provide dental insurance any more than I provided car insurance, because I felt that it was their own responsibility to protect their teeth, just as it was their own responsibility to take care of their car.

If they needed dental insurance, they could pay for it out of their own pocket. My main point is that I didn't approach benefits in the impersonal, transactional way most companies do, but more like something I provided for my family. I was more than generous with some things and expected people to take personal responsibility for others.

When I treated my employees like extended family, I found that they typically behaved the same way with each other and our community as a whole, which was much more special than having a strictly quid pro quo relationship. I can't tell you how many people would do anything in their power to help our community/company and wouldn't want to work anywhere else. This is invaluable.

As Bridgewater grew, my ability to have quality personal contact with everyone faded, but this wasn't a problem because the broader community embraced this way of being with each other. This didn't just happen; we did a lot to help it along. For example, we put into place a policy that we would pay for half of practically any activities that people want to do together up to a set cap (we now support more than a hundred clubs and athletic and common-interest groups); we paid for food and drink for those who hosted potluck dinners at their houses; and we bought a house that employees can use for events and celebrations. We have Christmas, Halloween, Fourth of July, and other parties that often include family members. Eventually, others who valued this kind of relationship took responsibility for it and it spread to become a cultural norm so that I could just sit back and watch beauty happen.

What about the person who doesn't give a damn about all of this meaningful relationship stuff, who just wants to go into work, do a good job, and receive fair compensation? Is that okay? Sure it is, and it's common for a significant percentage of employees. Not everyone feels the same or is expected to feel the same about the community. It's totally okay to opt out. We have all sorts of people and respect whatever they want to do on their own time, as long as they abide by the law and are considerate. But these are not the folks who will provide the community with the skeletal strength of commitment that is essential for it to be extraordinary over very long periods of time.

No matter how much one tries to create a culture of meaningful relationships, the organization is bound to have some bad (intentionally harmful) people in it. Being there isn't good for them or the company so it's best to find out who they are and remove them. We have found that the higher the percentage of people who really care about the organization, the fewer the number of bad people there are, because the people who really care protect the community against them. We have also found that our radical transparency helps make it clearer which are which.

## **2.1 Be loyal to the common mission and not to anyone who is not operating consistently with it.**

Loyalty to specific people who are not in tight sync with the mission and how to achieve it will create factionalism and undermine the well-being of the community. It is often the case, and quite beautiful, that personal loyalties exist. However, it is also often the case, and quite ugly, when personal loyalties come into conflict with the organization's interests.

## **2.2 Be crystal clear on what the deal is.**

To have a good relationship, you must be clear with each other about what the quid pro quo is—what is generous, what is fair, and what is just plain taking advantage—and how you will be with each other.

One important thing that typically divides people is how they approach their work. Are they working just for their paycheck or are they looking for something more? Each of us has our own views about what is most important. I've made a lot of money through my work, but I see my job as much more than as a way to make money—it's how I choose to live out my values around excellence, meaningful work, and meaningful relationships. If the people I worked with were primarily interested in making money, we would have conflicts whenever we had to choose between upholding our values and making an easy buck. Don't get me wrong—of course I understand that people don't work for personal satisfaction alone, and that a job must be economically viable. But we all have definite ideas about what we value and what we want our relationships to be like, and employers and employees have to be in sync on such things.

Naturally there will be disagreement and negotiation, but some things cannot be compromised and you and your employees must know what those things are. This is especially true if you're seeking to create an environment that has shared values, a deep commitment to the mission, and high standards of behavior.

At Bridgewater, we expect people to behave in a manner that is consistent with how people in high-quality, long-term relationships behave—that is, with a high level of mutual consideration for each other's interests and a clear understanding of who is responsible for what. On the surface, that sounds nice and straightforward, but what exactly does that mean? It is important to be clear.

Take for example a case in which an employee's family member is diagnosed with a severe illness, or an employee dies tragically, leaving his or her family in a precarious situation. These things happen far more often than any of us would like them to, and there are of course customs and laws that define the basic accommodations and benefits (such as personal vacation days, short- and long-term disability insurance, and life insurance) that are required. But how do you determine what kinds of assistance should be provided beyond that? What are the principles for deciding how to handle each specific situation fairly—which may not always mean doing the same thing in every case?

None of this is easy, but the following principles provide some guidance.

**a. Make sure people give more consideration to others than they demand for themselves.** This is a requirement.

Being considerate means allowing other people to mostly do what they want, so long as it is consistent with our principles, policies, and the law. It also means being willing to put others ahead of your own desires. If the people on both sides of an argument approach their disagreements in this way, we will have many fewer disputes about who is offending whom.

Still, judgments will have to be made and lines will have to be drawn and set down in policies.

This is the overarching guideline: It is more inconsiderate to prevent people from exercising their rights because you are offended by them than it is for them to do whatever it is that offends

you. That said, it is inconsiderate not to weigh the impact of one's actions on others, so we expect people to use sensible judgment in not doing obviously offensive things. There are some behaviors that are clearly offensive to many people, and it is appropriate to specify and prohibit them in clear policies. The list of those specifics, and the policies pertaining to them, arise from specific cases. Applying this principle to them is done in much the same way that case law is created.

**b. Make sure that people understand the difference between fairness and generosity.**

Sometimes people mistake generosity for not being fair. For example, when Bridgewater arranged for a bus to shuttle people who live in New York City to our Connecticut office, one employee asked, "It seems it would be fair to also compensate those of us who spend hundreds of dollars on gas each month, particularly in light of the New York City bus." This line of thinking mistakes an act of generosity for some form of entitlement for everyone.

Fairness and generosity are different things. If you bought two birthday gifts for two of your closest friends, and one cost more than the other, what would you say if the friend who got the cheaper gift accused you of being unfair? Probably something like, "I didn't have to get you any gift, so stop complaining." At Bridgewater, we are generous with people (and I am personally generous), but we feel no obligation to be measured and equal in our generosity.

Generosity is good and entitlement is bad, and they can easily be confused, so be crystal clear on which is which. Decisions should be based on what you believe is warranted in a particular circumstance and what will be most appreciated. If you want to have a community of people who have both high-quality, long-term relationships and a high sense of personal responsibility, you can't allow a sense of entitlement to creep in.

**c. Know where the line is and be on the far side of fair.** The line is what's fair, appropriate, or required, as distinct from what's generous, in light of the defined quid pro quo relationship between parties. As mentioned earlier, you should expect people to behave in a manner consistent with how people in high-quality, long-term relationships behave—with a high level of mutual consideration for each other's interests and a clear understanding of who is responsible for what. Each should operate on the far side of fair, by which I mean giving more consideration to others than you demand for yourself. This is different from how people in most commercial relationships generally behave, as they tend to focus more on their own interests than on the interests of others or of the community as a whole. If each party says "You deserve more," "No, you deserve more," rather than "I deserve more," you are more likely to have generous, good relationships.

**d. Pay for work** While it isn't all about the quid pro quo between the company and the employee, this balance must be economically viable for the relationships to be sustainable. Set policies that clearly define this quid pro quo, and be measured, but not excessively precise, when shifting it around. While you should by and large stick to the arrangement, you should also recognize that there are rare, special times when employees will need a bit of extra time off and there are times that the company will require employees to give it extra hours. The company should pay for above-normal work one way or another, and employees should be docked for below-normal

work. The give-and-take should roughly equal out over time. Within reasonable boundaries, nobody should worry about the exact ebbs and flows. But if the needs of one side change on a sustained basis, the financial arrangement will need to be readjusted to establish a new, appropriate relationship.

### **2.3 Recognize that the size of the organization can pose a threat to meaningful relationships.**

When there were just a few of us, we had meaningful relationships because we knew and liked each other. When we grew to between fifty and a hundred people, we had a community; when we grew beyond that, the sense of community began to slip because we didn't all know each other in the same way. That's when I realized that having groups (departments) of around a hundred (give or take about fifty) that are bound collectively by our common mission was the best way to scale the meaningful relationship. While bigger companies tend to be more impersonal, that is just another challenge that has to be figured out.

### **2.4 Remember that most people will pretend to operate in your interest while operating in their own.**

For example, most people will operate in a way that maximizes the amount of money they will get and minimizes the amount of work they have to do to get it.

To see this, just leave someone unsupervised and allow them to bill you for what they have done. Be especially wary of this conflict of interest when people are advising you on matters that will affect how much money they earn—such as the lawyer who spends a lot of billable hours giving you advice, or the salesperson who advises you on what to purchase while receiving a commission on the amount that you spend. You can't imagine how many people I meet who are eager to "help" me.

Don't be naive. Strive for the highest possible percentage of your population having meaningful work and meaningful relationships while recognizing that there will always be some percentage of the population who won't care for the community and/or will do it harm.

### **2.5 Treasure honorable people who are capable and will treat you well even when you're not looking.**

They are rare. Such relationships take time to build and can only be built if you treat such people well.

### **3 Create a Culture in Which It Is Okay to Make Mistakes and Unacceptable Not to Learn from Them**

Every one makes mistakes. The main difference is that successful people learn from them and unsuccessful people don't. By creating an environment in which it is okay to safely make mistakes so that people can learn from them, you'll see rapid progress and fewer significant mistakes. This is especially true in organizations where creativity and independent thinking are important, as success will inevitably require the acceptance of failure as a part of the process. As Thomas Edison once said, "I have not failed. I've just found ten thousand ways that do not work."

Mistakes will cause you pain, but you shouldn't try to shield yourself or others from it. Pain is a message that something is wrong and it's an effective teacher that one shouldn't do that wrong thing again. To deal with your own and others' weaknesses well you must acknowledge them frankly and openly and work to find ways of preventing them from hurting you in the future. It's at this point that many people say, "No thanks, this isn't for me—I'd rather not have to deal with these things." But this is against your and your organization's best interests—and will keep you from achieving your goals. It seems to me that if you look back on yourself a year ago and aren't shocked by how stupid you were, you haven't learned much. Still, few people go out of their way to embrace their mistakes. It doesn't have to be that way.

Remember back in *Life Principles*, when I told the story about the time that Ross, then our head of trading, forgot to put in a trade for a client? The money just sat there in cash and by the time the mistake was discovered it had cost the client (actually Bridgewater, because we had to make good on it) a *lot* of money. It was terrible and I could easily have fired Ross to make the point that nothing less than perfection will be accepted. But that would have been counterproductive. I would have lost a good man and it would have only encouraged other employees to hide their mistakes, creating a culture that would not only be dishonest but crippled in its ability to learn and grow. If Ross hadn't experienced that pain, he and Bridgewater would have been the worse for it.

The point I made by not firing Ross was much more powerful than firing him would have been—I was demonstrating to him and others that it was okay to make mistakes and unacceptable not to learn from them. After the dust settled, Ross and I worked together to build an error log (we now call it the Issue Log), in which traders recorded all their mistakes and bad outcomes so we could track them and address them systematically. It has become one of the most powerful tools we have at Bridgewater. Our environment is one in which people understand that remarks such as "You handled that badly" are meant to be helpful rather than punitive.

Of course, in managing others who make mistakes, it is important to know the difference between 1) capable people who made mistakes and are self-reflective and open to learning from them, and 2) incapable people, or capable people who aren't able to embrace their mistakes and

learn from them. Over time I've found that hiring self-reflective people like Ross is one of the most important things I can do.

Finding this kind of person isn't easy. I've often thought that parents and schools overemphasize the value of having the right answers all the time. It seems to me that the best students in school tend to be the worst at learning from their mistakes, because they have been conditioned to associate mistakes with failure instead of opportunity. This is a major impediment to their progress. Intelligent people who embrace their mistakes and weaknesses substantially outperform their peers who have the same abilities but bigger ego barriers.

### **3.1 Recognize that mistakes are a natural part of the evolutionary process.**

If you don't mind being wrong on the way to being right you'll learn a lot—and increase your effectiveness. But if you can't tolerate being wrong, you won't grow, you'll make yourself and everyone around you miserable, and your work environment will be marked by petty backbiting and malevolent barbs rather than by a healthy, honest search for truth.

You must not let your need to be right be more important than your need to find out what's true. Jeff Bezos described it well when he said, "You have to have a willingness to repeatedly fail. If you don't have a willingness to fail, you're going to have to be very careful not to invent."

**a. Fail well.** Everyone fails. Any one you see succeeding is only succeeding at the things you're paying attention to—I guarantee they are also failing at lots of other things. The people I respect most are those who fail well. I respect them even more than those who succeed. That is because failing is a painful experience while succeeding is a joyous one, so it requires much more character to fail, change, and then succeed than to just succeed. People who are just succeeding must not be pushing their limits. Of course the worst are those who fail and don't recognize it and don't change.

**b. Don't feel bad about your mistakes or those of others. Love them!** People typically feel bad about their mistakes because they think in a shortsighted way about the bad outcome and not about the evolutionary process of which mistakes are an integral part. I once had a ski instructor who had also given lessons to Michael Jordan, the greatest basketball player of all time. Jordan, he told me, reveled in his mistakes, seeing each of them as an opportunity to improve. He understood that mistakes are like those little puzzles that, when you solve them, give you a gem. Every mistake that you make and learn from will save you from thousands of similar mistakes in the future.

### **3.2 Don't worry about looking good—worry about achieving your goals.**

Put your insecurities away and get on with achieving your goals. Reflect and remind yourself that an accurate criticism is the most valuable feedback you can receive. Imagine how silly and

unproductive it would be to respond to your ski instructor as if he were blaming you when he told you that you fell because you didn't shift your weight properly. It's no different if a supervisor points out a flaw in your work process. Fix it and move on.

a. **Get over “blame” and “credit” and get on with “accurate” and “inaccurate.”** Worrying about “blame” and “credit” or “positive” and “negative” feedback impedes the iterative process that is essential to learning. Remember that what has already happened lies in the past and no longer matters except as a lesson for the future. The need for phony praise needs to be unlearned.

### **3.3 Observe the patterns of mistakes to see if they are products of weaknesses.**

Everyone has weaknesses and they are generally revealed in the patterns of mistakes they make. The fastest path to success starts with knowing what your weaknesses are and staring hard at them. Start by writing down your mistakes and connecting the dots between them. Then write down your “one big challenge,” the weakness that stands the most in the way of your getting what you want. Everyone has at least one big challenge. You may in fact have several, but don’t go beyond your “big three.” The first step to tackling these impediments is getting them out into the open.

### **3.4 Remember to reflect when you experience pain.**

Remember this: *The pain is all in your head.* If you want to evolve, you need to go where the problems and the pain are. By confronting the pain, you will see more clearly the paradoxes and problems you face. Reflecting on them and resolving them will give you wisdom. The harder the pain and the challenge, the better.

Because these moments of pain are so important, you shouldn’t rush through them. Stay in them and explore them so you can build a foundation for improvement. Embracing your failures—and confronting the pain they cause you and others—is the first step toward genuine improvement; it is why confession precedes forgiveness in many societies. Psychologists call this “hitting bottom.” If you keep doing this you will convert the pain of facing your mistakes and weaknesses into pleasure and “get to the other side” as I explained in Embrace Reality and Deal with It.

a. **Be self-reflective and make sure your people are self-reflective.** When there is pain, the animal instinct is flight-or-fight. Calm yourself down and reflect instead. The pain you are feeling is due to things being in conflict—maybe you’ve come up against a terrible reality, such as the death of a friend, and are unable to accept it; maybe you’ve been forced to acknowledge a weakness that challenges the idea you’d had of yourself. If you can think clearly about what’s behind it, you will learn more about what reality is like and how to better deal with it. Self-reflectiveness is the quality that most differentiates those who evolve quickly from those who don’t. Remember: Pain + Reflection = Progress.

**b. Know that nobody can see themselves objectively.** While we should all strive to see ourselves objectively, we shouldn't expect everyone to be able to do that well. We all have blind spots; people are by definition subjective. For this reason, it is everyone's responsibility to help others learn what is true about themselves by giving them honest feedback, holding them accountable, and working through disagreements in an open-minded way.

**c. Teach and reinforce the merits of mistake-based learning.** To encourage people to bring their mistakes into the open and analyze them objectively, managers need to foster a culture that makes this normal and that penalizes suppressing or covering up mistakes. We do this by making it clear that one of the worst mistakes anyone can make is not facing up to their mistakes. This is why the use of the Issue Log is mandatory at Bridgewater.

### **3.5 Know what types of mistakes are acceptable and what types are unacceptable, and don't allow the people who work for you to make the unacceptable ones.**

When considering the kinds of mistakes you are willing to allow in order to promote learning through trial and error, weigh the potential damage of a mistake against the benefit of incremental learning. In defining what latitude I'm willing to give people, I say, "I'm willing to let you scratch or dent the car, but I won't put you in a position where there's a significant risk of your totaling it."

**PAIN**

+

**REFLECTION**

=

**PROGRESS**

## 4 Get and Stay in Sync

Remember that for an organization to be effective, the people who make it up must be aligned on many levels—from what their shared mission is, to how they will treat each other, to a more practical picture of who will do what when to achieve their goals. Yet alignment can never be taken for granted because people are wired so differently. We all see ourselves and the world in our own unique ways, so deciding what's true and what to do about it takes constant work.

Alignment is especially important in an idea meritocracy, so at Bridgewater we try to attain alignment consciously, continually, and systematically. We call this process of finding alignment “getting in sync,” and there are two primary ways it can go wrong: cases resulting from simple misunderstandings and those stemming from fundamental disagreements. Getting in sync is the process of open-mindedly and assertively rectifying both types.

Many people mistakenly believe that papering over differences is the easiest way to keep the peace. They couldn't be more wrong. By avoiding conflicts one avoids resolving differences. People who suppress minor conflicts tend to have much bigger conflicts later on, which can lead to separation, while people who address their mini-conflicts head on tend to have the best and the longest-lasting relationships. Thoughtful disagreement—the process of having a quality back-and-forth in an open-minded and assertive way so as to see things through each other's eyes—is powerful, because it helps both parties see things they've been blind to. But it's not easy. While it is straightforward to have a meritocracy in activities in which there is clarity of relative abilities (because the results speak for themselves such as in sports, where the fastest runner wins the race), it is much harder in a creative environment (where different points of view about what's best have to be resolved). If they're not, the process of sorting through disagreements and knowing who has the authority to decide quickly becomes chaotic. Sometimes people get angry or stuck; a conversation can easily wind up with two or more people spinning unproductively and unable to reach agreement on what to do.

For these reasons, specific processes and procedures must be followed. Every party to the discussion must understand who has what rights and which procedures should be followed to move toward resolution. (We've also developed tools for helping do this, which you can review at the end of this book) And everyone must understand the most fundamental principle for getting in sync, which is that people must be open-minded and assertive at the same time. Thoughtful disagreement is not a battle; its goal is not to convince the other party that he or she is wrong and you are right, but to find out what is true and what to do about it. It must also be nonhierarchical, because in an idea meritocracy communication doesn't just flow unquestioned from the top down. Criticisms must also come from the bottom up.

For example, this email was sent to me by someone who worked for me after a meeting with clients. All the senior people at Bridgewater, including me, are routinely criticized and judged by our subordinates.

*From: Jim H*

*To: Ray; Lionel K; Greg J; Randal S; David A*

*Subject: Feedback on ABC Meeting . . .*

*Ray- you deserve a "D-" for your performance today in the ABC meeting and everyone that was in the room that saw you agrees on that harsh assessment (give or take half a grade). This was especially disappointing for two reasons: 1) You have been great in previous meetings where the subject matter to be covered was the same, and 2) We held a specific planning meeting yesterday to ask you to focus tightly on culture and portfolio structuring because we had only 2 hours to have you cover those two topics, me cover the investment process, have Greg do the observatory and have Randal do implementation. Instead, you took a total of 62 minutes (I measured) but worse, you rambled for 50 minutes on what I think was portfolio structuring topics and only then got to culture and you talked about that for 12 minutes. It was obvious to all of us that you did not prepare at all because there is no way you could have been that disorganized at the outset if you had prepared.*

Similarly I'd like to share another case in which one of our senior managers observed a conversation between Greg Jensen, who was then CEO, and a junior employee, and felt that Greg was speaking to that employee in a way that discouraged dissent and independent thinking. She raised this in feedback she gave Greg. Greg disagreed, asserting that he was simply reminding the employee of relevant principles and her responsibilities to either adhere to them or openly question them. The two sought to get in sync through a series of emails, and when that didn't work, they raised their disagreement to the Management Committee. A case based on the meeting in question was sent to the entire company so everyone could judge for themselves who was right and who was wrong. It was a good learning exercise that Greg and the senior manager appreciated. We used it to reflect on our written principles for handling situations like this and they both got a lot of useful feedback. If we hadn't laid out our principles and used them to judge cases like this, we would have people with power making decisions however they wanted instead of in mutually agreed-upon ways.

The principles that follow flesh out how we do this. If they are adhered to, you will be well aligned with others and your idea meritocracy will hum with productivity. If they are not, it will grind to a halt.

#### **4.1 Recognize that conflicts are essential for great relationships . . .**

**... because they are how people determine whether their principles are aligned and resolve their differences.** Everyone has his or her own principles and values, so all relationships entail a certain amount of negotiation or debate over how people should be with each other. What you learn about each other will either draw you together or drive you apart. If your principles are aligned and you can work out your differences via a process of give-and-take, you will draw closer together. If not, you will move apart. Open discussion of differences ensures that there are no misunderstandings. If that doesn't happen on an ongoing basis, gaps in perspective will widen until inevitably there is a major clash.

**a. Spend lavishly on the time and energy you devote to getting in sync, because it's the best investment you can make.** In the long run, it saves time by increasing efficiency, but it's important that you do it well. You will need to prioritize what you are going to get in sync about and who you are going to get in sync with because of time constraints. Your highest priority should be the most important issues with the most believable and most relevant parties.

## 4.2 Know how to get in sync and disagree well.

It is harder to run an idea meritocracy in which disagreements are encouraged than a top-down autocracy in which they are suppressed. But when believable parties to disagreements are willing to learn from each other, their evolution is faster and their decision making is far better.

The key is in knowing how to move from disagreement to decision making. It is important that the paths for doing this are clear so that who is responsible for doing what is known. (This is the reason I created a tool called the Dispute Resolver, which lays out the paths and makes clear to everyone if they are holding on to a different point of view rather than moving it along to resolution. You can read about it in the tools appendix.)

It is essential to know where the ultimate decision-making authority lies—i.e., how far the power of the argument will carry relative to the power of the assigned authority. While arguing and especially after a decision is rendered, everyone in the idea meritocracy must remain calm and respectful of the process. It is never acceptable to get upset if the idea meritocracy doesn't produce the decision that you personally wanted.

**a. Surface areas of possible out-of-syncness.** If you and others don't raise your perspectives, there's no way you will resolve your disputes. You can surface the areas of disagreement informally or put them on a list to go over. I personally like to do both, though I encourage people to list their disagreements in order of priority so I/we can more easily direct them to the right party at the right time.

The nubbiest questions (the ones that there is the greatest disagreement about) are the most important ones to thrash out, as they often concern differences in people's values or their approaches to important decisions. It's especially important to bring these issues to the surface and examine their premises thoroughly and unemotionally. If you don't, they will fester and cause rot.

**b. Distinguish between idle complaints and complaints meant to lead to improvement.** Many complaints either fail to take into account the full picture or reflect a closed-minded point of view. They are what I call "chirping," and are generally best ignored. But constructive complaints may lead to important discoveries.

**c. Remember that every story has another side.** Wisdom is the ability to see both sides and weigh them appropriately.

#### **4.3 Be open-minded and assertive at the same time.**

Being effective at thoughtful disagreement requires one to be open-minded (seeing things through the other's eyes) and assertive (communicating clearly how things look through your eyes) and to flexibly process this information to create learning and adaptation.

I have found that most people have problems being assertive and open-minded at the same time. Typically they are more inclined to be assertive than open-minded (because it's easier to convey how they see things than to understand how others do, and also because people tend to have ego attachments to being right) though some people are too willing to accept others' views at the expense of their own. It's important to remind people that they have to do both—and to remember that decision making is a two-step process in which one has to take in information as well as decide. It also helps to remind people that those who change their minds are the biggest winners because they learned something, whereas those who stubbornly refuse to see the truth are losers. With practice, training, and constant reinforcement, anyone can get good at this.

- a. Distinguish open-minded people from closed-minded people.** Open-minded people seek to learn by asking questions; they realize how little they know in relation to what there is to know and recognize that they might be wrong; they are thrilled to be around people who know more than they do because it represents an opportunity to learn something. Closed-minded people always tell you what they know, even if they know hardly anything. They are typically uncomfortable being around those who know a lot more than they do.
- b. Don't have anything to do with closed-minded people.** Being open-minded is much more important than being bright or smart. No matter how much they know, closed-minded people will waste your time. If you must deal with them, recognize that there can be no helping them until they open their minds.
- c. Watch out for people who think it's embarrassing not to know.** They're likely to be more concerned with appearances than actually achieving the goal; this can lead to ruin over time.
- d. Make sure that those in charge are open-minded about the questions and comments of others.** The person responsible for a decision must be able to explain the thinking behind it openly and transparently so that everyone can understand and assess it. In the event of disagreement, an appeal should be made to either the decision maker's boss or an agreed-upon, knowledgeable group of others, generally people more knowledgeable than and senior to the decision maker.
- e. Recognize that getting in sync is a two-way responsibility.** In any conversation, there is a responsibility to express and a responsibility to listen. Misinterpretations and misunderstandings are always going to happen. Often, difficulty in communication is due to people having different ways of thinking (e.g., left-brained thinkers talking to right-brained thinkers). The parties involved should always consider the possibility that one or both of them misunderstood and do a back-and-forth so that they can get in sync. Very simple tricks—like repeating what you're hearing someone say to make sure you're actually getting it—can be invaluable. Start by assuming

you're either not communicating or listening well instead of blaming the other party. Learn from your miscommunications so they don't happen again.

**f. Worry more about substance than style.** This is not to say that some styles aren't more effective than others with different people and in different circumstances, but I often hear people complaining about the style or tone of a criticism in order to deflect from its substance. If you think someone's style is an issue, box it as a separate issue to get in sync on.

**g. Be reasonable and expect others to be reasonable.** You have a responsibility to be reasonable and considerate when you are advocating for your point of view and should never let your "lower-level you" gain control, even if the other person loses his or her temper. Their bad behavior doesn't justify yours.

If either party to a disagreement is too emotional to be logical, the conversation should be deferred. Pausing a few hours or even a few days in cases where decisions do not have to be made immediately is sometimes the best approach.

**h. Making suggestions and questioning are not the same as criticizing, so don't treat them as if they are.** A person making suggestions may not have concluded that a mistake *will* be made—they could just be making doubly sure that the person they're talking to has taken all the risks into consideration. Asking questions to make sure that someone hasn't overlooked something isn't the same thing as saying that he or she *has* overlooked it ("watch out for the ice" vs. "you're being careless and not looking out for the ice"). Yet I often see people react to constructive questions as if they were accusations. That is a mistake.

#### **4.4 If it is your meeting to run, manage the conversation.**

There are many reasons why meetings go poorly, but frequently it is because of a lack of clarity about the topic or the level at which things are being discussed (e.g., the principle/machine level, the case-at-hand level, or the specific-fact level).

**a. Make it clear who is directing the meeting and whom it is meant to serve.** Every meeting should be aimed at achieving someone's goals; that person is the one responsible for the meeting and decides what they want to get out of it and how they will do so. Meetings without someone clearly responsible run a high risk of being directionless and unproductive.

**b. Be precise in what you're talking about to avoid confusion.** It is often best to repeat a specific question to be sure both questioner and responder are crystal clear on what is being asked and answered. In an email, this is often as simple as cutting and pasting the questions into the body of the text.

**c. Make clear what type of communication you are going to have in light of the objectives and priorities.** If your goal is to have people with different opinions work through their differences to

try to get closer to what is true and what to do about it (open-minded debate), you will run your meeting differently than if its goal is to educate. Debating takes time, and that time increases exponentially depending on the number of people participating in the discussion, so you have to carefully choose the right people in the right numbers to suit the decision that needs to be made. In any discussion try to limit the participation to those whom you value most in light of your objectives. The worst way to pick people is based on whether their conclusions align with yours. Group-think (people not asserting independent views) and solo-think (people being unreceptive to the thoughts of others) are both dangerous.

**d. Lead the discussion by being assertive and open-minded.** Reconciling different points of view can be difficult and time-consuming. It is up to the meeting leader to balance conflicting perspectives, push through impasses, and decide how to spend time wisely.

A common question I get is: What happens when someone inexperienced offers an opinion? If you're running the conversation, you should be weighing the potential cost in the time that it takes to explore their opinion versus the potential gain in being able to assess their thinking and gain a better understanding of what they're like. Exploring the views of people who are still building their track record can give you valuable insights into how they might handle various responsibilities. Time permitting, you should work through their reasoning with them so they can understand how they might be wrong. It's also your obligation to open-mindedly consider whether they're right.

**e. Navigate between the different levels of the conversation.** When considering an issue or situation, there should be two levels of discussion: the case at hand and the relevant principles that help you decide how the machine should work. You need to clearly navigate between these levels in order to handle the case well, test the effectiveness of your principles, and improve the machine so similar cases will be handled better in the future.

**f. Watch out for “topic slip.”** Topic slip is random drifting from topic to topic without achieving completion on any of them. One way to avoid it is by tracking the conversation on a whiteboard so that everyone can see where you are.

**g. Enforce the logic of conversations.** People's emotions tend to heat up when there is disagreement. Remain calm and analytical at all times; it is more difficult to shut down a logical exchange than an emotional one. Remember too that emotions can shade how people see reality. For example, people will sometimes say, “I feel like (something is true)” and proceed as though it's a fact, when other people may interpret the same situation differently. Ask them, “Is it true?” to ground the conversation in reality.

**h. Be careful not to lose personal responsibility via group decision making.** Too often groups will make a decision to do something without assigning personal responsibilities, so it is not clear who is supposed to follow up by doing what. Be clear in assigning personal responsibilities.

**i. Utilize the “two-minute rule” to avoid persistent interruptions.** The two-minute rule specifies that you have to give someone an uninterrupted two minutes to explain their thinking before

jumping in with your own. This ensures that everyone has time to fully crystallize and communicate their thoughts without worrying they will be misunderstood or drowned out by a louder voice.

**j. Watch out for assertive “fast talkers.”** Fast talkers are people who articulately and assertively say things faster than they can be assessed as a way of pushing their agenda past other people’s examination or objections. Fast talking can be especially effective when it’s used against people worried about appearing stupid. Don’t be one of those people. Recognize that it’s your responsibility to make sense of things and don’t move on until you do. If you’re feeling pressured, say something like “Sorry for being stupid, but I’m going to need to slow you down so I can make sense of what you’re saying.” Then ask your questions. All of them.

**k Achieve completion in conversations.** The main purpose of discussion is to achieve completion and get in sync, which leads to decisions and/or actions. Conversations that fail to reach completion are a waste of time. When there is an exchange of ideas, it is important to end it by stating the conclusions. If there is agreement, say it; if not, say that. Where further action has been decided, get those tasks on a to-do list, assign people to do them, and specify due dates. Write down your conclusions, working theories, and to-dos in places that will lead to their being used as foundations for continued progress. To make sure this happens, assign someone to make sure notes are taken and follow-through occurs.

There is no reason to get angry because you still disagree. People can have a wonderful relationship and disagree about some things; you don’t have to agree on everything.

**l. Leverage your communication.** While open communication is very important, the challenge is to do it in a time-efficient way—you can’t have individual conversations with everyone. It is helpful to identify easy ways of sharing, like open emails posted on an FAQ board or sending around videotapes or audio recordings of key meetings. (I call such approaches “leverage.”) The challenges become greater the higher you go in the reporting hierarchy because the number of people affected by your actions and who also have opinions and/or questions grows so large. In such cases, you will need even greater leverage and prioritization (for example by having some of the questions answered by a well-equipped party who works for you or by asking people to prioritize their questions by urgency or importance).

## 4.5 Great collaboration feels like playing jazz

In jazz, there’s no script: You have to figure things out as you go along. Sometimes you need to sit back and let others drive things; other times, you blare it out yourself. To do the right thing at the right moment you need to really listen to the people you’re playing with so that you can understand where they’re going.

All great creative collaboration should feel the same way. Combining your different skills like different instruments, improvising creatively, and at the same time subordinating yourself to the goals of the group leads to playing great music together. But it’s important to keep in mind what

number of collaborators will play well together: A talented duo can improvise beautifully, as can a trio or quartet. But gather ten musicians and no matter how talented they are, it's probably going to be too many unless they're carefully orchestrated.

- a. 1+1=3.** Two people who collaborate well will be about three times as effective as each of them operating independently, because each will see what the other might miss—plus they can leverage each other's strengths while holding each other accountable to higher standards.
- b. 3 to 5 is more than 20.** Three to five smart, conceptual people seeking the right answers in an open-minded way will generally lead to the best answers. It may be tempting to convene a larger group, but having too many people collaborate is counterproductive, even if the members of the larger group are smart and talented. The symbiotic advantages of adding people to a group grow incrementally ( $2+1=4.25$ ) up to a point; beyond that, adding people actually subtracts from effectiveness. That is because 1) the marginal benefits diminish as the group gets larger (two or three people might be able to cover most of the important perspectives, so adding more people doesn't bring much more) and 2) larger group interactions are less efficient than smaller ones. Of course, what's best in practice depends on the quality of the people and the differences of the perspectives that they bring and how well the group is managed.

#### **4.6 When you have alignment, cherish it.**

While there is nobody in the world who will share your point of view on everything, there are people who will share your most important values and the ways in which you choose to live them out. Make sure you end up with those people.

#### **4.7 If you find you can't reconcile major differences—especially in values—consider whether the relationship is worth preserving.**

There are all kinds of different people in the world, many of whom value different kinds of things. If you find you can't get in sync with someone on shared values, you should consider whether that person is worth keeping in your life. A lack of common values will lead to a lot of pain and other harmful consequences and may ultimately drive you apart. It might be better to head all that off as soon as you see it coming.

## 5 Believability Weight Your Decision Making

In typical organizations, most decisions are made either autocratically, by a top-down leader, or democratically, where everyone shares their opinions and those opinions that have the most support are implemented. Both systems produce inferior decision making. That's because the best decisions are made by an idea meritocracy with believability-weighted decision making, in which the most capable people work through their disagreements with other capable people who have thought independently about what is true and what to do about it.

It is far better to weight the opinions of more capable decision makers more heavily than those of less capable decision makers. This is what we mean by "believability weighting." So how do you determine who is capable at what? The most believable opinions are those of people who 1) have repeatedly and successfully accomplished the thing in question, and 2) have demonstrated that they can logically explain the cause-effect relationships behind their conclusions. When believability weighting is done correctly and consistently, it is the fairest and the most effective decision-making system. It not only produces the best outcomes but also preserves alignment, since even people who disagree with the decision will be able to get behind it.

But for this to be the case, the criteria for establishing believability must be objective and trusted by everybody. At Bridgewater everyone's believability is tracked and measured systematically, using tools such as Baseball Cards and the Dot Collector that actively record and weigh their experience and track records. In meetings we regularly take votes about various issues via our Dot Collector app, which displays both the equal-weighted average and the believability-weighted results (along with each person's vote).

Typically, if both the equal-weighted average and the believability-weighted votes align, we consider the matter resolved and move on. If the two types of votes are at odds, we try again to resolve them and, if we can't, we go with the believability-weighted vote. Depending on what type of decision it is, in some cases, a single "Responsible Party" (RP) can override a believability-weighted vote; in others, the believability-weighted vote supersedes the RP's decision. But in all cases believability-weighted votes are taken seriously when there is disagreement. Even in cases in which the RPs can overrule the believability-weighted vote, the onus is on the RP to try to resolve the dispute before overruling it. In my forty years at Bridgewater, I never made a decision contrary to the believability-weighted decision because I felt that to do so was arrogant and counter to the spirit of the idea meritocracy, though I argued like hell for what I thought was best.

To give you an example of what this process looks like in action, during the spring of 2012 our research teams used believability-weighted decision making to resolve a disagreement about what would happen next as the European debt crisis was heating up. At that time, the borrowing and debt-service needs of the governments of Italy, Ireland, Greece, Portugal, and especially

Spain had reached levels that far exceeded their abilities to pay. We knew that the European Central Bank would either have to make unprecedented purchases of government bonds or allow the debt crisis to worsen to the point where defaults and the breakup of the Eurozone would probably occur. Germany was adamantly opposed to a bailout. It was clear that the fates of these countries' economies, and of the Eurozone itself, depended on how well Mario Draghi, the president of the European Central Bank, orchestrated the ECB's next move. But what would he do?

Like analyzing a chess board to visualize the implications and inclinations of the different moves of the different players, each of us looked at the situation from every angle. After a lot of discussion we remained split: About half of us thought the ECB would print more money to buy the bonds and about half thought they wouldn't, because breaking with the Germans would threaten the Eurozone even more. While such thoughtful and open exchanges are essential, it's also critical to have mutually agreed-upon ways of resolving them to arrive at the best decision. So we used our believability-weighting system to break the stalemate.

We did that using our Dot Collector tool, which helps us surface the sources of our disagreements in people's different thinking characteristics and work our way through them based on their believabilities. People have different believability weightings for different qualities, like expertise in a particular subject, creativity, ability to synthesize, etc. These dots are determined by a mixture of ratings, both from peers and tests of different sorts. By looking at these attributes, and also understanding which thinking qualities are most essential to the situation at hand, we can make the best decisions.

In this case, we took a believability-weighted vote, with the qualities chosen being both subject-matter expertise and ability to synthesize. Using the Dot Collector, it became clear that those with greater believability believed Draghi would defy Germany and print money, so that is what we went with. A few days later, European policymakers announced a sweeping plan to buy unlimited quantities of government bonds, so we got it right. While the believability-weighted answer isn't always the best answer, we have found that it is more likely to be right than either the boss's answer or an equal-weighted referendum.

Regardless of whether or not you use this kind of technology and structured process for believability weighting, the most important thing is that you get the concept. Simply look down on yourself and your team when a decision needs to be made and consider who is most likely to be right. I assure you that, if you do, you will make better decisions than if you don't.

## **5.1 Recognize that having an effective idea meritocracy requires that you understand the merit of each person's ideas.**

Having a hierarchy of merit is not only consistent with an idea meritocracy but essential for it. It's simply not possible for everyone to debate everything all the time and still get their work done. Treating all people equally is more likely to lead away from truth than toward it. But at the same time, all views should be considered in an open-minded way, though placed in the proper context of the experiences and track records of the people expressing them.

Imagine if a group of us were getting a lesson in how to play baseball from Babe Ruth, and someone who'd never played the game kept interrupting him to debate how to swing the bat.

Would it be helpful or harmful to the group's progress to ignore their different track records and experience? Of course it would be harmful and plain silly to treat their points of view equally, because they have different levels of believability. The most productive approach would be to allow Ruth to give his instructions uninterrupted and then take some time afterward to answer questions. But because I'm pretty extreme in believing that it is important to obtain understanding rather than accepting doctrine at face value, I would encourage the new batter not to accept what Ruth has to say as right just because he was the greatest slugger of all time. If I were that new batter, I wouldn't stop questioning Ruth until I was confident I had found the truth.

- a. If you can't successfully do something, don't think you can tell others how it should be done.** I have seen some people who have repeatedly failed at something hold strongly to their opinions of how it should be done, even when their opinions are at odds with those who have repeatedly done it successfully. That is dumb and arrogant. They should instead ask questions and seek believability-weighted votes to help them get out of their intransigence.
- b. Remember that everyone has opinions and they are often bad.** Opinions are easy to produce; everyone has plenty of them and most people are eager to share them—even to fight for them. Unfortunately many are worthless or even harmful, including a lot of your own.

## **5.2 Find the most believable people possible who disagree with you and try to understand their reasoning.**

Having open-minded conversations with believable people who disagree with you is the quickest way to get an education and to increase your probability of being right.

- a. Think about people's believability in order to assess the likelihood that their opinions are good.** While it pays to be open-minded, you also have to be discerning. Remember that the quality of the life you get will depend largely on the quality of the decisions that you make as you pursue your goals. The best way to make great decisions is to know how to triangulate with other, more knowledgeable people. So be discerning about whom you triangulate with and skilled in the way you do it.

The dilemma you face is trying to understand as accurately as you can what's true in order to make decisions effectively while realizing many of the opinions you will hear won't be worth much, including your own. Think about people's believability, which is a function of their capabilities and their willingness to say what they think. Keep their track records in mind.

- b. Remember that believable opinions are most likely to come from people 1) who have successfully accomplished the thing in question at least three times, and 2) who have great explanations of the cause-effect relationships that lead them to their conclusions.** Treat those who have neither as not believable, those who have one as somewhat believable, and those who have both as the most believable. Be especially wary of those who comment from the stands

without having played on the field themselves and who don't have good logic, as they are dangerous to themselves and others.

**c. If someone hasn't done something but has a theory that seems logical and can be stress-tested, then by all means test it.** Keep in mind that you are playing probabilities.

**d. Don't pay as much attention to people's conclusions as to the reasoning that led them to their conclusions.** It is common for conversations to consist of people sharing their conclusions rather than exploring the reasoning that led to those conclusions. As a result, there is an overabundance of confidently expressed bad opinions.

**e. Inexperienced people can have great ideas too, sometimes far better ones than more experienced people.** That's because experienced thinkers can get stuck in their old ways. If you've got a good ear, you will be able to tell when an inexperienced person is reasoning well. Like knowing whether someone can sing, it doesn't take a lot of time. Sometimes a person only has to sing a few bars for you to hear how well they can sing. Reasoning is the same—it often doesn't take a lot of time to figure out if someone can do it.

**f. Everyone should be up-front in expressing how confident they are in their thoughts.** A suggestion should be called a suggestion; a firmly held conviction should be presented as such—particularly if it's coming from someone with a strong track record in the area in question.

### **5.3 Think about whether you are playing the role of a teacher, a student, or a peer . . .**

**. . . and whether you should be teaching, asking questions, or debating.** Too often people flail in their disagreements because they either don't know or don't think about how they should engage effectively; they just blurt out whatever they think and argue. While everyone has the right and obligation to make sense of everything, basic rules for engagement should be followed. Those rules and how you should follow them depend on your relative believabilities. For example, it would not be effective for the person who knows less to tell the person who knows more how something should be done. It's important to get the balance between your assertiveness and your open-mindedness right, based on your relative levels of understanding of the subject.

Think about whether the person you're disagreeing with is more or less believable than you. If you are less believable, you are more of a student and should be more open-minded, primarily asking questions in order to understand the logic of the person who probably knows more. If you're more believable, your role is more of a teacher, primarily conveying your understanding and answering questions. And if you are approximate peers, you should have a thoughtful exchange as equals. When there is a disagreement about who is more believable, be reasonable and work it through. In cases when you can't do this alone effectively, seek out the help of an agreed-upon third party.

In all cases, try to see things through the other person's eyes so that you can obtain understanding. All parties should remember that the purpose of debate is to get at truth, not to prove that someone is right or wrong, and that each party should be willing to change their mind based on the logic and evidence.

- a. It's more important that the student understand the teacher than that the teacher understand the student, though both are important.** I have often seen less believable people (students) insist that the more believable people (teachers) understand their thinking and prove why the teacher is wrong before listening to what the teacher (the more believable party) has to say. That's backward. While untangling the student's thinking can be helpful, it is typically difficult and time-consuming and puts the emphasis on what the student sees instead of on what the teacher wants to convey. For that reason, our protocol is for the student to be open-minded first. Once the student has taken in what the teacher has to offer, both student and teacher will be better prepared to untangle and explore the student's perspective. It is also more time-efficient to get in sync this way, which leads to the next principle.
- b. Recognize that while everyone has the right and responsibility to try to make sense of important things, they must do so with humility and radical open-mindedness.** When you are less believable, start by taking on the role of a student in a student-teacher relationship—with appropriate humility and open-mindedness. While it is not necessarily you who doesn't understand, you must assume this until you have seen the issue through the other's eyes. If the issue still doesn't make sense to you and you think that your teacher just doesn't get it, appeal to other believable people. If you still can't reach an agreement, assume you are wrong. If, on the other hand, you are able to convince a number of believable people of your point of view, then you should make sure your thinking is heard and considered by the person deciding, probably with the help of the other believable parties. Remember that those who are higher in the reporting hierarchy have more people they are trying to sort through on an expected value basis to get the best thinking and more people who want to tell them what they think, so they are time-constrained and have to play the probabilities. If your thinking has been stress-tested by other believable people who support you, it has a greater probability of being heard. Conversely, those higher in the reporting hierarchy must strive to achieve the goal of getting in sync with those lower in the hierarchy about what makes sense. The more people get in sync about what makes sense, the more capable and committed people will be.

## **5.4 Understand how people came by their opinions.**

Our brains work like computers: They input data and process it in accordance with their wiring and programming. Any opinion you have is made up of these two things: the data and your processing or reasoning. When someone says, "I believe X," ask them: *What data are you looking at? What reasoning are you using to draw your conclusion?*

Dealing with raw opinions will get you and everyone else confused; understanding where they come from will help you get to the truth.

**a. If you ask someone a question, they will probably give you an answer, so think through to whom you should address your questions.** I regularly see people ask totally uninformed or nonbelievable people questions and get answers that they believe. This is often worse than having no answers at all. Don't make that mistake. You need to think through who the right people are. If you're in doubt about someone's believability, find out.

The same is true for you: If someone asks you a question, think first whether you're the right person to answer it. If you're not believable, you probably shouldn't have an opinion about what they're asking, let alone share it.

Be sure to direct your comments or questions to the believable Responsible Party or Parties for the issues you want to discuss. Feel free to include others if you think that their input is relevant, while recognizing that the decision will ultimately rest with whoever is responsible for it.

**b. Having everyone randomly probe everyone else is an unproductive waste of time.** For heaven's sake don't bother directing your questions to people who aren't responsible or, worse still, throw your questions out there without directing them at all.

**c. Beware of statements that begin with "I think that . . ."** Just because someone thinks something doesn't mean it's true. Be especially skeptical of statements that begin with "I think that I . . ." since most people can't accurately assess themselves.

**d. Assess believability by systematically capturing people's trackrecords over time.** Every day is not a new day. Over time, a body of evidence builds up, showing which people can be relied on and which cannot. Track records matter, and at Bridgewater tools such as Baseball Cards and the Dot Collector make everyone's track records available for scrutiny.

## **5.5 Disagreeing must be done efficiently.**

Working oneself through disagreements can be time-consuming, so you can imagine how an idea meritocracy—where disagreement is not just tolerated but encouraged—could become dysfunctional if it's not managed well. Imagine how inefficient it would be if a teacher ran a large class by asking each of the students individually what they thought, and then debated with all of them, instead of conveying their own views first and taking questions later.

People who want to disagree must keep this in mind and follow the tools and protocols for disagreeing well.

**a. Know when to stop debating and move on to agreeing about what should be done.** I have seen people who agree on the major issues waste hours arguing over details. It's more important to do big things well than to do the small things perfectly. But when people disagree on the importance of debating something, it probably should be debated. Operating otherwise would essentially give someone (typically the boss) a de facto veto.

**b. Use believability weighting as a tool rather than a substitute for decision making by Responsible Parties.** Believability-weighted decision making is a way of supplementing and challenging the decisions of Responsible Parties, not overruling them. As Bridgewater's system currently exists, everyone is allowed to give input, but their believability is weighted based on the evidence (their track records, test results, and other data). Responsible Parties can overrule believability-weighted voting but only at their peril. When a decision maker chooses to bet on his own opinion over the consensus of believable others, he is making a bold statement that will be proven right or wrong by the results.

**c. Since you don't have the time to thoroughly examine everyone's thinking yourself, choose your believable people wisely.** Generally speaking, it's best to choose three believable people who care a lot about achieving the best outcome and who are willing to openly disagree with each other and have their reasoning probed. Of course the number three isn't set in stone; the group could be larger or smaller. Its ideal size depends on the amount of time available, how important the decision is, how objectively you can assess your own and others' decision-making abilities, and how important it is to have a lot of people understand the reasoning behind the decision.

**d. When you're responsible for a decision, compare the believability- weighted decision making of the crowd to what you believe.** When they're at odds, you should work hard to resolve the disagreement.

If you are about to make a decision that the believability-weighted consensus thinks is wrong, think very carefully before you proceed. It's likely that you're wrong, but even if you're right, there's a good chance that you'll lose respect by overruling the process. You should try hard to get in sync, and if you still can't do that, you should be able to put your finger on exactly what it is you disagree with, understand the risks of being wrong, and clearly explain your reasons and logic to others. If you can't do those things, you probably should suspend your own judgment and go with the believability-weighted vote.

## **5.6 Recognize that everyone has the right and responsibility to try to make sense of important things.**

There will come a point in all processes of thinking things through when you are faced with the choice of requiring the person who sees things differently from you to slowly work things through until you see things the same way, or going along with the other person, even though their thinking still doesn't seem to make sense. I recommend the first path when you are disagreeing about something important and the latter when it's unimportant. I understand that the first path can be awkward because the person you are speaking to can get impatient. To neutralize that I suggest you simply say, "Let's agree that I am a dumb shit but I still need to make sense of this, so let's move slowly to make sure that happens."

One should always feel free to ask questions, while remembering one's obligation to remain open-minded in the discussions that follow. Record your argument so that if you can't get in sync

or make sense of things, you can send it out so others can decide. And of course, remember that you are operating in an idea meritocracy—be mindful of your own believability.

- a. Communications aimed at getting the best answer should involve the most relevant people.** As a guide, the most relevant people to probe are your managers, direct reports, and/or agreed experts. They are the most impacted by and most informed about the issues under discussion, and so they are the most important parties to be in sync with. If you can't get in sync, you should escalate the disagreement by raising it to the appropriate people.<sup>38</sup>
- b. Communication aimed at educating or boosting cohesion should involve a broader set of people than would be needed if the aim were just getting the best answer.** Less experienced, less believable people may not be necessary to decide an issue, but if the issue involves them and you aren't in sync with them, that lack of understanding will in the long run likely undermine morale and the organization's efficiency. This is especially important in cases where you have people who are both not believable and highly opinionated (the worst combination). Unless you get in sync with them, you will drive their uninformed opinions underground. If, on the other hand, you are willing to be challenged, you will create an environment in which all criticisms are aired openly.
- c. Recognize that you don't need to make judgments about everything.** Think about who is responsible for something (and their believability), how much you know about it, and your own believability. Don't hold opinions about things you don't know anything about.

## **5.7 Pay more attention to whether the decision-making system is fair than whether you get your way.**

An organization is a community with a set of shared values and goals. Its morale and smooth functioning should always take precedence over your need to be right—and besides, you could be wrong. When the decision-making system is consistently well-managed and based on objective criteria, the idea meritocracy is more important than the happiness of any one of its members—even if that member is you.

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<sup>38</sup> The most appropriate people are either the people you both report to (which we call the point of the pyramid in an organizational chart) or someone you mutually agree will be a good arbiter.

## **6 Recognize How to Get Beyond Disagreements**

It is the rare dispute that is resolved to both parties' equal satisfaction. Imagine you are having an argument with your neighbor about a tree of theirs that has fallen onto your property. Who is responsible for its removal? Who owns the firewood? Who pays for the damage? While you might not be able to resolve the disagreement yourselves, the legal system has procedures and guidelines that allow it to determine what's true and what to do about it, and once it renders its judgment it's done, even if one of you didn't get what you wanted. That's just the way life is.

At Bridgewater, our principles and policies work in essentially the same way, providing a path for settling disputes that's not unlike what you'd find in the courts (though it's less formal). Having such a system is essential in an idea meritocracy, because you can't just encourage people to think independently and fight for what they believe is true. You also have to provide them with a way to get past their disagreements and move forward.

Managing this well is especially important at Bridgewater because we have so much more thoughtful disagreement than other places. While in most cases people disagreeing can work things out on their own, it is still often the case that people can't agree on what's true and what to do about it. In those cases, we follow our procedures for believability-weighted voting and go with the verdict; or, in the cases where the RP wants to do it his/her way contrary to the vote and has the power to do so, we accept that and move on.

In the end, people who join our idea meritocracy agree to abide by our policies and procedures and the decisions that come out of them, just as if they had taken a dispute to court and had to abide by its procedures and the resulting verdict. This requires them to separate themselves from their own opinion and avoid getting angry when a decision doesn't go their way. If people don't follow the agreed-upon paths, they don't have the right to complain about either the people they disagree with or the idea-meritocratic system itself.

In those rare cases where our principles, policies, and procedures fail to make clear how a disagreement should be resolved, it is everyone's responsibility to raise that fact so the process can be clarified and improved.

### **5.1 Remember: Principles can't be ignored by mutual agreement.**

Principles are like laws—you can't break one simply because you and someone else agree to break it. Remember that it's everyone's obligation to speak up, own it, or get out. If you don't think the principles provide the right way to resolve a problem or disagreement, you need to fight to change the principles, not just do what you want to do.

**a. The same standards of behavior apply to everyone.** Whenever there is a dispute, both parties are required to have equal levels of integrity, to be open-minded and assertive, and to be equally considerate. The judges must hold the parties to the same standards and provide feedback consistent with these standards. I have often seen cases in which the feedback wasn't appropriately balanced for various reasons (to hold the stronger performer to a higher standard, to spread the blame). This is a mistake. The person in the wrong needs to receive the strongest message. Not operating this way could lead them to believe that the problem wasn't caused by them, or was caused by both parties equally. Of course, the message should be conveyed calmly and clearly rather than emotionally to maximize its effectiveness.

### **5.2 Make sure people don't confuse the right to complain, give advice, and openly debate with the right to make decisions.**

Everyone does not report to everyone. Responsibilities and authorities are assigned to individuals based on assessments of their ability to handle them. People are given the authority that they need to achieve outcomes and are held accountable for their ability to produce them.

At the same time, they are going to be stress-tested from both directions—i.e., by those they report to and by those who report to them. The challenging and probing that we encourage is not meant to second-guess their every decision but to improve the quality of their work over time. The ultimate goal of independent thinking and open debate is to provide the decision maker with alternative perspectives. It doesn't mean that decision-making authority is transitioned to those who are probing them.

**a. When challenging a decision and/or a decision maker, consider the broader context.** It's important to view individual decisions in the broadest possible context. For example, if the Responsible Party being challenged has a vision, and the decision being disputed involves a small detail of that overall vision, the decision needs to be debated and evaluated within the context of that larger vision.

### **5.3 Don't leave important conflicts unresolved.**

While it's easier to avoid confrontations in the short run, the consequences of doing so can be massively destructive in the long term. It's critical that conflicts actually get resolved—not through superficial compromise, but through seeking the important, accurate conclusions. In most cases, this process should be made transparent to relevant others (and sometimes the entire organization), both to ensure quality decision making and to perpetuate the culture of openly working through disputes.

**a. Don't let the little things divide you when your agreement on the big things should bind you.** Almost every group that agrees on the big things ends up fighting about less important things and becoming enemies even though they should be bound by the big things. This phenomenon is

called the narcissism of small differences. Take the Protestants and Catholics. Though both are followers of Christ, some of them have been fighting for hundreds of years, even though many of them are unable to articulate the differences that divide them, and most of those who can articulate the differences realize that they are insignificant relative to the big important things that should bind them together. I once saw a close family have an irrevocable blow-out at a Thanksgiving dinner over who would cut the turkey. Don't let this narcissism of small differences happen to you. Understand that nobody and nothing is perfect and that you are lucky to have by-and-large excellent relationships. See the big picture.

**b. Don't get stuck in disagreement—escalate or vote!** By practicing open-mindedness and assertiveness, you should be able to resolve most disagreements. If not, and if your dispute is one-on-one, you should escalate to a mutually agreed-upon believable other. All things being equal, that should be someone higher in your reporting chain, such as your boss. When a group can't reach an agreement, the person responsible for the meeting should take a believability-weighted vote.

#### **5.4 Once a decision is made, everyone should get behind it even though individuals may still disagree.**

A decision-making group in which those who don't get what they want continue to fight rather than work for what the group has decided is destined to fail—you can see this happening all the time in companies, organizations, and even political systems and nations. I'm not saying that people should pretend they like the decision if they don't, or that the matter in question can't be revisited at a future date. What I am saying is that in order to be effective, all groups that work together have to operate with protocols that allow time for disagreements to be explored, but in which dissenting minority parties recognize that group cohesion supersedes their individual desires once they have been overruled.

The group is more important than the individual; don't behave in a way that undermines the chosen path.

**a. See things from the higher level.** You are expected to go to the higher level and look down on yourself and others as part of a system. In other words, you must get out of your own head, consider your views as just some among many, and look down on the full array of points of view to assess them in an idea-meritocratic way rather than just in your own possessive way. Seeing things from the higher level isn't just seeing other people's point of view; it's also being able to see every situation, yourself, and others in the situation as though you were looking down on them as an objective observer. If you can do this well, you will see the situation as "another one of those," see it through everyone's eyes, and have good mental maps or principles for deciding how to handle it.

Almost all people initially find it difficult to get beyond seeing things through just their own eyes, so I've developed policies and tools such as the Coach (which connects situations to principles) that help people do this. With practice many people can learn to develop this

perspective, though others never do. You need to know which type of person you and the people around you are. If you can't do this well on your own, seek the help of others. Recognize that many people cannot see things from the higher level and distinguish those who can from those who can't, and either get rid of those who can't or have good guardrails in place to protect yourself and the organization against this inability.

By the way, it is of course okay to continue to disagree on some things as long as you don't keep fighting, thereby undermining the idea meritocracy. If you continue to fight the idea meritocracy, you must go.

**b. Never allow the idea meritocracy to slip into anarchy.** In an idea meritocracy, there is bound to be more disagreement than in a typical organization, but when it's taken to an extreme, arguing and nitpicking can undermine the idea meritocracy's effectiveness. At Bridgewater, I have encountered some people, especially junior people, who mistakenly think they are entitled to argue about whatever they want and with whomever they please. I have even seen people band together to threaten the idea meritocracy, claiming that their right to do so comes from the principles. They misunderstand my principles and the boundaries within the organization. They must abide by the rules of the system, which provide paths for resolving disagreements, and they mustn't threaten the system.

**c. Don't allow lynch mobs or mob rule.** Part of the purpose of having a believability-weighted system is to remove emotion from decision making. Crowds get emotional and seek to grab control. That must be prevented. While all individuals have the right to have their own opinions, they do not have the right to render verdicts.

## **5.5 Remember that if the idea meritocracy comes into conflict with the well-being of the organization, it will inevitably suffer.**

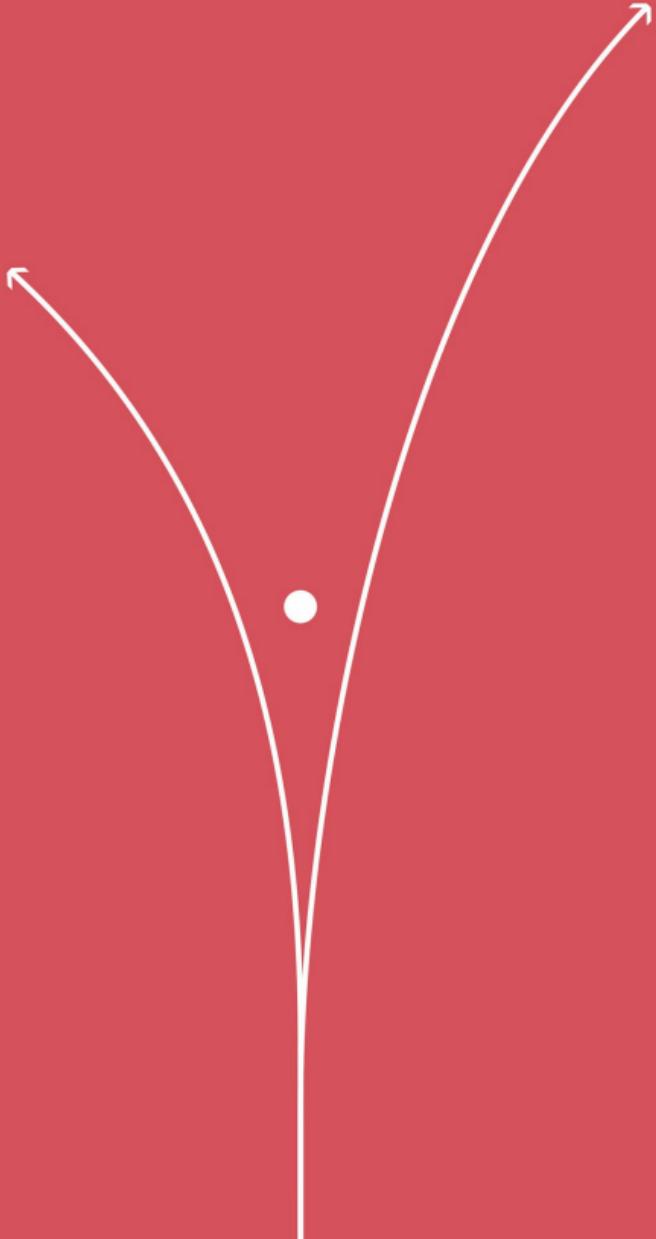
That's just a matter of practicality. As you know I believe that what's good must work well, and that having the organization work well is of paramount importance.

**a. Declare "martial law" only in rare or extreme circumstances when the principles need to be suspended.** While all these principles exist for the well-being of the community, there may come times when adhering to them could threaten the community's well-being. For example, we encountered a time when there were leaks to the media of some things that we made radically transparent within Bridgewater. People at Bridgewater understood that our transparency about our weaknesses and mistakes was being used to present distorted and harmful pictures of Bridgewater, so we had to lessen our level of transparency until we resolved that problem. Rather than just lessening this degree of transparency, I explained the situation and declared "martial law," meaning that this was a temporary suspension of the full degree of radical transparency. That way, everyone would know both that it was an exceptional case and that we were entering a time when the typical way of operating would be suspended.

**b. Be wary of people who argue for the suspension of the idea meritocracy for the “good of the organization.”** When such arguments win out, the idea meritocracy will be weakened. Don’t let that happen. If people respect the rules of the idea meritocracy, there will be no conflict. I know that from my experiences over decades. However, I also know that there will be people who put what they want above the idea meritocracy and threaten it. Consider those people to be enemies of the system and get rid of them.

### **5.6 Recognize that if the people who have the power don’t want to operate by principles, the principled way of operating will fail.**

Ultimately, power will rule. This is true of any system. For example, it has repeatedly been shown that systems of government have only worked when those with the power value the principles behind the system more than they value their own personal objectives. When people have both enough power to undermine a system and a desire to get what they want that is greater than their desire to maintain the system, the system will fail. For that reason the power supporting the principles must be given only to people who value the principled way of operating more than their individual interests (or the interests of their faction), and people must be dealt with in a reasonable and considerate way so that the overwhelming majority will want and fight for that principle-based system.





**TO GET THE PEOPLE RIGHT ...**

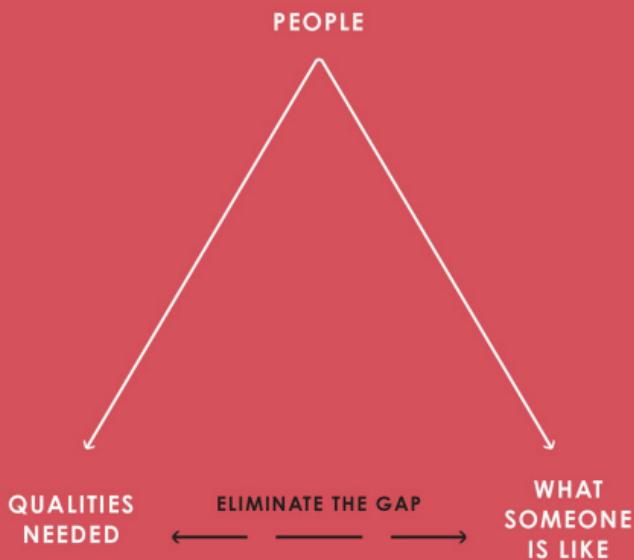
While we talked about an organization's culture in the last section, its people are even more important because they can change the culture for better or for worse. A culture and its people are symbiotic—the culture attracts certain kinds of people and the people in turn either reinforce or evolve the culture based on their values and what they're like. If you choose the right people with the right values and remain in sync with them, you will play beautiful jazz together. If you choose the wrong people, you will all go over the waterfall together.

Steve Jobs, who everyone thought was the secret to Apple's success, said, "The secret to my success is that we've gone to exceptional lengths to hire the best people in the world." I explain this concept in the next chapter, Remember That the WHO Is More Important than the WHAT. Anyone who runs a successful organization will tell you the same.

Yet most organizations are bad at recruiting. It starts with interviewers picking people they like and who are like them instead of focusing on what people are really like and how well they will fit in their jobs and careers. As I describe in Chapter Eight, Hire Right, Because the Penalties for Hiring Wrong Are Huge, to hire well, one needs a more scientific process that precisely matches people's values, abilities, and skills with the organization's culture and its career paths. You and your candidate need to get to know each other. You have to let them interview your organization and you have to honestly convey to them what it's like, warts and all, and be crystal clear about what you can expect from each other.

But even then, after you both say yes, you won't know if you have a good fit until you've lived together in your work and your relationships for a while. The "interviewing" process doesn't end when employment begins, but transitions into a rigorous process of training, testing, sorting, and most importantly, getting in sync, which I describe in Chapter Nine, Constantly Train, Test, Evaluate, and Sort People.

I believe that the ability to objectively self-assess, including one's own weaknesses, is the most influential factor in whether a person succeeds, and that a healthy organization is one in which people compete not so much against each other as against the ways in which their lower-level selves get in the way. Your goal should be to hire people who understand this, equip them with the tools and the information they need to flourish in their jobs, and not micromanage them. If they can't do the job after being trained and given time to learn, get rid of them; if they can, promote them.





## **7 Remember That the WHO Is More Important than the WHAT**

People often make the mistake of focusing on what should be done while neglecting the more important question of who should be given the responsibility for determining what should be done. That's backward. When you know what you need in a person to do the job well and you know what the person you're putting into it is like, you can pretty well visualize how things will go.

I remember one case where one of our most talented rising executives was putting together a transition plan so that he could move on to another role. He arrived at a meeting with the Management Committee with binders full of process flows and responsibility maps, detailing every aspect of the area he'd been responsible for, and explained how he'd automated and systemized as much of it as possible to make it foolproof. It was an impressive presentation, but it quickly became clear that he didn't have an answer for who was going to take his place and what would happen if they saw things differently and put together a different plan. Who would oversee the machine he'd built, probe it for problems, and constantly improve it or decide to get rid of it? What qualities would such a person need to produce the same excellent results that he had—i.e., what were the important job specifications we should match the person against? Where would we go to recruit such a person?

While these kinds of questions seem obvious in retrospect, time and again I see people overlooking them. Not knowing what is required to do the job well and not knowing what your people are like is like trying to run a machine without knowing how its parts work together.

When I was younger I didn't really understand the saying, "Hire someone better than you." Now, after decades of hiring, managing, and firing people, I understand that to be truly successful I need to be like a conductor of people, many of whom (if not all) can play their instruments better than I can—and that if I was a *really* great conductor, I would also be able to find a better conductor than me and hire him or her. My ultimate goal is to create a machine that works so well that I can just sit back and watch beauty happen.

I cannot emphasize enough how important the selection, training, testing, evaluation, and sorting out of people is.

In the end, what you need to do is simple:

1. Remember the goal.
2. Give the goal to people who can achieve it (which is best) or tell them what to do to achieve it (which is micromanaging and therefore less good).
3. Hold them accountable.
4. If they still can't do the job after you've trained them and given them time to learn, get rid of them.

## **7.1 Recognize that the most important decision for you to make is who you choose as your Responsible Parties.**

If you put your goals in the hands of RPs who can execute those goals well, and if you make it clear to them that they are personally responsible for achieving those goals and doing the tasks, they should produce excellent results.

The same goes for yourself. If your designer/manager-you doesn't have a good reason to be confident that your worker-you is up to a given task, it would be crazy to let yourself do the task without seeking the supervision of believable parties. You know that there are a lot of incompetent people in the world trying to do things they're not good at, so the chances are good that you are one of them. That's just a reality and it's okay for you to accept it and deal with it in a way that produces good outcomes.

**a. Understand that the most important RPs are those responsible for the goals, outcomes, and machines at the highest levels.** Give me someone who can be responsible for an entire area—someone who can design, hire, and sort to achieve the goal—and I can be comfortable things will go well. These are the most important people to choose and manage well. Senior managers must be capable of higher-level thinking, and understand the difference between goals and tasks—otherwise you will have to do their jobs for them. The ability to see and value goals is largely innate, though it improves with experience. It can be tested for, though no tests are perfect.

## **7.2 Know that the ultimate Responsible Party will be the person who bears the consequences of what is done.**

So long as you bear the consequences of failure, you are the ultimate Responsible Party. For example, while you might choose to delegate the responsibility of figuring out how to handle your illness to a doctor, it is your responsibility to pick the right one, since you will bear the consequences if he does a bad job. Or if you were building a house, would you go to an architect and say “show me the kinds of houses I can build” or would you tell the architect what kind of house you want to live in? This is especially true when it comes to money. If you delegate the oversight responsibility for your finances to others, they typically won’t hold themselves as accountable for your money as they would their own and they won’t fire themselves if they are doing a bad job. Only the ultimate RP can do that.

When putting someone in a position of responsibility, make sure their incentives are aligned with their responsibilities and they experience the consequences of the outcomes they produce. As an example, structure their deals so that they do well or badly based on how well or badly you do in the areas they are responsible for. This is fundamental for good management.

**a. Make sure that everyone has someone they report to.** Even a company's owners have bosses, in their case, the investors whose money is being spent to achieve their goals. If the owners are self-funded, they still have to make their clients and employees happy. And they can't escape the

responsibility of making sure that their costs are acceptable and their goals are being met. Even if a person's job is unique, someone needs to be holding them accountable at all times.

### **7.3 Remember the force behind the thing.**

Most people see the things around them without considering the forces that created them. In most cases those forces were specific people with specific qualities who worked in specific ways. Change the people and you change how things develop; replace creators with noncreators and you stop having creations.

People tend to personify organizations ("Apple is a creative company") while mistakenly depersonalizing their results, thus losing sight of who did what to produce them. That's misguided because companies don't make decisions—people do.

So who are the people in your organization behind the results and culture that make it special? Think about who they are and how they work together to make it what it is.

## **8 Hire Right, Because the Penalties for Hiring Wrong Are Huge**

Remember back in *Understand That People Are Wired Very Differently* when I described Bridgewater's hit-or-miss hiring practices in its early days? At the very beginning, we just hired people we liked. But too many of them turned out to be bad fits. Because we liked them, we were reluctant to give up on them, and things often went from bad to worse. So we started hiring like most companies do, by looking at résumés, narrowing the lists, and then interviewing to get a gut feel for who was right. But the questions we asked our candidates, unlike the questions on a scientifically constructed personality test, were unlikely to elicit answers truly indicative of what they were like.

What we were doing, essentially, was looking at prospective employees through our own biased perspectives. Those of us who were linear thinkers tended to want to hire linear thinkers; those of us who were lateral thinkers tended to want to hire lateral thinkers. We all thought the type we chose would perform best in all jobs, and as a result we weren't able to accurately predict who would succeed and who would fail in our very unusual environment. As a result, we continued to make a lot of bad hires.

Eventually we learned from our mistakes and failures that we could improve our hiring results in two ways: 1) by always being crisp and clear on exactly what kind of person we were looking for, and 2) by developing our vocabulary for and means of evaluating people's abilities at a much more granular level. This chapter lays out in detail the principles we've learned for doing this. While we still make too many hiring mistakes, we have significantly reduced the odds of making them by following these processes, which we continually try to improve.

At a high level, we look for people who think independently, argue open-mindedly and assertively, and above all else value the intense pursuit of truth and excellence, and through it, the rapid improvement of themselves and the organization. Because we treat work as more than just what we do to make a living, we look at every potential hire not just as an employee but as someone we'd want share our lives with. We insist that the people we work with are considerate and have a high sense of personal accountability to do the difficult, right things. We look for people with generous natures and high standards of fairness. Most important, they must be able to put their egos aside and assess themselves candidly.

Whether you choose to look for these same traits or others, the most important thing you can do is understand that hiring is a high-risk gamble that needs to be approached deliberately. A lot of time, effort, and resources go into hiring and developing new employees before it's clear whether or not they are good fits. Months or even years and countless dollars can be wasted in training and retraining. Some of those costs are intangible, including loss of morale and a gradual diminishment of standards as people who aren't excellent in their roles bump into each other; other costs from bad outcomes can be measured all too easily in dollars and cents. So whenever

you think you are ready to make someone an offer, think one last time about the important things that might go wrong and what else you can do to better assess those risks and raise your probability of being right.

### **3.1 Match the person to the design.**

When building a “machine,” design precedes people because the type of people you will need will depend on the design. As you design, create a clear mental image of the attributes required for each person to do their job well. It is futile to give responsibilities to people who do not have the qualities required to succeed. It frustrates, and inevitably angers, all parties, which is damaging to the environment.

In order to match a person to the design, start by creating a spec sheet so that there will be a consistent set of criteria that can be applied from recruiting through performance reviews. Bridgewater's spec sheets use the same bank of qualities as our Baseball Cards.

Don't design jobs to fit people; over time, this almost always turns out to be a mistake. This often happens when someone you are reluctant to let go doesn't work out, and there is an inclination to try to find out what else that person can do. Frequently managers fail to be objective about their own strengths and weaknesses, and put themselves into roles that they're not a click for.

**a. Think through which values, abilities, and skills you are looking for (in that order).** Values are the deep-seated beliefs that motivate behaviors and determine people's compatibilities with each other. People will fight for their values, and they are likely to fight with people who don't share them. Abilities are ways of thinking and behaving. Some people are great learners and fast processors; others possess the ability to see things at a higher level. Some focus more on the particulars; still others think creatively or logically or with supreme organization. Skills are learned tools, such as being able to speak a foreign language or write computer code. While values and abilities are unlikely to change much, most skills can be acquired in a limited amount of time (e.g., software proficiency can be learned) and often change in worth (today's most in-demand programming language is likely to be obsolete in a few years).

It is important for you to know what mix of qualities is important to fit each role and, more broadly, what values and abilities are required in people with whom you can have successful relationships. In picking people for long-term relationships, values are most important, abilities come next, and skills are the least important. Yet most people make the mistake of choosing skills and abilities first and overlooking values. We value people most who have what I call the three C's: character, common sense, and creativity.

If your people are bound by a sense of community and mission and they are capable, you will have an extraordinary organization. Some people will value the mission and community and others won't. Since at Bridgewater the key shared values that maintain our culture are meaningful work and meaningful relationships, radical truth and radical transparency, an open-minded willingness to explore harsh realities including one's own weaknesses, a sense of ownership, a drive for excellence, and the willingness to do the good but difficult things, we look for highly capable people who deeply want all of those things.

**b. Make finding the right people systematic and scientific.** The process for choosing people should be systematically built out and evidence-based. You need to have a people-hiring machine in which the goals are clearly stated so that the outcomes can be compared with them and the machine (the design and the people) producing the outcomes can evolve to improve.

Organizations typically hire people by having job candidates' resumes reviewed by semi-random people based on semi-random criteria, which leads them to invite in candidates to have semi-random groups of people ask the candidates semi-random questions and then make their choices of whom to offer jobs based on the consensus of how they liked them. You need to make sure that each one of those steps is done more systematically and purposefully. For example, you should think through what questions are asked and how the different answers candidates give differentiate them in the ways that you are seeking to differentiate them. You should also save all of those answers so you can learn about how indicative they might be of subsequent behaviors and performance. I do not mean that the human dimension or art of the hiring process should be eliminated—the personal values and esprit de corps part of a relationship are critically important and can't be fully measured by data. Sometimes the twinkle in the eye and the facial expressions are telling. However, even for those areas where people's subjective interpretations are important, you can still use data and a scientific approach to be more objective—for example, you can capture data to assess the track records of those making the interpretations.

**c. Hear the click Find the right fit between the role and the person.** Remember that your goal is to put the right people in the right design. First understand the responsibilities of the role and the qualities needed to fulfill them, then ascertain whether an individual has them. When you're doing this well, there should almost be an audible "click" as the person you're hiring fits into his or her role.

**d. Look for people who sparkle, not just "any ol' one of those."** Too many people get hired because they are just "one of those." If you're looking for a plumber you might be inclined to fill the job with the first experienced plumber you interview, without ascertaining whether he has the qualities of an outstanding plumber. Yet the difference between an ordinary plumber versus an outstanding one is huge. When reviewing any candidate's background, you must identify whether they have demonstrated themselves to be extraordinary in some way. The most obvious demonstration is outstanding performance within an outstanding peer group. If you're less than excited to hire someone for a particular job, don't do it. The two of you will probably make each other miserable.

**e. Don't use your pull to get someone a job.** It is unacceptable to use your personal influence to help someone get a job because doing so undermines the meritocracy. It's not good for the job seeker, because it conveys they did not really earn it; it is not good for the person doing the hiring, because it undermines their authority; and it is not good for you because it demonstrates you will compromise merit for friends. It is an insidious form of corruption and it must not be tolerated. The most you can do at Bridgewater in this respect is to provide a reference for someone you know well enough to endorse. Even though Bridgewater is my company, I have never deviated from this policy.

### **3.2 Remember that people are built very differently and that different ways of seeing and thinking make people suitable for different jobs.**

Some ways of thinking will serve you well for some purposes and serve you poorly for others. It is highly desirable to understand one's own and others' ways of thinking and their best applications. Some qualities are more suitable for some jobs. For example, you might not want to hire a highly introverted person as a salesman. That's not to say an introvert can't do that job; it's just that a gregarious person is likely to be more satisfied in the role and do a better job.

If you're not naturally good at one type of thinking, it doesn't mean you're precluded from paths that require it. It does, however, require that you either work with someone who has that required way of thinking (which works best) or learn to think differently (which is difficult or even impossible).

On the other hand, sometimes I see people dealing with each other, especially in groups, without regard for these differences. They are like the parable of the blind men touching different parts of an elephant and arguing about what it is. Just think about how much better it would be if people were open-minded enough to realize that none of them have the complete picture. Both people expressing their own views and those considering others' views need to take each other's differences into account. These differences are real, so it's dumb to pretend they don't exist.

**a. Understand how to use and interpret personality assessments.** Personality assessments are valuable tools for getting a quick picture of what people are like in terms of their abilities, preferences, and style. They are often more objective and reliable than interviews.

**b. Remember that people tend to pick people like themselves, so choose interviewers who can identify what you are looking for.** If you're looking for a visionary, pick a visionary to do the interview in which you probe for vision. If you are looking for a mix of qualities, assemble a group of interviewers who embody those qualities collectively. Don't choose interviewers whose judgment you don't trust (in other words, make sure they are believable).

**c. Look for people who are willing to look at themselves objectively.**

Everybody has strengths and weaknesses. The key to success is understanding one's weaknesses and successfully compensating for them. People who lack that ability fail chronically.

**d. Remember that people typically don't change all that much.** This is especially true over short periods of time like a year or two, yet most people want to assume that when someone does something wrong the person will learn the lesson and change. That's naive. It is best to assume that they won't change unless there is good evidence to the contrary that they will.

It's better to bet on changes you have seen than those you hope for.

### **3.3 Think of your teams the way that sports managers do: No one person possesses everything required to produce success, yet**

## **everyone must excel.**

Teams should operate like those in professional sports, where different skills are required to play different positions. Excellence in each is mandatory, the success of the mission is uncompromisable, and members that don't measure up may need to be cut. When teams operate with such high standards and shared values, extraordinary relationships are likely to develop.

### **3.4 Pay attention to people's track records.**

People's personalities are pretty well formed before they come to you, and they've been leaving their fingerprints all over the place since childhood; anyone is fairly knowable if you do your homework. You have to get at their values, abilities, and skills: Do they have a track record of excellence in what you're expecting them to do? Have they done the thing you want them to do successfully at least three times? If not, you're making a lower-probability bet, so you want to have really good reasons for doing so. That doesn't mean you should never allow yourself or others to do anything new; of course you should. But do it with appropriate caution and with guardrails. That is, have an experienced person oversee the inexperienced person, yourself included (if you fit that description).

**a. Check references.** Don't rely exclusively on the candidate for information about their track record: Talk to believable people who know them, look for documented evidence, and ask for past reviews from their bosses, subordinates, and peers. As much as possible, you want to get a clear and objective picture of the path that they have chosen for themselves and how they have evolved along the way. I've seen plenty of people who claimed to be successful elsewhere operate ineffectively at Bridgewater. A closer look often revealed that they were either not as successful as they portrayed themselves or they got credit for others' accomplishments.

**b. Recognize that performance in school doesn't tell you much about whether a person has the values and abilities you are looking for.** Largely because they are the easiest to measure, memory and processing speed tend to be the abilities that determine success in school, so school performance is an excellent gauge of these qualities. School performance is also a good gauge of a person's determination to succeed, as well as their willingness and ability to follow directions. But when it comes to assessing a candidate's common sense, vision, creativity, or decision-making abilities, school records are of limited value. Since those traits are the most important, you must look beyond school to ascertain whether an applicant has them.

**c. While it's best to have great conceptual thinkers, understand that great experience and a great track record also count for a lot.** There are all sorts of jobs and they require all types of people to handle them. I am frequently biased toward finding the entrepreneur type—a clever, open-minded scrapper who will find the best solution—and I have often been disappointed. On the other hand, sometimes I have found a master craftsman who has devoted decades to his specialty who I could completely rely on. What keeps coming to my mind is Malcolm Gladwell's rule that

it takes ten thousand hours of doing something to build expertise—and the value of looking at batting averages to judge how well a person can hit. One way you can tell how well a talented rookie will do relative to a proven star is to get them into a debate with each other and see how well they each hold up.

**d. Beware of the impractical idealist.** Idealistic people who have moralistic notions about how people should behave without understanding how people really do behave do more harm than good.

As a global macroeconomist and businessman and as a philanthropist I have seen this repeatedly in all those domains. I have come to believe that as well-intentioned as they are, impractical idealists are dangerous and destructive, whereas practical idealists make the world a better place. To be practical one needs to be a realist—to know where people's interests lie and how to design machines that produce results, as well as metrics that measure those benefits in relation to the costs. Without such measures, waste will limit or erase the benefits, and with them the benefits will keep flowing.

**e. Don't assume that a person who has been successful elsewhere will be successful in the job you're giving them.** No matter how good you are at hiring, some of your hires won't work out. Know how the people you're considering operate and visualize how that will produce successful results. Knowing what they did is valuable only insofar as it helps you figure out what they are like.

**f. Make sure your people have character and are capable.** The person who is capable but doesn't have good character is generally destructive, because he or she has the cleverness to do you harm and will certainly erode the culture. In my opinion, most organizations overvalue the abilities piece and undervalue the character piece because of a shortsighted focus on getting the job done. In doing so, they lose the power of the great relationships that will take them through both good and bad times.

Don't get me wrong, I'm not saying that you should compromise capabilities for character. The person with good character and poor abilities also creates problems. While likable, he or she won't get the job done and is painfully difficult to fire because doing so feels like shooting the loyal dog you can't afford to keep anymore—but he must go. Ultimately, what you need in the people you work with are excellent character *and* excellent capabilities, which is why it's so hard to find great people.

### **3.5 Don't hire people just to fit the first job they will do; hire people you want to share your life with.**

Turnover is costly and inefficient because of the time it takes for people to get to know each other and the organization. Both the people you work with and the company itself will evolve in ways you can't anticipate. So hire the kind of people you want to share a long-term mission with. You will always have uses for great people.

- a. **Look for people who have lots of great questions.** Smart people are the ones who ask the most thoughtful questions, as opposed to thinking they have all the answers. Great questions are a much better indicator of future success than great answers.
- b. **Show candidates your warts.** Show your job prospects the real picture, *especially* the bad stuff. Also show them the principles in action, including the most difficult aspects. That way you will stress-test their willingness to endure the real challenges.

- c. **Play jazz with people with whom you are compatible but who will also challenge you.** You need people who share your tastes and style but who can also push and challenge each other. The best teams, whether in music, in sports, or in business, do all those things at the same time.

### **3.6 When considering compensation, provide both stability and opportunity.**

Pay people enough so that they're not under financial stress, but not so much that they become fat and happy. You want your people to be motivated to perform so they can realize their dreams. You don't want people to accept a job for the security of making a lot more money—you want them to come for the opportunity to *earn* it through hard and creative work.

- a. **Pay for the person, not the job.** Look at what people in comparable jobs with comparable experience and credentials make, add some small premium over that, and build in bonuses or other incentives so they will be motivated to knock the cover off the ball. Never pay based on the job title alone.
- b. **Have performance metrics tied at least loosely to compensation.** While you will never fully capture all the aspects that make for a great work relationship in metrics, you should be able to establish many of them. Tying performance metrics to compensation will help crystallize your understanding of your deal with people, provide good ongoing feedback, and influence how the person behaves on an ongoing basis.
- c. **Pay north of fair.** By being generous or at least a little north of fair with others I have enhanced both our work and our relationships and most people have responded in kind. As a result, we have gained something even more special than money in the form of mutual caring, respect, and commitment.
- d. **Focus more on making the pie bigger than on exactly how to slice it so that you or anyone else gets the biggest piece.** The best negotiations are the ones with someone in which I say, "You should take more," and they argue back, "No you should take more!" People who operate this way with each other make the relationship better and the pie bigger—and both benefit in the long run.

### **3.7 Remember that in great partnerships, consideration and generosity are more important than money.**

Someone who doesn't have much can be more generous giving a little than a rich person giving a lot. Some people respond to the generosity while others respond to the money. You want the first type with you, and you always want to treat them generously.

When I had nothing, I was as generous as I could be with people who appreciated my generosity more than the higher levels of compensation others could afford to give them. For that reason, they stayed with me. I never forgot that, and I made a point of making them rich when I had the opportunity to do so. And they in turn were generous to me in their own way when I needed their generosity most. We both got something much more valuable than money—and we got the money too.

Remember that the only purpose of money is to get you what you want, so think hard about what you value and put it above money. How much would you sell a good relationship for? There's not enough money in the world to get you to part with a valued relationship.

**a. Be generous and expect generosity from others.** If you're not generous with others and others aren't generous with you, you won't have a quality relationship.

### **3.8 Great people are hard to find so make sure you think about how to keep them.**

Make sure you're following the suggestions made earlier, like building meaningful relationships and constantly getting in sync. Most importantly, you have to encourage people to speak up about how things are going for them. Ensuring that their personal development is proceeding appropriately is important too. Close advice from an active mentor should last at least one year.

**When you know  
what someone is like, you know  
what you can expect from them.**

## **9 Constantly Train, Test, Evaluate, and Sort People**

**B**oth your people and your design must evolve for your machine to improve. When you get personal evolution right, the returns are exponential. As people get better and better, they are more able to think independently, probe, and help you refine your machine. The faster they evolve, the faster your outcomes will improve.

Your part in an employee's personal evolution begins with a frank assessment of their strengths and weaknesses, followed by a plan for how their weaknesses can be mitigated either through training or by switching to a different job that taps into their strengths and preferences. At Bridgewater, new employees are often taken aback by how frank and direct such conversations can be, but it's not personal or hierarchical—no one is exempt from this kind of criticism. While this process is generally difficult for both managers and their subordinates, in the long run it has made people happier and Bridgewater more successful. Remember that most people are happiest when they are improving and doing the things that suit them naturally and help them advance. So learning about your people's weaknesses is just as valuable (for them and for you) as is learning their strengths.

Even as you help people develop, you must constantly assess whether they are able to fulfill their responsibilities excellently. This is not easy to do objectively since you will often have meaningful relationships with your reports and may be reluctant to evaluate them accurately if their performance isn't at the bar. By the same token, you may be tempted to give an employee who rubs you the wrong way a worse evaluation than he or she deserves. An idea meritocracy requires objectivity. Many of the management tools we have developed were built to do just that, providing us with an unbiased picture of people and their performance independent of the biases of any one manager. This data is essential in cases where a manager and a report are out of sync on an assessment and others are called in to resolve the dispute.

A few years ago, one of our employees was serving in a trial role as a department head. The prior department head had left the firm, and Greg, who was then CEO, was assessing whether this employee, who had previously been a deputy, had the right abilities to step into the role. The employee thought he did; Greg and others thought he did not. But this decision was not as simple as the CEO "making the call." We want decisions to be more evidence-based. As a result of our Dot Collector system of constant feedback, we had literally hundreds of data points on the specific attributes required for the job, including synthesis, knowing what he didn't know, and managing at the right level. So we put all this data onto the screen and stared hard at it together. We then asked the employee to look at that body of evidence and reflect on what he would do if he were in the position of deciding whether he'd hire himself for the job. Once he was able to step back and look at the objective evidence, he agreed to move on and try another role at Bridgewater more suited to his strengths.

Helping people acquire skills is easy—it's typically a matter of providing them with appropriate training. Improvements in abilities are more difficult but essential to expanding what a person can be responsible for over time. And changing someone's values is something you should never count on. In every relationship, there comes a point when you must decide whether you are meant for each other—that's common in private life and at any organization that holds high standards. At Bridgewater, we know that we cannot compromise on the fundamentals of our culture, so if a person can't get to the bar in an acceptable time frame, he or she must leave.

Every leader must decide between 1) getting rid of liked but incapable people to achieve their goals and 2) keeping the nice but incapable people and not achieving their goals. Whether or not you can make these hard decisions is the strongest determinant of your own success or failure. In a culture like Bridgewater's, you have no choice. You must choose excellence, even though it might be difficult at the moment, because it's best for everyone.

## **9.1 Understand that you and the people you manage will go through a process of personal evolution.**

No one is exempt from this process. Having it go well depends on people's abilities to make frank assessments of strengths and weaknesses (most importantly weaknesses). While it's generally as difficult for managers to give this feedback as it is for their subordinates to hear it, in the long run it makes people happier and the organization more successful.

**a. Recognize that personal evolution should be relatively rapid and a natural consequence of discovering one's strengths and weaknesses; as a result, career paths are not planned at the outset.** The evolutionary process is about discovering people's likes and dislikes as well as their strengths and weaknesses; it occurs when people are put into jobs they are likely to succeed at, but in which they have to stretch themselves. Each person's career will evolve based on what we all learn about what the person is like.

They should be given enough freedom to learn and think for themselves while being coached so they are prevented from making unacceptable mistakes. The feedback they receive should help them reflect on whether their problems are the kind that can be resolved by additional learning or stem from natural abilities that are unlikely to change. Typically it takes from six to twelve months to get to know a new employee in a by-and-large sort of way, and about eighteen months for them to internalize and adapt to the culture. During this time there should be periodic mini-reviews and several major ones. Following each of these assessments, new assignments should be made that are tailored to their likes and dislikes and strengths and weaknesses. This is an iterative process, in which the accumulated experiences of training, testing, and adjusting direct the person to ever more suitable roles and responsibilities. At Bridgewater, it is typically both a challenging and rewarding process that benefits the individual by providing better self-understanding and greater familiarity with various jobs. When it results in a parting of ways, it's usually because people find they cannot be excellent and happy in any job at the firm.

**b. Understand that training guides the process of personal evolution.** Trainees must be open-minded; the process requires them to suspend their egos while they discover what they are doing well and what they are doing poorly and decide what to do about it. The trainer must be open-minded as well, and it's best if at least two believable trainers work with each trainee in order to triangulate their views about what the trainee is like. This training is an apprentice relationship; it occurs as the trainer and trainee share experiences, much like when a ski instructor skis alongside his student. The process promotes growth, development, and transparency around where people stand, why they stand where they stand, and what they can do about improving it. It hastens not just their own personal evolution but the evolution of the organization.

**c. Teach your people to fish rather than give them fish, even if that means letting them make some mistakes.** Sometimes you need to stand by and let someone make a mistake (provided it's not too serious) so they can learn. It's a bad sign if you are constantly telling people what they should do; micromanagement typically reflects inability on the part of the person being managed. It's also not a good thing for you as a manager. Instead of micromanaging, you should be training and testing. Give people your thoughts on how they might approach their decisions, but don't dictate to them. The most useful thing you can do is to get in sync with them, exploring how they are doing things and why.

**d. Recognize that experience creates internalized learning that book learning can't replace.** There are huge differences between memory-based book learning and hands-on, internalized learning. A medical student who has learned to perform an operation in a medical school class has not learned it in the same way as a doctor who has already conducted several operations. People who excel at book learning tend to call up from memory what they have learned in order to follow stored instructions. People who have internalized their learning use the thoughts flowing from their subconscious without thinking, in the same way they walk down the street. Understanding these differences is essential.

## **9.2 Provide constant feedback.**

Most training comes from doing and getting in sync about performance. Feedback should reflect what is succeeding and what is not in proportion to the actual situation, rather than in an attempt to balance compliments and criticisms. Remember that you are responsible for achieving your goals, and you want your machine to function as intended. For it to do so, the employees you supervise must meet expectations, and only you can help them understand whether they are stacking up. As their strengths and weaknesses become clearer, responsibilities can be more appropriately tailored to make the machine work better and to facilitate personal evolution.

## **9.3 Evaluate accurately, not kindly.**

Nobody ever said radical honesty was easy. Sometimes, especially with new employees who have not yet gotten used to it, an honest assessment feels like an attack. Rise to a higher level and keep your eye on the bigger picture and counsel the person you are evaluating to do the same.

- a. In the end, accuracy and kindness are the same thing.** What might seem kind but isn't accurate is harmful to the person and often to others in the organization as well.
- b. Put your compliments and criticisms in perspective.** It helps to clarify whether the weakness or mistake under discussion is indicative of a trainee's total evaluation. One day I told one of our new research people what a good job I thought he was doing and how strong his thinking was. It was a very positive initial evaluation. A few days later I heard him chatting away at length about stuff that wasn't related to work, so I warned him about the cost to his and our development if he regularly wasted time. Afterward I learned that he thought he was on the brink of being fired. My comment about his need for focus had nothing to do with my overall evaluation. Had I explained myself better when we sat down that second time, he could have put my comment into perspective.
- c. Think about accuracy, not implications.** It's often the case that someone receiving critical feedback gets preoccupied with the implications of that feedback instead of whether it's true. This is a mistake. As I'll explain later, conflating the "what is" with the "what to do about it" typically leads to bad decision making. Help others through this by giving feedback in a way that makes it clear that you're just trying to understand what's true. Figuring out what to do about it is a separate discussion.
- d. Make accurate assessments.** People are your most important resource and truth is the foundation of excellence, so make your personnel evaluations as precise and accurate as possible. This takes time and considerable back-and-forth. Your assessment of how Responsible Parties are performing should be based not on whether they're doing it your way but on whether they're doing it in a good way. Speak frankly, listen with an open mind, consider the views of other believable and honest people, and try to get in sync about what's going on with the person and why. Remember not to be overconfident in your assessments, as it's possible you are wrong.
- e. Learn from success as well as from failure.** Radical truth doesn't require you to be negative all the time. Point out examples of jobs done well and the causes of their success. This reinforces the actions that led to the results and creates role models for those who are learning.
- f. Know that most everyone thinks that what they did, and what they are doing, is much more important than it really is.** If you ask everybody in an organization what percentage of the organization's success they're personally responsible for, you'll wind up with a total of about 300 percent.<sup>39</sup> That's just the reality, and it shows why you must be precise in attributing specific results to specific people's actions. Otherwise, you'll never know who is responsible for what—and

even worse, you may make the mistake of believing people who wrongly claim to be behind great accomplishments.

## **9.4 Recognize that tough love is both the hardest and the most important type of love to give (because it is so rarely welcomed).**

The greatest gift you can give someone is the power to be successful. Giving people the opportunity to struggle rather than giving them the things they are struggling for will make them stronger.

Compliments are easy to give but they don't help people stretch. Pointing out someone's mistakes and weaknesses (so they learn what they need to deal with) is harder and less appreciated, but much more valuable in the long run. Though new employees will come to appreciate what you are doing, it is typically difficult for them to understand it at first; to be effective, you must clearly and repeatedly explain the logic and the caring behind it.

**a. Recognize that while most people prefer compliments, accurate criticism is more valuable.** You've heard the expression "no pain no gain." Psychologists have shown that the most powerful personal transformations come from experiencing the pain from mistakes that a person never wants to have again—known as "hitting bottom." So don't be hesitant to give people those experiences or have them yourself.

While it is important to be clear to people about what they are doing well, it is even more important to point out their weaknesses and have them reflect on them.

Problems require more time than things that are going well. They must be identified and understood and addressed, while things that are running smoothly require less attention. Instead of celebrating how great we are, we focus on where we need to improve, which is how we got to be so great.

## **9.5 Don't hide your observations about people.**

Explore them openly with the goal of figuring out how you and your people are built so that the right people can be put in the right jobs.

**a. Build your synthesis from the specifics up.** By synthesizing, I mean converting a lot of data into an accurate picture. Too many people make assessments of people without connecting them to specific data. When you have all the specifics that we have at Bridgewater—the dots, meeting tapes, etc.—you can and must work from the specifics up and see the patterns in the data. Even without such tools, other data such as metrics, testing, and the input of others can help you form a more complete picture of what the person is like, as well as examine what they did.

**b. Squeeze the dots.** Every observation of a person potentially tells you something valuable about how they operate. As I explained earlier, I call these observations "dots." A dot is a piece of data that's paired with your inference about what it means—a judgment about what someone might

have decided, said, or thought. Most of the time we make these inferences and judgments implicitly and keep them to ourselves, but I believe that if they are collected systematically and put into perspective over time, they can be extremely valuable when it's time to step back and synthesize the picture of a person.

**c. Don't oversqueeze a dot.** Remember: A dot is just a dot; what matters is how they add up. Think of each individual dot as an at-bat in baseball. Even great hitters are going to strike out many times, and it would be foolish to evaluate them based on one trip to the plate. That's why stats like on-base percentage and batting average exist.

In other words, any one event has many different possible explanations, whereas a pattern of behavior can tell you a lot about root causes. The number of observations needed to detect a pattern largely depends on how well you get in sync after each observation. A quality discussion of how and why a person behaved a certain way should help you understand the larger picture.

**d. Use evaluation tools such as performance surveys, metrics, and formal reviews to document all aspects of a person's performance.** It's hard to have an objective, open-minded, emotion-free conversation about performance if there is no data to discuss. It's also hard to track progress. This is part of the reason I created the Dot Collector. I also recommend thinking about other ways that people's responsibilities can be put in metrics. One example: You can have people note whether they did or didn't do things on checklists, which you can then use to calculate what percentage of tasks they complete. Metrics tell us whether things are going according to plan—they are an objective means of assessment and they improve people's productivity.

## **3.6 Make the process of learning what someone is like open, evolutionary, and iterative.**

Articulate your assessment of a person's values, abilities, and skills up front and share it; listen to their and others' responses to your description; organize a plan for training and testing; and reassess your conclusions based on the performance you observe. Do this on an ongoing basis. After several months of discussions and real-world tests, you and your report should both have a pretty good idea of what he or she is like. Over time this exercise will crystallize suitable roles and appropriate training or it will reveal that it's time for the person to find a more appropriate job somewhere else.

**a. Make your metrics clear and impartial.** To help you build your perpetual motion machine, have a clear set of rules and a clear set of metrics to track how people are performing against those rules—and predetermined consequences that are determined formulaically based on the output of those metrics.

The more clear-cut the rules are, the less arguing there will be about whether someone did something wrong. For example, we have rules about how employees can manage their own

investments in a way that doesn't conflict with how we manage money for clients. Because these rules are clear-cut, there's no room for argument when a breach occurs.

Having metrics that allow everyone to see everyone else's track record will make evaluation more objective and fair. People will do the things that will get them higher grades and will argue less about them. Of course, since most people have a number of things to do that are of different importance, different metrics have to be used and weighted appropriately. The more data you collect, the more immediate and precise the feedback will be. That is one of the reasons I created the Dot Collector tool to work as it does (providing lots of immediate feedback); people often use the feedback that they get during a meeting to course-correct in the meeting in real time.

Once you have your metrics, you can tie them to an algorithm that spits out consequences. They can be as simple as saying that for every time you do X you will earn Y amount of money (or bonus points), or it can be more complex (for example, tying the weighted mix of metrics grades to various algorithms that provide the estimated compensation or bonus points).

While this process will never be exact, it will still be good in even its crudest form, and over time it will evolve to be terrific. Even when flawed, the formulaic output can be used with discretion to provide a more precise evaluation and compensation; over time it will evolve into a wonderful machine that will do much of your managing better than you could do it on your own.

**b. Encourage people to be objectively reflective about their performance.** Being able to see yourself from a higher level is essential for personal evolution and achieving your goals. So you and the people who report to you should be looking at the evidence of their performance together; for this to go well, you need lots and lots of evidence and an objective point of view. If required, use agreed-upon others to triangulate the picture the evidence presents.

**c. Look at the whole picture.** In reviewing someone, the goal is to see the patterns and to understand the whole picture. No one can be successful in every way (if they are extremely meticulous, for example, they might not be able to be fast, and vice versa). Assessments made in reviews must be concrete; they're not about what people *should* be like but what they *are* like.

**d. For performance reviews, start from specific cases, look for patterns, and get in sync with the person being reviewed by looking at the evidence together.** While feedback should be constant, reviews are typically periodic; their purpose is to bring together the accumulated evidence of what a person is like as it pertains to their job performance. If the constant feedback is done well, it will become like a constant review as the bits and pieces will add up to the whole. A review should contain few surprises, because you should continuously be striving to make sense of how the person is doing their job. If you think their job is being done badly, you should have been probing to identify and address the root causes of their underperformance on a case-by-case basis. It's difficult for people to identify their own weaknesses; they need the appropriate probing (not nit-picking) of specific cases by others to get at the truth of what they are like and how they are fitting into their jobs.

In some cases it won't take long to see what a person is like; in other cases it's a lot harder. But over time and with a large enough sample of cases, their track records (the level and the steepness up or down in the trajectories that they are responsible for, rather than the occasional

wiggles) should paint a clear picture of what you can expect from them. If there are performance issues, it is either because of design problems (perhaps the person has too many responsibilities) or fit/abilities problems. If the problems are due to the person's inabilities, these inabilities are either because of the person's innate weaknesses in doing that job (e.g., someone who's five foot two probably shouldn't be a center on the basketball team) or because of inadequate training. A good review, and getting in sync throughout the year, should get at these things. Make sure to make your assessment relative to the absolute bar, not just the progress over time. What matters most is not just outcomes but how responsibilities were handled. The goal of a review is to be clear about what the person can and can't be trusted to do based on what they are like. From there, you can determine what to do about it.

**e. Remember that when it comes to assessing people, the two biggest mistakes you can make are being overconfident in your assessment and failing to get in sync on it.** If you believe that something is true about someone, it's your responsibility to make sure that it is true and that the person you're assessing agrees. Of course, in some cases it may be impossible to get in sync (if you believe that someone was dishonest and they insist that they weren't, for example), but in a culture of truth and transparency it is an obligation to share your view and let others express theirs.

**f. Get in sync on assessments in a nonhierarchical way.** In most organizations, evaluations run in only one direction, with the manager assessing the managee. The managee typically disagrees with the assessment, especially if it is worse than his or her self-assessment, because most people believe themselves to be better than they really are. Managees also have opinions about managers that they wouldn't dare bring up in most companies, so misunderstandings and resentments fester. This perverse behavior undermines the effectiveness of the environment and the relationships between people. It can be avoided by getting in sync in a high-quality way.

Your reports have to believe that you're not their enemy—that your sole goal is to move toward the truth; that you are trying to help them and so will not enable their self-deception, perpetuate a lie, or let them off the hook. This has to be done in an honest and transparent way, because if someone believes they are being pigeonholed unfairly the process won't work. As equal partners, it is up to both of you to get to the truth. When each party is an equal participant, no one can feel cornered.

**g. Learn about your people and have them learn about you through frank conversations about mistakes and their root causes.** You need to be clear in conveying your assessments to your reports and open-minded in listening to their replies so you can work on setting their training and career paths together. Recognizing and communicating people's weaknesses is one of the most difficult things managers have to do. It's important for the party receiving feedback to be sympathetic to the person trying to give it, because it's not easy—it takes character on the part of both participants to get to the truth.

**h. Understand that making sure people are doing a good job doesn't require watching everything that everybody is doing at all times.** You just have to know what they are like and get

a sampling. Regular sampling of a statistically reliable number of cases will show you what a person is like and what you can expect from them. Select which of their actions are critical enough to need preapproval and which can be examined later. But be sure to do the audit, because people will tend to give themselves too much slack or could cheat when they see that they’re not being checked.

**i. Recognize that change is difficult.** Anything that requires change can be difficult. Yet in order to learn and grow and make progress, you must change. When facing a change, ask yourself: Am I being open-minded? Or am I being resistant? Confront your difficulties head-on, force yourself to explore where they come from, and you’ll find that you’ll learn a lot.

**j. Help people through the pain that comes with exploring their weaknesses.** Emotions tend to heat up during most disagreements, especially when the subject is someone’s weaknesses. Speak in a calm, slow, and analytical manner to facilitate communication. Put things in perspective by reminding them that their pain is the pain that comes with learning and personal evolution—and that knowing the truth will put them on the path to a much better place. Consider asking them to go away and reflect when they are calm, and have a follow-up conversation a few days later.

Ultimately, to help people succeed you have to do two things: First let them see their failures so clearly that they are motivated to change them, and then show them how to either change what they are doing or rely on others who are strong where they are weak. While doing the first without the second can be demoralizing to the people you are trying to help, doing them both should be invigorating, especially when they start experiencing the benefits.

## **9.7 Knowing how people operate and being able to judge whether that way of operating will lead to good results is more important than knowing what they did.**

Knowing what people are like is the best indicator of how well they are likely to handle their responsibilities in the future. At Bridgewater, we call this “paying more attention to the swing than the shot.” Since good and bad outcomes can arise from circumstances that might not have had anything to do with how the individual handled the situation, it is preferable to assess people based on both their reasoning and their outcomes. I probe their thinking in a very frank way so as not to let them off the hook. Doing this has taught me a lot about how to assess others’ logic, and how to have better logic myself. When both the outcomes and the thinking behind them are bad, and when this happens a number of times, I know I don’t want them to do that type of thinking anymore.

For example, if you’re a poker player and you play a lot of poker, you will win some hands and lose others and on any given night you might walk away with less money than a lesser player who’s gotten lucky. It would be a mistake to judge the quality of a player based on just one outcome. Instead, look at how well someone does what they do and the outcomes they produce over time.

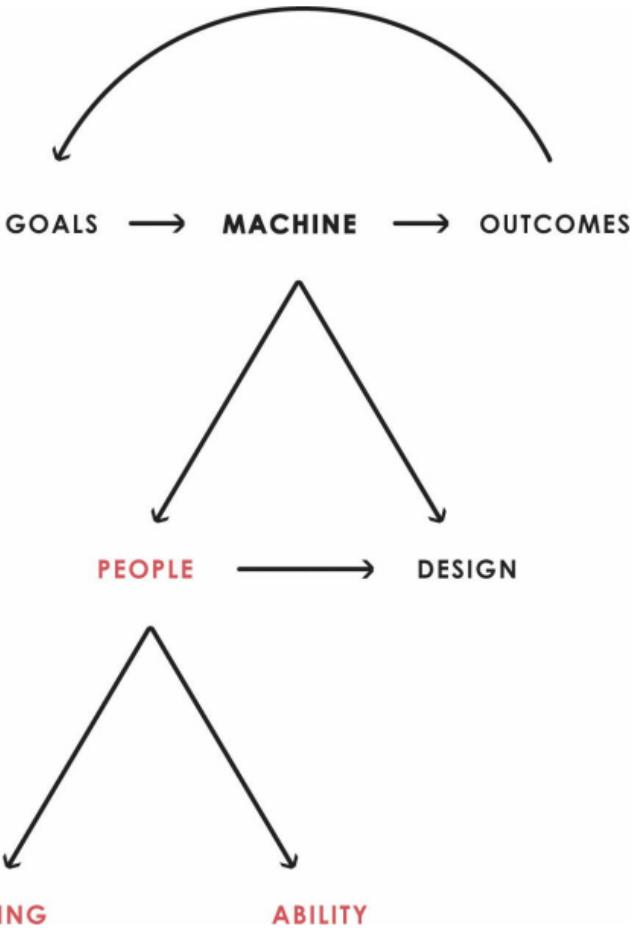
**a. If someone is doing their job poorly, consider whether it is due to inadequate learning or inadequate ability.** Think of people's performance as being made up of two things: learning and ability, as shown on page 437. A weakness that is due to a lack of experience or training can be fixed, while a weakness that is due to a lack of ability can't be. Failing to distinguish between these causes is a common mistake among managers, because managers are often reluctant to appear unkind or judgmental. Also, they know that people assessed this way tend to push back. This is another one of those situations in which you must force yourself to be practical and realistic.

**b. Training and testing a poor performer to see if he or she can acquire the required skills without simultaneously trying to assess their abilities is a common mistake.** Skills are readily testable, so they should be easy to determine. Abilities, especially right-brained abilities, are more difficult to assess. When thinking about why someone is a poor performer, openly consider whether it is a problem with their abilities.

## **9.8 Recognize that when you are really in sync with someone about their weaknesses, the weaknesses are probably true.**

When you reach an agreement, it's a good sign you've arrived at truth, which is why getting to that point is such a great achievement. This is one of the main reasons that the person being evaluated must be an equal participant in the process. When you do agree, make a formal record of it. This information will be a critical building block for future success.

**a. When judging people, remember that you don't have to get to the point of "beyond a shadow of a doubt."** Perfect understanding isn't possible; trying to get to it wastes time and stalls progress. Instead, work toward developing a mutually agreed-upon, by-and-large understanding of what someone is like that has a high level of confidence behind it. When necessary, take the time to enrich this understanding.



**b. It should take you no more than a year to learn what a person is like and whether they are a click for their job.** You should be able to roughly assess someone's abilities after six to twelve months of close contact, numerous tests, and getting in sync. A more confident assessment will probably take about eighteen months. This timeline will of course depend on the job, the person, the amount of contact with them, and how well you get in sync.

**c. Continue assessing people throughout their tenure.** As you get to know your people better, you will be better able to train and direct them. Most importantly, you will be able to assess their core values and abilities more accurately and make sure they complement yours. Don't rest with your initial evaluation, however. Always ask yourself if you would have hired them for that job knowing what you know now. If not, get them out of the job.

**d. Evaluate employees with the same rigor as you evaluate job candidates.** I find it puzzling that interviewers freely and confidently criticize job candidates without knowing them well but won't criticize employees for similar weaknesses even though they have more evidence. That is because they view criticism as harmful and feel more protective of a fellow employee than they do of an outsider. If you believe that truth is best for everyone, then you should see why this is a mistake, and why frank and ongoing evaluations are so important.

## **3.9 Train, guardrail, or remove people; don't rehabilitate them.**

Training is part of a plan to develop people's skills and help them evolve. Rehabilitation is an attempt to create significant changes in people's values and/or abilities. Since values and abilities are difficult to change, rehabilitation is typically impractical. Since people with inappropriate values and inadequate abilities can have a devastating impact on the organization, they should be fired. If rehabilitation is attempted, it is generally best directed by professionals over extended periods of time.

Remember that if you are expecting people to be much better in the near future than they have been in the past, you are probably making a serious mistake. People who repeatedly operate in a certain way will probably continue to operate that way because that behavior reflects what they're like. Since people generally change slowly, you should expect slow improvement (at best). Instead, you need to change the people or change the design. Since changing the design to accommodate people's weaknesses is generally a bad idea, it is better to sort the people. Sometimes good people "lose their boxes" (they get fired from their role) because they can't evolve into Responsible Parties soon enough. Some of them might be good in another position, in which case they should be reassigned within the company; some of them will not and should leave.

**a. Don't collect people.** It is much worse to keep someone in a job unsuitable for them than it is to fire or reassign them. Consider the enormous costs of not firing someone unsuited for a job: the costs of bad performance; the time and effort wasted trying to train them; and the greater pain of firing someone who's been around awhile (say, five years or more) compared with letting someone go after just a year. Keeping people in jobs they are not suited for is terrible for them because it allows them to live in a false reality while holding back their personal evolution, and it is terrible for the community because it compromises the meritocracy and everyone pays the price. Don't let yourself be held hostage to anyone; there is always someone else. Never compromise your standards or let yourself be squeezed.

**b. Be willing to "shoot the people you love."** It is very difficult to fire people you care about. Cutting someone that you have a meaningful relationship with but who isn't an A player in their job is difficult because ending good relationships is hard, but it is necessary for the long-term excellence of the company. You may have a need for the work they're doing (even if it's not excellent) and find it hard to make a change. But they will pollute the environment and fail you when you really need them.

Doing this is one of those difficult, necessary things. The best way to do it is to “love the people you shoot”—do it with consideration and in a way that helps them.

**c. When someone is “without a box,” consider whether there is an open box that would be a better fit or whether you need to get them out of the company.** Recognize that if they failed in that job, it is because of some qualities they have. You will need to understand what those qualities are and make sure they don’t apply to any new role. Also, if you learn that they don’t have the potential to move up, don’t let them occupy the seat of someone who can.

Remember that you’re trying to select people with whom you want to share your life. Everyone evolves over time. Because managers develop a better idea of a new hire’s strengths and weaknesses and their fit within the culture than what emerges from the interview process, they are well positioned to assess them for another role if the one they were hired for doesn’t work out.

Whenever someone fails at a job, it’s critical to understand why they failed and why those reasons won’t pose the same problems in a new job.

**d. Be cautious about allowing people to step back to another role after failing.** Note I said “be cautious.” I didn’t say never, because it depends on the circumstances. On the one hand, you want people to stretch themselves and experiment with new jobs. You don’t want to get rid of a great person just because he or she tried something new and failed. But on the other hand, if you look at most people in this situation, by and large you’ll regret allowing them to step back.

There are three reasons for this: 1) You’re giving up a seat for someone else who might be able to advance, and people who can advance are better to have than people who can’t; 2) The person stepping back could continue to want to do what they aren’t capable of doing, so there’s a real risk of them job slipping into work they’re not a fit for; 3) The person may experience a sense of confinement and resentment being back in a job that they probably can’t advance beyond. Keeping them is generally viewed as the preferable short-run decision but in the long run it’s probably the wrong thing to do. This is a hard decision. You need to understand deeply what the person in this situation is like and weigh the costs carefully before deciding.

## **1.10 Remember that the goal of a transfer is the best, highest use of the person in a way that benefits the community as a whole.**

Both affected managers should be in sync that the new role is the best, highest use or escalate up the chain to make a determination. The manager wanting to recruit the person is responsible for not causing a disruption. An informal conversation to see if someone is interested is fine, but there should be no active recruiting prior to getting in sync with the existing manager. The timing of the move should be decided by the existing manager in consultation with relevant parties.

**a. Have people “complete their swings” before moving on to new roles.** There should always be follow-through, not interruption, unless a pressing reason exists (when, say, a person would be a great click for another job that needs to be filled immediately). In a company where things are

evolving quickly and people are expected to speak openly, it is natural that there will be a steady stream of opportunities for employees to move into new roles. But if too many people jump from one job to another without fulfilling their responsibilities, the resulting discontinuity, disorder, and instability will be bad for managers, bad for the culture, and bad for the people moving, because they won't be adequately tested in their ability to move things to completion. As a guideline, a year in a job is sufficient before having conversations about a new role, although this isn't black and white—the range could easily vary depending on the circumstances.

### **1.11 Don't lower the bar.**

You reach a point in all relationships when you must decide whether you are meant for each other—that's common in private life and at any organization that holds very high standards. At Bridgewater, we know that we cannot compromise on the fundamentals of our culture, so if a person cannot operate within our requirements of excellence through radical truth and transparency in an acceptable time frame, he or she must leave.

Tough love is both the hardest  
and the most important type of  
love to give.

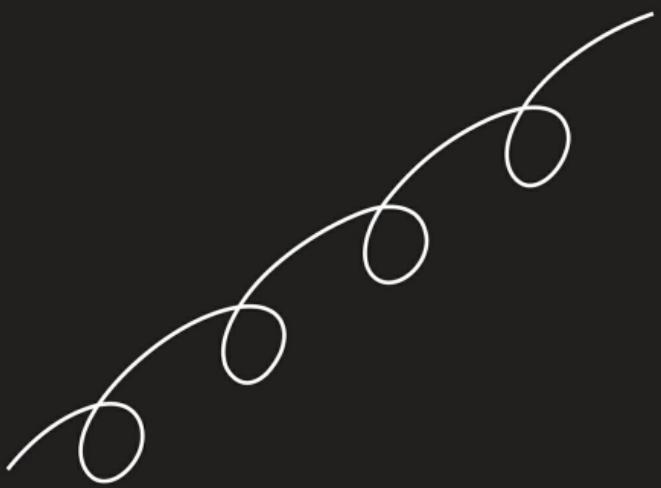
**TO BUILD AND EVOLVE YOUR  
MACHINE...**

**M**ost people get caught up in the blizzard of things coming at them. In contrast, successful people get above the blizzard so they can see the causes and effects at play. This higher-level perspective allows them to see themselves and others objectively as a machine, to understand who can and cannot do what well, and how everyone can fit together in a way that will produce the best outcomes.

Now that you've learned the best ways to approach your machine's two key components—its culture and its people—I'd like to turn to principles for managing and improving your machine.

In the next chapter, I will go over my high-level principles for applying higher-level thinking to conceptualize your organization as a machine. This isn't just a thought experiment; thinking in a machinelike way also has important practical ramifications for how you manage your team and how you design roles, responsibilities, and workflows.

In Chapter Ten, Manage as Someone Operating a Machine to Achieve a Goal, I apply this approach to organizational design at its highest level.





Once you understand how to build and run your machine, your next objective is to figure out how to improve it. We do this through the 5-Step Process I described as 1) identifying our goals, 2) encountering our problems; 3) diagnosing those problems to get at their root causes; 4) designing changes to get around the problems; and 5) doing what is needed. Think of any organization you know and you will see that they go through this evolutionary process with varying degrees of success. The world is littered with once-great organizations that deteriorated because the initial waves of excellence faded and the leadership failed to adequately adapt by changing the people and the designs. There are also a few organizations that keep reinventing themselves to go on to new heights of greatness.

The subsequent chapters of this section explain how the 5-Step Process works within an organization, and what you need to do to make sure you get the most out of it. To be effective, you must look down upon your machines as would an organizational engineer, comparing the outputs with the goals, and constantly modifying the people and the designs to make the outputs better. Most importantly, you must orchestrate your people. How well you do this will determine your success.

Finally, you'll read two chapters on making sure the idea meritocracy runs as designed, both at the day-to-day and the strategic level. Chapter Fifteen, Use Tools and Protocols to Shape How Work Is Done, describes the importance of systemization and tools to ensure the idea meritocracy functions as intended. And in Chapter Sixteen, And for Heaven's Sake, Don't Overlook Governance! I explain that while, at first, I underestimated the importance of governance to ensuring that an organization operates effectively over time, as I've transitioned myself out of running Bridgewater day to day, I've learned a number of important principles for how governance should function in an idea meritocracy.

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<sup>39</sup> We did this at Bridgewater and the figure came out to 301 percent.

# 0 Manage as Someone Operating a Machine to Achieve a Goal

No matter what work you do, at a high level you are simply setting goals and building machines to help you achieve them. I built the machine that is Bridgewater by constantly comparing its actual outcomes to my mental map of the outcomes that it *should* be producing, and finding ways to improve it.

I won't say anything specific about how you should set your own organization's goals other than that the high-level principles about goal setting I covered in *Life Principles* apply equally to individuals and organizations. I will, however, point out that in running your organization, you and the people you work with must be clear on how your lower-level goals—whether they're to produce things cost-effectively, achieve high customer satisfaction, help a certain number of people in need, whatever—grow out of your higher-level goals and values.

No matter how good you are at design, your machine will have problems. You or some other capable mechanic needs to identify those problems and look under the hood of the machine to diagnose their root causes. You or whoever is diagnosing those problems has to understand what the parts of the machine—the designs and the people—are like and how they work together to produce the outcomes. The people are the most important part, since most everything, including the designs themselves, comes from people. Unless you have a clear understanding of your machine from a higher level—and can visualize all its parts and how they work together—you will inevitably fail at this diagnosis and fall short of your potential.

At Bridgewater, the high-level goal of all of our machines is to create excellent outcomes for our clients—in the returns on their investments, of course, but also in the quality of our relationship and our thought partnership in understanding global economies and markets more broadly. Before we had anything else at Bridgewater, we had this commitment to excellence. Maintaining these extremely high standards has always been a challenge, especially as the pace of our growth and change accelerated. In the next several chapters, I will walk you through a case in which our client service outcomes began to slip and show how we used the 5-Step Process to improve our machine.

But first, I want to share some high-level principles for building and evolving the machine that is any organization.

## 0.1 Look down on your machine and yourself within it from the higher level.

Higher-level thinking isn't something that's done by higher-level beings. It's simply seeing things from the top down. Think of it as looking at a photo of yourself and the world around you from

outer space. From that vantage, you can see the relationships between the continents, countries, and seas. Then you can get more granular, by zooming into a closer-up view of your country, your city, your neighborhood, and finally your immediate environment. Having that macro perspective gives you much more insight than you'd get if you simply looked around your house through your own eyes.

**a. Constantly compare your outcomes to your goals.** You must always be simultaneously trying to accomplish the goal and evaluating the machine (the people and the design), as all outcomes are reflections of how the machine is running. Whenever you identify a problem with your machine, you need to diagnose whether it is the result of a flaw in its design or in the way your people are handling their responsibilities.

Sample size is important. Any problem can be a one-off imperfection or a symptom of root causes that will show up as problems repeatedly. If you look at enough problems, which one it is will become clear.

**b. Understand that a great manager is essentially an organizational engineer.** Great managers are not philosophers, entertainers, doers, or artists. They are engineers. They see their organizations as machines and work assiduously to maintain and improve them. They create process-flow diagrams to show how the machine works and to evaluate its design. They build metrics to light up how well each of the individual parts of the machine (most importantly, the people) and the machine as a whole are working. And they tinker constantly with its designs and its people to make both better.

They don't do this randomly. They do it systematically, always keeping the cause-and-effect relationships in mind. And while they care deeply about the people involved, they cannot allow their feelings for them or their desire to spare them discomfort to stand in the way of the machine's constant improvement. To do otherwise wouldn't be good for either the individuals on the team or the team that the individuals are a part of.

Of course, the higher up you are in an organization, the more important vision and creativity become, but you still must have the skills required to manage/orchestrate well. Some young entrepreneurs start with the vision and creativity and then develop their management skills as they scale their companies; others start with management skills and develop vision as they climb the ladder. But like great musicians, all great managers have both creativity and technical skills. And no manager at any level can expect to succeed without the skill set of an organizational engineer.

**c. Build great metrics.** Metrics show how the machine is working by providing numbers and setting off alert lights in a dashboard. Metrics are an objective means of assessment and they tend to have a favorable impact on productivity. If your metrics are good enough, you can gain such a complete and accurate view of what your people are doing and how well they are doing it that you can almost manage via the metrics alone.

In constructing your metrics, imagine the most important questions you need answered in order to know how things are going and imagine what numbers will give you the answers to them. Don't look at the numbers that you have and try to adapt them to your purposes, because you

won't get what you need. Instead start with the most important questions and imagine the metrics that will answer them.

Remember that any single metric can mislead; you need enough evidence to establish patterns. And of course the information that goes into the metrics must be assessed for accuracy. A reluctance to be critical can be detected by looking at the average grade each grader gives; those giving higher average grades might be easy graders and vice versa. Similarly helpful are "forced rankings," in which people must rank co-worker performance from best to worst. Forced rankings are essentially the same thing as "grading on a curve." Metrics that allow for independent grading across departments and groups are especially valuable.

**d. Beware of paying too much attention to what is coming at you and not enough attention to your machine.** If you keep your focus on each individual task, you will inevitably get bogged down. If instead you pay attention to building and managing your machines, you will be rewarded many times over.

**e. Don't get distracted by shiny objects.** No matter how complete any project or plan, there will always be things that come out of nowhere and look like the most important or urgent or attractive thing to focus on. These shiny objects may be traps that will distract you from thinking in a machinelike way, so be on your guard for them and don't let yourself be seduced.

## **0.2 Remember that for every case you deal with, your approach should have two purposes . . .**

**... 1) to move you closer to your goal, and 2) to train and test your machine (i.e., your people and your design).** The second purpose is more important than the first because it is how you build a solid organization that works well in all cases. Most people focus more on the first purpose, which is a big mistake.

**a. Everything is a case study.** Think about what type of case it is and what principles apply to that type of case. By doing this and helping others to do this you'll get better at handling situations as they repeat over and over again through time.

**b. When a problem occurs, conduct the discussion at two levels: 1) the machine level (why that outcome was produced) and 2) the case-at-hand level (what to do about it).** Don't make the mistake of just having the case-at-hand discussion, because then you are micromanaging (i.e., you are doing your managee's thinking and your managee will mistakenly think that's okay). When having the machine-level discussion, think clearly how things should have gone and explore why they didn't go that way. If you are in a rush to determine what to do and you have to tell the person who works for you what to do, make sure to explain what you are doing and why.

**c. When making rules, explain the principles behind them.** You don't want the people you work with to merely pay lip service to your community's rules; they should have a high sense of ethics.

that makes them want to abide by them and hold others accountable for abiding by them, while also working to perfect them. The way to achieve this is via principles that are sound and that have been tested through open discussion.

**d. Your policies should be natural extensions of your principles.** Principles are hierarchical—some are overarching and some are less important—but they all should inform the policies that guide your individual decisions. It pays to think those policies through to ensure that they are consistent with each other and the principles they are derived from.

When faced with a case that doesn't have a clear policy to follow (for example, what to do about an employee whose job is to travel but who faces potential health risks because of his travel), one can't just snatch an answer out of the blue without regard for higher-level principles. Policy makers must make policy in the same way that the judicial system creates case law—iteratively and incrementally, by dealing with specific cases and interpreting the law as it applies to them.

That is how I have tried to operate. When a case arises, I lay out the principles behind how I am handling it and get in sync with others to see if we agree on those principles or must modify them to make them better. By and large, that's how all Bridgewater's principles and policies were developed.

**e. While good principles and policies almost always provide good guidance, remember that there are exceptions to every rule.** While everyone has the right to make sense of things—and is in fact obliged to challenge principles and policies if they conflict with what they believe is the best approach—that's not the same thing as having the right to change them. Changes in policies must be approved by those who made them (or someone else who has been made responsible for evolving them).

When someone wishes to make an exception to an important policy at Bridgewater, they must write up a proposed alternative policy and escalate their request to the Management Committee.

Exceptions should be extremely rare because policies that have frequent exceptions are ineffective. The Management Committee will formally consider it and either reject it, amend it, or adopt it.

### **0.3 Understand the differences between managing, micromanaging, and not managing.**

Great managers orchestrate rather than do. Like the conductor of an orchestra, they do not play an instrument, but direct their people so that they play beautifully together. Micromanaging, in contrast, is telling the people who work for you exactly what tasks to do or doing their tasks for them. Not managing is having them do their jobs without your oversight and involvement. To be successful, you need to understand these differences and manage at the right level.

**a. Managers must make sure that what they are responsible for works well.** They can do this by 1) managing others well (as explained above), 2) job slipping down to do work they're not

responsible for because others can't do their jobs well, or 3) escalating what they can't manage well. The first choice is optimal; the second signals that a change is needed in the people and the design; the third choice is harder still but mandatory.

**b. Managing the people who report to you should feel like skiing together.** Like a ski instructor, you need to have close contact with your people on the slopes so that you can assess their strengths and weaknesses as they are doing their jobs. There should be a good back-and-forth as they learn by trial and error. With time you will be able to decide what they can and can't handle on their own.

**c. An excellent skier is probably going to be a better ski coach than a novice skier.** Believability applies to management too. The better your track record, the more value you can add as a coach.

**d. You should be able to delegate the details.** If you keep getting bogged down in details, you either have a problem with managing or training, or you have the wrong people doing the job. The real sign of a master manager is that he doesn't have to do practically anything. Managers should view the need to get involved in the nitty-gritty as a bad sign.

At the same time, there's danger in thinking you're delegating details when you're actually being too distant from what's important and essentially are not managing. Great managers know the difference. They strive to hire, train, and oversee in a way in which others can superbly handle as much as possible on their own.

#### **0.4 Know what your people are like and what makes them tick, because your people are your most important resource.**

Develop a full profile of each person's values, abilities, and skills. These qualities are the real drivers of behavior, so knowing them in detail will tell you which jobs a person can and cannot do well, which ones they should avoid, and how the person should be trained. These profiles should change as the people change.

If you don't know your people well, you don't know what you can expect from them. You're flying blind and you have no one to blame but yourself if you don't get the outcomes you're expecting.

**a. Regularly take the temperature of each person who is important to you and to the organization.** Probe your key people and urge them to bring up anything that might be bothering them. These problems might be ones you are unaware of, or they may be misunderstood by the person raising them. Whatever the case, it is essential that they be brought out into the open.

**b. Learn how much confidence to have in your people—don't assume it.** No manager should delegate responsibilities to people they don't know well. It takes time to learn about people and how much confidence you can vest in them. Sometimes new people are offended when their managers don't have confidence in how they are carrying out their responsibilities. They think it's

a criticism of their abilities when it's simply a matter of the manager being realistic about the fact that he or she hasn't had enough time or direct experience with them to form a point of view.

**c. Vary your involvement based on your confidence.** Management largely consists of scanning and probing everything you are responsible for to identify suspicious signs. Based on what you see, you should vary your degree of digging, doing more for people and areas that look suspicious, and less where what you see instills confidence. At Bridgewater a host of tools (Issue Logs, metrics, daily updates, checklists) produce objective performance-related data. Managers should review and spot-check them regularly.

## **0.5 Clearly assign responsibilities.**

Eliminate any confusion about expectations and ensure that people view their failures to complete their tasks and achieve their goals as personal failures. The most important person on a team is the one who is given the overall responsibility for accomplishing the mission. This person must have both the vision to see what should be done and the discipline to make sure it's accomplished.

**a. Remember who has what responsibilities.** While that might sound obvious, people often fail to stick to their own responsibilities. Even senior people in organizations sometimes act like young kids just learning to play soccer, running after the ball in an effort to help but forgetting what position they are supposed to play. This can undermine rather than improve performance. So make sure that people remember how the team is supposed to work and play their positions well.

**b. Watch out for “job slip.”** Job slip is when a job changes without being explicitly thought through and agreed to, generally because of changing circumstances or a temporary necessity. Job slip often leads to the wrong people handling the wrong responsibilities and confusion over who is supposed to do what.

## **0.6 Probe deep and hard to learn what you can expect from your machine.**

Constantly probe the people who report to you while making sure they understand that it's good for them and everyone else to surface their problems and mistakes. Doing so is required to make sure you're getting what you want, even from people who are doing their jobs well (though they can be given a bit more leeway).

Probing shouldn't just come from the top down. The people who work for you should constantly challenge you, so that you can become as good as you can be. In doing so, they will understand that they are just as responsible for finding solutions as you are. It's much easier for people to remain spectators than to become players. Forcing them onto the field strengthens the whole team.

- a. Get a threshold level of understanding.** When managing an area, you need to gain a rich enough understanding of the people, processes, and problems around you to make well-informed decisions. Without that understanding, you will believe the stories and excuses you are told.
- b. Avoid staying too distant.** You need to know your people extremely well, provide and receive regular feedback, and have quality discussions. And while you don't want to get distracted by gossip, you have to be able to get a quick download from the appropriate people. Your job design needs to build in the time to do these things. If it doesn't, you run the risk of not managing. The tools I have developed give me windows into what people are doing and what they are like, and I follow up on problems.
- c. Use daily updates as a tool for staying on top of what your people are doing and thinking.** I ask each person who reports to me to take about ten to fifteen minutes to write a brief description of what they did that day, the issues pertaining to them, and their reflections. By reading these updates and triangulating them (i.e., seeing other people's takes on what they are doing together), I can gauge how they are working together, what their moods are, and which threads I should pull on.
- d. Probe so you know whether problems are likely to occur before they actually do.** If problems take you by surprise, it is probably because you are either too far removed from your people and processes or you haven't adequately visualized how the people and processes might lead to various outcomes. When a crisis is brewing, contact should be close enough that there will be no surprises.
- e. Probe to the level below the people who report to you.** You can't understand how the person who reports to you manages others unless you know their direct reports and can observe how they behave.
- f. Have the people who report to the people who report to you feel free to escalate their problems to you.** This is a great and useful form of upward accountability.
- g. Don't assume that people's answers are correct.** People's answers could be erroneous theories or spin, so you need to occasionally double-check them, especially when they sound questionable. Some managers are reluctant to do this, feeling it is the equivalent of saying they don't trust their people. These managers need to understand that this process is how trust is earned or lost. Your people will learn to be much more accurate in what they tell you if they understand this—and you will learn who you can rely on.
- h. Train your ear.** Over time, you'll hear the same verbal cues indicating that someone is thinking about something badly or failing to apply principles appropriately. For example, listen for the anonymous "we" as a cue that someone is likely depersonalizing a mistake.

**i. Make your probing transparent rather than private.** This helps assure the quality of the probing (because others can make their own assessments), and it will reinforce the culture of truth and transparency.

**j. Welcome probing.** It's important to welcome probing of yourself because no one can see themselves objectively. When you are being probed, it's essential to stay calm. Your emotional "lower-level you" will probably react to probing with something like, "You're a jerk because you're against me and making me feel bad," whereas your thoughtful "higher-level you" should be thinking, "It's wonderful that we can be completely honest like this and have such a thoughtful exchange to help assure that I'm doing things well." Listen to your higher-level you and don't lose sight of how difficult it can be for the person doing the probing. Besides helping to make the organization and your relationship with the person who is probing you go well, working yourself through this difficult probing will build your character and your equanimity.

**k. Remember that people who see things and think one way often have difficulty communicating with and relating to people who see things and think another way.** Imagine you had to describe what a rose smells like to someone who lacks a sense of smell. No matter how accurate your explanation, it will always fall short of the actual experience. The same thing is true of differences in ways of thinking. They are like blind spots, and if you have one (which we all do), it can be challenging to see what's there. Working through these differences requires a lot of patience and open-mindedness, as well as triangulating with other people who can help fill in the picture.

**l. Pull all suspicious threads.** It's worth pulling all suspicious threads because: 1) Small negative situations can be symptomatic of serious underlying problems; 2) Resolving small differences of perception may prevent more serious divergence of views; and 3) In trying to create a culture that values excellence, constantly reinforcing the need to point out and stare at problems—no matter how small—is essential (otherwise you risk setting an example of tolerating mediocrity).

Prioritization can be a trap if it causes you to ignore the problems around you. Allowing small problems to go unnoticed and unaddressed creates the perception that it's acceptable to tolerate such things. Imagine that all your little problems are small pieces of trash you're stepping over to get to the other side of a room. Sure, what's on the other side of the room may be very important, but it won't hurt you to pick up the trash as you come to it, and by reinforcing the culture of excellence it will have positive second- and third-order consequences that will reverberate across your whole organization. While you don't need to pick up every piece, you should never lose sight of the fact that you're stepping over the trash nor that it's probably not as hard as you think to pick up a piece or two as you go on your way.

**m. Recognize that there are many ways to skin a cat.** Your assessment of how Responsible Parties are doing their jobs should not be based on whether they're doing it your way but whether they're doing it in a good way. Be careful about expecting a person who achieves success one way to do it a different way. That's like insisting that Babe Ruth improve his swing.

## **0.7 Think like an owner, and expect the people you work with to do the same.**

It's a basic reality that if you don't experience the consequences of your actions, you'll take less ownership of them. If you are an employee, and you get a paycheck for turning up and pleasing your boss, your mind-set will inevitably be trained to this cause-effect relationship. If you are a manager, make sure you structure incentives and penalties that encourage people to take full ownership of what they do and not just coast by. This includes straightforward things such as spending money like it's their own and making sure their responsibilities aren't neglected when they're out of the office. When people recognize that their own well-being is directly connected to that of their community, the ownership relationship becomes reciprocal.

**a. Going on vacation doesn't mean one can neglect one's responsibilities.** Thinking like an owner means making sure that your responsibilities are handled well regardless of what comes up. While you are away on vacation, it's your responsibility to make sure nothing drops. You can do that via a combination of good planning and coordination before you go and staying on top of things while you are away. This needn't take much time—it can be as little as an hour of good checking from afar and it doesn't even have to be every day, so you can typically slip it in when it's convenient.

**b. Force yourself and the people who work for you to do difficult things.** It's a basic law of nature: You must stretch yourself if you want to get strong. You and your people must act with each other like trainers in gyms in order to keep each other fit.

## **0.8 Recognize and deal with key-man risk.**

Every key person should have at least one person who can replace him or her. It's best to have those people designated as likely successors and to have them apprentice and help in doing those jobs.

## **0.9 Don't treat everyone the same—treat them appropriately.**

It's often said that it is neither fair nor appropriate to treat people differently. But in order to treat people appropriately you *must* treat them differently. That is because people and their circumstances are different. If you were a tailor you wouldn't give all of your customers the same size suit.

It is, however, important to treat people according to the same set of rules. That's why I've tried to flesh out Bridgewater's principles in enough depth that differences are accounted for. For example, if someone has worked at Bridgewater for many years, that factors into how they are treated. Likewise, while I find all dishonesty intolerable, I don't treat all acts of dishonesty and all people who are dishonest the same.

**a. Don't let yourself get squeezed.** Plenty of people have threatened me over the years by saying they'd quit, bring a lawsuit, embarrass me in the press—you name it. While some people have advised me that it's easier to just make such things go away, I've found doing that is almost always shortsighted. Giving in not only compromises your values, it telegraphs that the rules of the game have changed and opens you up to more of the same. Fighting for what's right can be hard in the short term, of course. But I'm willing to take the punch. What I worry about is doing the right thing and not about what people think about me.

**b. Care about the people who work for you.** If you aren't working with people you care about and respect, your job probably isn't the one for you. I will be there for anyone who really needs me; when a whole community operates this way, it is very powerful and rewarding. Personal contact at times of personal difficulty is a must.

## **0.10 Know that great leadership is generally not what it's made out to be.**

I don't use the word "leadership" to describe what I do or what I think is good because I don't believe that what most people think of as "good leadership" is effective. Most people think a good leader is a strong person who engenders confidence in others and motivates them to follow him/her, with the emphasis on "follow." The stereotypical leader often sees questioning and disagreement as threatening and prefers people do what they're told. As an extension of this paradigm, the leader bears the main burden of decision making. But because such leaders are never as all-knowing as they try to appear, disenchantment and even anger tends to set in. That's why people who once loved their charismatic leaders often want to get rid of them.

This traditional relationship between "leaders" and "followers" is the opposite of what I believe is needed to be most effective, and being maximally effective is the most important thing a "leader" must do. It is more practical to be honest about one's uncertainties, mistakes, and weaknesses than to pretend they don't exist. It is also more important to have good challengers than good followers. Thoughtful discussion and disagreement is practical because it stress-tests leaders and brings what they are missing to their attention.

One thing that leaders should not do, in my opinion, is be manipulative. Sometimes leaders will use emotions to motivate people to do things that they would not do after reflecting clearly. When dealing with intelligent people in an idea meritocracy, it is essential that one always appeal to their reason rather than their base emotions.

The most effective leaders work to 1) open-mindedly seek out the best answers and 2) bring others along as part of that discovery process. That is how learning and getting in sync occurs. A truly great leader is appropriately uncertain but well equipped to deal with that uncertainty through open-minded exploration. All else being equal, I think the kind of leader who looks and acts like a skilled ninja will beat the kind of leader who looks and acts like a muscular action hero every time.

**a. Be weak and strong at the same time.** Sometimes asking questions to gain perspective can be misperceived as being weak and indecisive. Of course it's not. It's necessary in order to become wise and it is a prerequisite for being strong and decisive.

Always seek the advice of wise others and let those who are better than you take the lead. The objective is to have the best understanding to make the best possible leadership decisions. Be open-minded and assertive at the same time and get in tight sync with those who work with you, recognizing that sometimes not all or even the majority of people will agree with you.

**b. Don't worry about whether or not your people like you and don't look to them to tell you what you should do.** Just worry about making the best decisions possible, recognizing that no matter what you do, most everyone will think you're doing something—or many things—wrong. It is human nature for people to want you to believe their own opinions and to get angry at you if you don't, even when they have no reason to believe that their opinions are good. So, if you're leading well, you shouldn't be surprised if people disagree with you. The important thing is for you to be logical and objective in assessing your probabilities of being right.

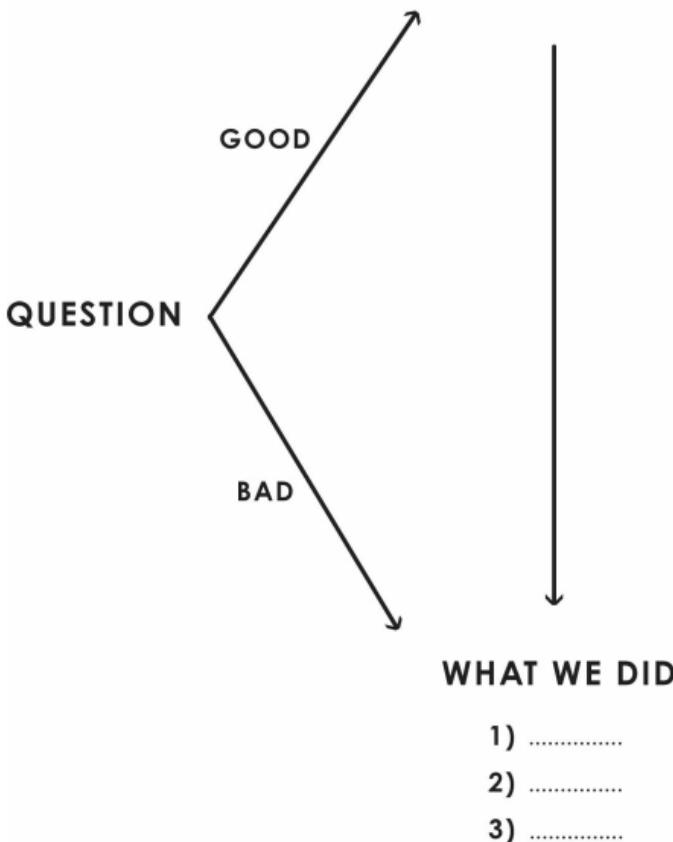
It is not illogical or arrogant to believe that you know better than the average person, so long as you are appropriately open-minded. In fact, it is not logical to believe that what the average person thinks is better than what you and the most insightful people around you think, because you have earned your way into your higher-than-average position and you and those insightful people are more informed than the average person. If the opposite were true, then you and the average man shouldn't have your respective jobs. In other words, if you don't have better insights than them, you shouldn't be a leader—and if you do have better insights than them, don't worry if you are doing unpopular things.

So how should you deal with your people? Your choices are either to ignore them (which will lead to resentment and your ignorance of what they are thinking), blindly do what they want (which wouldn't be a good idea), or encourage them to bring their disagreements to the surface and work through them so openly and reasonably that everyone will recognize the relative merits of your thinking. Have the open disagreement and be happy to either win or lose the thought battles, as long as the best ideas win out. I believe that an idea meritocracy will not only produce better results than other systems but will also ensure more alignment behind appropriate yet unpopular decisions.

**c. Don't give orders and try to be followed; try to be understood and to understand others by getting in sync.** If you want to be followed, either for egotistical reasons or because you believe it more expedient to operate that way, you will pay a heavy price in the long run. When you are the only one thinking, the results will suffer.

Authoritarian managers don't develop their subordinates, which means those who report to them stay dependent. This hurts everyone in the long run. If you give too many orders, people will likely resent them, and when you aren't looking, defy them. The greatest influence you can have over intelligent people—and the greatest influence they will have on you—comes from constantly getting in sync about what is true and what is best so that you all want the same things.

## SYNTHESIZED ANSWER



### 0.11 Hold yourself and your people accountable and appreciate them for holding you accountable.

Holding people accountable means understanding them and their circumstances well enough to assess whether they can and should do some things differently, getting in sync with them about that, and, if they can't adequately do what is required, removing them from their jobs. It is not micromanaging them, nor is it expecting them to be perfect (holding particularly overloaded people accountable for doing everything excellently is often impractical, not to mention unfair).

But people can resent being held accountable, and you don't want to have to tell them what to do all the time. Reason with them so that they understand the value of what you're doing, but never let them off the hook.

**a. If you've agreed with someone that something is supposed to go a certain way, make sure it goes that way—unless you get in sync about doing it differently.** People will often subconsciously gravitate toward activities they like rather than what's required. If they lose sight of their priorities, you need to redirect them. This is part of why it's important to get frequent updates from people about their progress.

**b. Distinguish between a failure in which someone broke their “contract” and a failure in which there was no contract to begin with.** If you didn't make an expectation clear, you can't hold people accountable for it not being fulfilled. Don't assume that something was implicitly understood. Common sense isn't actually all that common—*be explicit*. If responsibilities keep falling between the cracks, consider editing the design of your machine.

**c. Avoid getting sucked down.** This occurs when a manager is pulled down to doing the tasks of a subordinate without acknowledging the problem. The sucked-down phenomenon bears some resemblance to job slip, since it involves the manager's responsibilities slipping into areas that should be left to others. But while job slipping can make sense on a temporary basis to push through to a goal, it's also generally a signal that a part of the machine is broken and needs fixing. The sucked-down phenomenon is what happens when a manager chronically fails to properly redesign an area of responsibility to keep him or herself from having to do the job that others should be capable of doing well. You can tell this problem exists when the manager focuses more on getting tasks done than on operating his or her machine.

**d. Watch out for people who confuse goals and tasks, because if they can't make that distinction, you can't trust them with responsibilities.** People who can see the goals are usually able to synthesize too. One way to test this: If you ask a high-level question like “How is goal XYZ going?” a good answer will provide a synthesis up-front of how XYZ is going overall and, if needed, will support it by accounting for the tasks that were done to achieve it. People who see the tasks and lose sight of the goals will just describe the tasks that were done.

**e. Watch out for the unfocused and unproductive “theoretical should.”** A “theoretical should” occurs when people assume that others or themselves should be able to do something when they don't actually know whether they can (as in “Sally should be able to do X, Y, Z”). Remember that to really accomplish things you need believable Responsible Parties who have a track record of success in the relevant area.

A similar problem occurs when people discuss how to solve a problem by saying something vague and depersonalized like “We should do X, Y, Z.” It is important to identify who these people are by name rather than with a vague “we,” and to recognize that it is their responsibility to determine what should be done.

It is especially pointless for a group of people who are not responsible to say things like “We should . . .” to each other. Instead, those people should be speaking to the Responsible Party about what should be done.

## **0.12 Communicate the plan clearly and have clear metrics conveying whether you are progressing according to it.**

People should know the plans and designs within their departments. If you decide to diverge from an agreed-upon path, be sure to communicate your thoughts to the relevant parties and get their views so that you are all clear about the new direction. This allows people to buy into the plan or express their lack of confidence and suggest changes. It also makes clear what the goals are and who is keeping up his or her end of the bargain and who is falling short. Goals, tasks, and assigned responsibilities should be reviewed at department meetings at least once a quarter, perhaps as often as once a month.

**a. Put things in perspective by going back before going forward.** Before moving forward with a new plan, take the time to reflect on how the machine has been working up till now.

Sometimes people have problems putting current conditions into perspective or projecting into the future. Sometimes they forget who or what caused things to go well or poorly. By asking them to “tell the story” of how we got here, or by telling the story yourself, you highlight important items that were done well or poorly in relation to their consequences, draw attention to the bigger picture and the overarching goals, specify the people who are responsible for specific goals and tasks, and help achieve agreement. Being able to connect all these items at multiple levels is essential for people to understand the plan, give feedback on it, and eventually believe in it.

## **0.13 Escalate when you can't adequately handle your responsibilities . . .**

**... and make sure that the people who work for you are proactive about doing the same.** Escalating means saying you don’t believe you can successfully handle a situation and that you are passing the Responsible Party job to someone else. The person you are escalating to—the person to whom you report—can then decide whether to coach you through it, take control themselves, have someone else handle it, or do something else.

It’s critical that escalation not be seen as a failure but as a responsibility. All Responsible Parties will eventually face tests that they don’t know whether they can handle; what’s important is raising their concerns so their boss knows about the risks and both the boss and the escalating RP can get in sync about what to do about it. There is no greater failure than to fail to escalate a responsibility you cannot handle. Make sure your people are proactive; demand that they speak up when they can’t meet agreed-upon deliverables or deadlines. Such communication is essential to get in sync both on the case at hand and on what the person handling it is like.

# 1 Perceive and Don't Tolerate Problems

On your way to your goals, you will inevitably encounter problems. To be successful you must perceive and not tolerate them. Problems are like coal thrown into a locomotive engine because burning them up—inventing and implementing solutions for them—propels us forward. Every problem you find is an opportunity to improve your machine. Identifying and not tolerating problems is one of the most important and disliked things people can do.

For a lot of people identifying problems is difficult to do. Most people would rather celebrate all the things that are going well while sweeping problems under the rug. Those people have their priorities exactly backward, and there is little that can be more harmful to an organization. Don't undermine your progress in pursuit of a pat on the back; celebrate finding out what is *not* going well so you can make it go better. Thinking about problems that are difficult to solve may make you anxious, but *not* thinking about them (and therefore not dealing with them) should make you even more anxious.

Having this kind of anxiety about what can go wrong is extremely useful. It is what drives one to develop systems and metrics for monitoring the outcomes your machine is producing and motivates those who manage well to constantly taste-test the outputs of the system and to look for problems in its nooks and crannies. Having that constant worry and doing the double-checking is important to maintaining quality control. Making sure that little problems don't exist is important because, if they're allowed to continue, they will grow into big problems. To convey the point, I will tell you about a case in which we initially failed to maintain excellence, then perceived the problem, got at its root causes, designed changes, and pushed those changes through to produce excellent results.

When I started Bridgewater, I was responsible for everything. I made the company's investment decisions and its management decisions and then I built the organization to support me and eventually to carry on excellently without me. As Bridgewater grew, the standard I set was uncompromising and straightforward: The analysis we provide to clients should always be of the same quality it would be if I did it myself. That's because when clients ask what "we" think, they aren't asking what just anyone thinks—they want to know what I and the other CIOs, who are in charge of our investments, are thinking. To achieve that goal, Bridgewater's Client Service Department either handles the questions they get from clients themselves or passes them on to people with various levels of expertise who are assigned to answer questions based on their level of difficulty. The client advisor (who is a knowledgeable professional designed to be the interface between Bridgewater and the client) has to understand the questions well enough to know who they should be routed to, and they need to review the answers before they go back to the client to ensure they are excellent. To be certain that always happens, I created a checks-and-balances system in which some of our best investment thinkers both draft memos to clients themselves and

quality-control their colleagues' work, grading it to provide traceable metrics that can be followed to monitor how well things are going and make changes as needed.

In 2011, as a part of my management transition, I handed the oversight of this process to others, and several months later one of the people in the Client Service Department began noticing problems. It started with one memo, which two senior investment advisors noticed had gone out the door to a client even though it contained errors. Though these were minor errors, they were important errors to me. With my prodding, the new management team began investigating other memos and discovered that this poorly prepared memo wasn't just a one-off; it was symptomatic of a more widespread breakdown in the quality control machine. Worse still, the investigation revealed the Responsible Parties were failing to perceive and diagnose these problems. And most worrisome, it wasn't clear that, without my pushing, anyone else would have taken the time to investigate.

This initial failure to perceive and not tolerate problems did not happen for lack of caring; it happened because most of the people in the process paid more attention to getting the tasks done than assessing whether the goals were being achieved. They had become more like rubber stampers than craftsmen, while the top people who were supposed to "taste the soup" to make sure it was excellent were focused on other things.

Discovering this was disappointing to all of us, because it showed that the high standards that for so long had been the reasons for our success were slipping. Facing this reality was painful, but ultimately healthy. The existence of a problem like this one—whether from a flaw in the design of one's machine or from one's own or others' inabilities—is not shameful. Acknowledging a weakness isn't the same thing as accepting it. It's a necessary first step toward overcoming it. The pain one feels, whether from shame and embarrassment, or frustration at one's inability to get the better of it, is like the pain one feels at getting flabby that motivates one to go to the gym. As you'll see in the following chapters, facing this problem led to important innovations and improvements.

The following principles flesh out how to perceive and not tolerate the problems that come your way.

## **1.1 If you're not worried, you need to worry—and if you're worried, you don't need to worry.**

That's because worrying about what can go wrong will protect you and not worrying about what will go wrong will leave you exposed.

## **1.2 Design and oversee a machine to perceive whether things are good enough or not good enough, or do it yourself.**

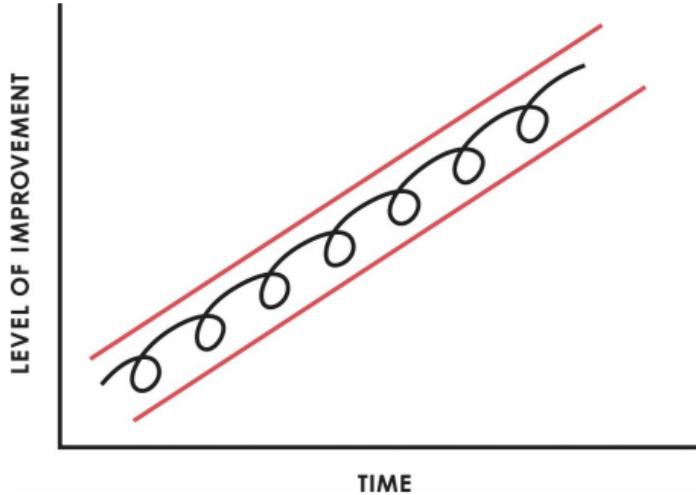
This is usually done by having the right people—people who will probe, who can't stand inferior work or products, and who can synthesize well—and by having good metrics.

**a. Assign people the job of perceiving problems, give them time to investigate, and make sure they have independent reporting lines so that they can convey problems without any fear of recrimination.** Without these things in place, you can't rely on people raising all the problems you need to hear about.

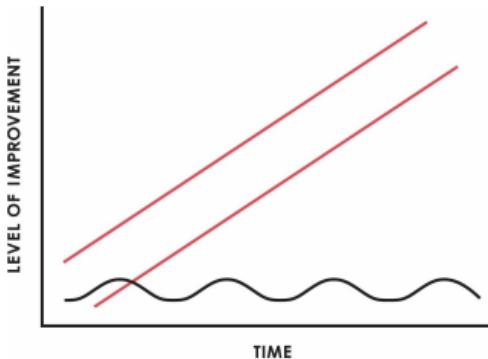
**b. Watch out for the “Frog in the Boiling Water Syndrome.”** Apparently, if you throw a frog into a pot of boiling water it will jump out immediately, but if you put it in room-temperature water and gradually bring it to a boil, it will stay in the pot until it dies. Whether or not that's true of frogs, I see something similar happen to managers all the time. People have a strong tendency to slowly get used to unacceptable things that would shock them if they saw them with fresh eyes.

**c. Beware of group-think** The fact that no one seems concerned doesn't mean nothing is wrong. If you see something that seems unacceptable to you, don't assume that the fact that others also know about it and aren't screaming means it's not a problem. This is an easy trap to fall into—and a deadly one. Whenever you see badness, point it out to the Responsible Party and hold them accountable for doing something about it. Never stop saying, “This meal stinks!”

**d. To perceive problems, compare how the outcomes are lining up with your goals.** This means comparing the outcomes that the machine is producing to your visualization of the outcomes you expected so that you can note any deviations. If you expect improvement to be within a specific range . . .



. . . and it ends up looking like this . . .



. . . you will know that you need to get at the root cause to deal with it. If you don't, the trajectory will probably continue.

**e. “Taste the soup.”** Think of yourself as a chef and taste the soup before it goes out to the customers. Is it too salty or too bland? Managers need to do that too, or have someone in their machine do it for them, for every outcome they're responsible for. People who are delegated this task are called “taste testers.”

**f. Have as many eyes looking for problems as possible.** Encourage people to bring problems to you. If everyone in your area feels responsible for the area's well-being and no one is afraid to speak up, you will learn about problems when they are still easy to fix and haven't caused serious damage. Stay in sync with the people who are closest to the most important functions.

**g. “Pop the cork”** It's your responsibility to make sure communications from your people flow freely, so encourage it by giving them plenty of opportunities to speak up. Don't just expect them to provide you with regular and honest feedback—explicitly ask them for it.

**h. Realize that the people closest to certain jobs probably know them best.** At the very least, they have perspectives you need to understand, so make sure you see things through their eyes.

### **1.3 Be very specific about problems; don't start with generalizations.**

For example, don't say, “Client advisors aren't communicating well with the analysts.” Be specific: Name which client advisors aren't doing this well and in which ways. Start with the specifics and then observe patterns.

**a. Avoid the anonymous “we” and “they,” because they mask personal responsibility.** Things don't just happen by themselves—they happen because specific people did or didn't do specific things. Don't undermine personal accountability with vagueness. Instead of the passive generalization or the royal “we,” attribute specific actions to specific people: “Harry didn't

handle this well.” Also avoid “We should . . .” or “We are . . .” and so on. Since individuals are the most important building blocks of any organization and since individuals are responsible for the ways things are done, mistakes must be connected to those individuals by name. Someone created the procedure that went wrong or made the faulty decision. Glossing over that can only slow progress toward improvement.

## **1.4 Don’t be afraid to fix the difficult things.**

In some cases, people accept unacceptable problems because they are perceived as too difficult to fix. Yet fixing unacceptable problems is a lot easier than not fixing them, because not fixing them will lead to more stress, more work, and chronic bad outcomes that could get you fired. So remember one of the first principles of management: You need to look at the feedback you’re getting on your machine and either fix your problems or escalate them, if need be, over and over again. There is no easier alternative than bringing problems to the surface and putting them in the hands of good problem solvers.

- a. Understand that problems with good, planned solutions in place are completely different from those without such solutions.** Unidentified problems are the worst; identified problems without planned solutions are better, but worse for morale; identified problems with a good planned solution are better still; and solved problems are best. It’s really important to know which category a problem belongs to. The metrics you use to track the progress of your solution should be so clear and intuitive that they are obvious extensions of the plan.
- b. Think of the problems you perceive in a machinelike way.** There are three steps to doing this well: First, note the problem; then determine who the RPs to raise it to are; and finally decide when the right time to discuss it is. In other words: what, who, when. Then follow through.

GOALS → MACHINE → OUTCOMES

PEOPLE → DESIGN

## 2 Diagnose Problems to Get at Their Root Causes

When you encounter problems, your objective is to specifically identify the root causes of those problems—the specific people or designs that caused them—and to see if these people or designs have a pattern of causing problems.

What are the most common reasons for failing to diagnose well?

The most common mistake I see people make is dealing with their problems as one-offs rather than using them to diagnose how their machine is working so that they can improve it. They move on to fix problems without getting at their root causes, which is a recipe for continued failure. A thorough and accurate diagnosis, while more time-consuming, will pay huge dividends in the future.

The second most common mistake people make is to depersonalize the diagnosis. Not connecting problems to the people who failed and not examining what it is about them that caused the failure will not lead to improvements of the individuals or the machines.

The third biggest reason for failure is to not connect what one is learning in one diagnosis to what was learned in prior ones. It is important to determine whether the root cause of a particular problem (“Harry was careless”) is part of a larger pattern (“Harry is often careless”) or not (“It’s unlike Harry to be careless”).

In the case of our client service analytics team, I knew that unless we got to the root cause of the problems, standards would continue to decline. Bridgewater’s other leaders agreed. So I led a series of diagnostic sessions with the team, getting everyone at every level into the room to probe and find out what had gone wrong. I started with my mental map of how things should’ve gone—based on the machine I’d built—and asked the new managers to describe what had actually happened. Bad outcomes don’t just *happen*; they occur because specific people make, or fail to make, specific decisions. A good diagnosis always gets to the level of determining what it is about those people that led to the bad outcomes. This can be uncomfortable but if someone isn’t suited for a job, they need to be moved out of it so that the same mistakes won’t keep occurring. Of course, nobody is perfect; everyone makes mistakes. So it is important to look at people’s track records and their specific strengths and weaknesses in doing a diagnosis.

Coming out of these sessions, a few things were clear: Several of the new line managers who the top managers had brought in to run client service analytics didn’t have the right skills, synthesis abilities, or levels of caring to oversee the quality-control process; and the top managers were far too distant from the area and not probing adequately to make sure that everything was going well. This was the “what is”—the reality we faced that produced our problems. It wasn’t a pretty picture, but it was exactly what we needed to know in order to move to the next step of designing the changes we had to make.

The following principles flesh out how to diagnose well, beginning with a basic overview.

## **2.1 To diagnose well, ask the following questions:**

- 1. Is the outcome good or bad?**
- 2. Who is responsible for the outcome?**
- 3. If the outcome is bad, is the Responsible Party incapable and/or is the design bad?**

If you keep those big questions in mind and anchor back to them, you should do well. What follows is a guide for getting the answers to these big-picture questions, mostly using a series of simple either/or questions to help you get to the synthesis you are looking for at each step. You should think of these as the answers you need before moving to the next step, leading all the way to the final diagnosis.

You can, but don't need to, follow these questions or this format exactly. Depending on your circumstances, you may be able to move through these questions quickly or you may need to ask some different, more granular questions.

**Is the outcome good or bad?** And who is responsible for the outcome? If you can't quickly get in sync that the outcome was bad and who specifically was responsible, you're probably already headed for the weeds (in other words, into a discussion of tiny, irrelevant details).

**If the outcome is bad, is the RP incapable and/or is the design bad?** The goal is to come to this synthesis, though to get there you may need to examine how the machine worked in this instance and build the synthesis from there.

**How should the machine have worked?** You may have a mental map of who should have done what, or you may need to fill it in using other people's mental maps. In any case, you need to learn who was responsible for doing what and what the principles say about how things should've gone. Keep it simple! At this stage, a common pitfall is to delve into a granular examination of procedural details rather than stay at the level of the machine (the level of who was responsible for doing what). You should be able to crystallize your mental map in just a few statements, each connected to a specific person. If you are delving into details here, you are probably off track. Once you've established the mental map the key question is:

**Did the machine work as it should have?** Yes or no.

**If not, what didn't go as it should have? What broke?** This is called the proximate cause and this step should be easy to get to if you laid out the mental map clearly. You can do this via yes/no questions as well because it should just require referring back to the key components of your mental map and pinpointing which the RP or RPs didn't do well.

Say your mental map of how the machine should have worked has two steps: that Harry should have either 1) done his assignment on time or 2) escalated that he couldn't. All you have to do is pinpoint the two steps. 1) Did he do it on time? Yes or no. And if not, 2) did he escalate? Yes or no.

It should be this simple. But this is when the conversation often gets dragged into gobbledegook where someone goes into a detailed explanation of "what they did." Remember: It's your job to guide the conversation toward an accurate and clear synthesis.

You also have to synthesize whether the problem was meaningful—that is, whether a capable person would have made the same mistake given the circumstances, or whether it's symptomatic of something worth digging into. Don't focus too much on rare events or the trivial problems—nothing and no one is perfect—but be sure you are not overlooking a clue to a systemic machine problem. It's your job to make that determination.

**Why didn't things go as they should have?** This is where you have synthesized the root cause in order to determine whether the RP is capable or not—or whether the issue is with the design. In order to anchor back to a synthesis rather than get lost in the details you might:

- Try to tie the failure to the 5-Step Process. Which step was not done well? Everything ultimately fits into those five steps. But you may need to get more specific, so:
- Try to crystallize the failure as a specific key attribute or set of attributes. Ask yes/no questions: Did the RP not manage well? Not perceive problems well? Not execute well?
- Importantly, ask yourself this question: If X attribute is done well next time, will the bad outcome still occur? This is a good way of making sure you are logically connecting the outcome back to the case. Think of it this way: If your mechanic replaced that part in your car, would that fix it?
- If the root cause is a faulty design, don't stop there. Ask who was responsible for the faulty design and whether they are capable of designing well.

**Is the root cause a pattern?** (Yes or no.) Any problem can be a one-off imperfection—or it could be a symptom of a root cause that will show up repeatedly. You need to determine which it is. In other words, if Harry failed to do the assignment due to reliability:

- Does Harry have a reliability problem in general?
- If so, is reliability required for the role?
- Is Harry's failure due to training or abilities?

**How should the people/machines evolve as a result?** Confirm that the short-term resolution of the issue has been addressed, as needed. Determine the steps to be taken for long-term solutions and who is responsible for those steps. Specifically:

- Are there responsibilities that need to be assigned or clarified?
- Are there machine designs that need to be reworked?

- Are there people whose fit for their roles needs to be reevaluated?

For example, if you've determined that 1) it's a pattern, 2) the RP is missing an attribute that's required for the role, and 3) the attribute is missing due to the RP's ability (not their training)—then you've likely been able to determine the answer to your most important question: the person is not capable and needs to be sorted from the role.

The following principles further flesh out how to diagnose well.

- Ask yourself: “Who should do what differently?”** I often hear people complaining about a particular outcome without attempting to understand the machine that caused it. In many cases, these complaints come from people who are seeing the cons of some decision but not the pros and don't know how the Responsible Party weighed them to come to a decision. Since all outcomes ultimately come from people and designs, asking yourself “Who should do what differently?” will point you in the direction of the kind of understanding that you need to actually change outcomes in the future (versus just chirping about them).
- Identify at which step in the 5-Step Process the failure occurred.** If a person is chronically failing, it is due to a lack of training or a lack of ability. Which is it? At which of the five steps did the person fail? Different steps require different abilities and if you can identify which abilities are lacking, you'll go a long way toward diagnosing the problem.
- Identify the principles that were violated.** Identify which principles apply to the case at hand, review them, and see if they would have helped. Think for yourself which principles are best for handling similar cases. This will help solve not only this problem but other problems like it.
- Avoid Monday morning quarterbacking.** Evaluate the merits of a past decision based not on what you know now but only on what you could have reasonably known at the time the decision was made. Every decision has pros and cons; you can't evaluate choices in retrospect without the appropriate context. Do this by asking yourself, “What should a quality person have known and done in that situation?” Also, have a deep understanding of the person who made the decision (how they think, the type of person they are, whether they learned from the situation, and so on).
- Don't confuse the quality of someone's circumstances with the quality of their approach to dealing with the circumstances.** One can be good and the other can be bad, and it's easy to confuse which is which. Such confusion is especially common in organizations that are doing new things and evolving fast but haven't yet gotten the kinks out.

I have always described Bridgewater as being “terrible and terrific at the same time.” For nearly forty years, we have consistently produced extraordinary results while struggling with lots of problems. It is easy to look at messy circumstances, think things must be terrible, and get frustrated. But the real challenge is to look at the long-term successes these messy circumstances have produced and understand how essential they are to the evolutionary process of innovation.

**f. Identifying the fact that someone else doesn't know what to do doesn't mean that you know what to do.** It's one thing to point out a problem; it's another to have an accurate diagnosis and a quality solution. As described earlier, the litmus test for a good problem solver is 1) they are able to logically describe how to handle the problem and 2) they have successfully solved similar problems in the past.

**g. Remember that a root cause is not an action but a reason.** Root causes are described in adjectives, not verbs, so keep asking "why" to get at them. Since most things are done or not done because someone decided to do them or not do them in a certain way, most root causes can be traced to specific people who have specific patterns of behavior. Of course, a normally reliable person can make the occasional error and if that's the case, then it can be forgiven, but when a problem is attributable to a person, you have to ask why they made the mistake—and you have to be as accurate in diagnosing a fault in a person as you would be if he or she were a piece of equipment.

A root cause discovery process might proceed like this:

*The problem was due to bad programming.*

***Why was there bad programming?***

*Because Harry programmed it badly.*

***Why did Harry program it badly?***

*Because he wasn't well trained and because he was in a rush.*

***Why wasn't he well trained? Did his manager know that he wasn't well trained and let him do the job anyway, or did he not know?***

Consider how personal the questioning is. It doesn't stop at "Because Harry programmed it badly." You must go deeper in order to understand what about the people and/or the design led to the failure. This is difficult for both the diagnoser and the RPs, and it often results in people bringing up all kinds of irrelevant details. Be on your guard because people will often look to cover themselves by diving into the weeds.

**h. To distinguish between a capacity issue and a capability issue, imagine how the person would perform at that particular function if they had ample capacity.** Think back on how the person performed in similar functions when they had ample capacity. If the same kinds of problems came up, then the problem is very likely one of capabilities.

**i. Keep in mind that managers usually fail or fall short of their goals for one (or more) of five reasons.**

1. They are too distant.
2. They have problems perceiving bad quality.

3. They have lost sight of how bad things have become because they have gotten used to it.
4. They have such high pride in their work (or such large egos) that they can't bear to admit they are unable to solve their own problems.
5. They fear adverse consequences from admitting failure.

## **2.2 Maintain an emerging synthesis by diagnosing continuously.**

If you don't look into significant bad outcomes as they occur, you won't be able to understand what things they are symptomatic of or how they are changing through time—i.e., are they getting better or worse?

## **2.3 Keep in mind that diagnoses should produce outcomes.**

If they don't, there's no purpose to them. At a minimum, a diagnosis should take the form of theories about root causes and clarity about what information needs to be gathered to find out more. At best, it should lead directly to a plan or design to fix the problem or problems.

**a. Remember that if you have the same people doing the same things, you should expect the same results.** Einstein defined insanity as doing the same thing over and over and expecting different results. Don't fall into this trap because you'll have a hard time getting out of it.

## **2.4 Use the following “drill-down” technique to gain an 80/20 understanding of a department or sub-department that is having problems.**

A drill-down is a process that allows you to gain an understanding of the root causes of the biggest problems in a department or area so you can design a plan to make the area excellent. Drill-downs are not diagnoses, but a form of broad and deep probing. They're not intended to uncover the causes of every problem: only the 20 or so percent of causes that produce 80 percent of the suboptimal effects. A drill-down takes place in two steps and is then followed by design and execution steps. If done well, the two drill-down steps can be done in about four hours. It is very important that the steps be done separately and independently, so as not to go in too many directions at once. Let me take you through the drill-down process, offering guidance and examples for each step.

**Step 1: List the Problems.** Quickly inventory all the core problems. Be very specific, as this is the only way to effectively find solutions. Don't generalize or use the plural “we” or “they.” Name the names of the people experiencing the problems.

- Have all the relevant people from the area under scrutiny participate in the drill-down; you will benefit from their insights and it will drive their ownership of the solution.
- Don't focus on rare events or the trivial problems—nothing is perfect—but be sure they are not symptoms of systematic machine problems.
- Don't try to find solutions yet. Your focus in this step is strictly on listing the problems.

**Step 2: Identify the Root Causes.** For each problem, identify the deep-seated reason behind the actions that caused each problem. Most problems happen for one of two reasons: 1) It isn't clear who the Responsible Party is, or 2) The Responsible Party isn't handling his/her responsibilities well.

You must distinguish proximate causes from root causes. Proximate causes are the reasons or actions that led to the problem. When you start describing the qualities behind these reasons or actions, you are getting closer to the root cause.

To get at the root cause, keep asking "Why?" For example:

**Problem:**

*The team is continually working late and is on the verge of burning out.*

**Why?**

*Because we don't have enough capacity to meet the demand put on the team.*

**Why?**

*Because we inherited this new responsibility without additional staff.*

**Why?**

*Because the manager did not understand the volume of work before accepting the responsibility.*

**Why?**

*Because the manager is bad at anticipating problems and creating plans. [Root Cause]*

Do not exclude any relevant people from the drill-down: Besides losing the benefit of their ideas, you'll disenfranchise them from the game plan and reduce their sense of ownership. At the same time, remember that people tend to be more defensive than self-critical. It is your job as a manager to get at truth and excellence, not to make people happy. For example, the correct path might be to fire some people and replace them with better people, or put them in jobs they might not want. Everyone's objective must be to get at the best answers, not the answers that will make the most people happy.

You may find that multiple problems identified in Step 1 share the same root cause. Because you are doing a drill-down in a quick session, your root cause diagnoses may only be provisional—essentially alerts about things to watch out for.

When Step 2 is completed, take a break to reflect; then come up with a plan.

**Step 3: Create a Plan.** Step away from the group and develop a plan that addresses the root causes. Plans are like movie scripts, where you visualize who will do what through time to achieve the goals. They are developed by iterating through multiple possibilities, weighing the likelihood of goal achievement versus costs and risks. They should have specific tasks, outcomes, Responsible Parties, tracking metrics, and timelines. Allow the key people involved to discuss the plan thoroughly. Not everyone needs to agree on the plan but the Responsible Parties and other key people must be in sync.

**Step 4: Execute the Plan.** Execute the agreed-upon plan and transparently track its progress. At least monthly, report on the planned and actual progress to date and the expectations for the coming period, and hold people publicly accountable for delivering their outcomes successfully and on time. Make adjustments to the plan as required to reflect reality.

## **2.5 Understand that diagnosis is foundational to both progress and quality relationships.**

If you and others are open-minded and engage in a quality back-and-forth, not only will you find better solutions, you will also get to know each other better. It is an opportunity for you to assess your people and to help them grow—and vice versa.

## **13 Design Improvements to Your Machine to Get Around Your Problems**

Once you've successfully diagnosed the problems standing in the way of your achieving your goals, you need to design paths for solving them. Designs need to be based on deep and accurate understandings (which is why diagnosis is so important); for me, it's an almost visceral process of staring at problems and using the pain they cause me to stimulate my creative thinking.

This is exactly how it was for the team responsible for client service analytics—and especially for Bridgewater's co-CEO David McCormick, who was then head of the Client Service Department. Coming out of the diagnosis, he moved quickly to design and implement changes. He fired the team members who had allowed standards to slip and reflected deeply on what new designs he could implement to get the right people into the right roles. In selecting his new Responsible Parties for client service analytics, he picked one of our top investment thinkers who also had extremely high standards (and was very outspoken about cases where he saw them slipping) and paired him with one of our most experienced managers, who knew how to build the right process flows and make sure everything that needed to happen would go precisely as planned.

But that wasn't all. When coming up with a design, it's important to take time to reflect and make sure you're looking at the problems from the highest level. David knew it would be a mistake to look only at this one part of the department, because the same slip in quality that had happened there was likely to have occurred in other places too. He needed to think creatively to come up with a design that would build a durable culture of pervasive excellence throughout the entire department. This led to his invention of "Quality Day," biannual meetings in which members of the Client Service Department would review each other's mock presentations and memos and give direct feedback on what was good and what wasn't. More importantly, the meetings were a chance to step back and assess whether the ways of ensuring quality were working as expected—by bringing in a bunch of tough, independent thinkers to offer criticism and get the process realigned on what good looks like.

Of course, there were many more details to all of David's plans for transforming the department. But the important thing is how all the details and plans extended from a high-level visualization of what was required. Only when you have such a sketch can you begin to fill it in with specifics. Those specifics will be your tasks; write them down so you don't forget them.

While the best designs are drawn from a rich understanding of actual problems, when you're just starting out on something, you often have to design based on anticipated problems as opposed to actual ones. That's why having systematic ways of tracking issues (the Issue Log) and what people are like (the Dot Collector) is so useful: Instead of just relying on your best guesses of what might go wrong, you can look at data from prior "at bats" for yourself and others and come to the design process with understanding rather than having to start from scratch.

The most talented designers I know are people who can visualize over time, running through different collections of people from the scale of small teams to entire organizations, accurately anticipating the kinds of results they'll produce. They excel at design and systemization. Hence the overriding principle of this chapter: Design and systemize your machine. Creativity is also important to this process, as is character, because the most important problems to design around are often the hardest, and you need to come up with original ways of addressing them and be willing to make hard choices (especially when it comes to people and who should do what).

The following principles delve into designing and how to do it well.

### **3.1 Build your machine.**

Focus on each task or case at hand and you will be stuck dealing with them one by one. Instead, build a machine by observing what you're doing and why, extrapolating the relevant principles from the cases at hand, and systemizing that process. It typically takes about twice as long to build a machine as it does to resolve the task at hand, but it pays off many times over because the learning and efficiency compound into the future.

### **3.2 Systemize your principles and how they will be implemented.**

If you have good principles that guide you from your values to your day-to-day decisions but you don't have a systematic way of making sure they're regularly applied, they're not of much use. It's essential to build your most important principles into habits and help others do so as well. Bridgewater's tools and culture are designed to do just that.

**a. Create great decision-making machines by thinking through the criteria you are using to make decisions while you are making them.** Whenever I make an investment decision, I observe myself making it and think about the criteria I used. I ask myself how I would handle another one of those situations and write down my principles for doing so. Then I turn them into algorithms. I am now doing the same for management and I have gotten in the habit of doing it for all my decisions.

Algorithms are principles in action on a continuous basis. I believe that systemized, evidence-based decision making will radically improve the quality of management. Human managers process information spontaneously using poorly thought-out criteria and are unproductively affected by their emotional biases. These all lead to suboptimal decisions. Imagine what it would be like to have a machine that processes high-quality data using high-quality decision-making principles/criteria. Like the GPS in your car, it would be invaluable, whether you follow all of its suggestions or not. I believe that such tools will be essential in the future, and as I write these words, I am a short time away from getting a prototype online.

### **3.3 Remember that a good plan should resemble a movie script.**

The more vividly you can visualize how the scenario you create will play out, the more likely it is to happen as you plan. Visualize who will do what when and the result they'll produce. This is your mental map of your machine. Recognize that some people are better or worse at visualization. Accurately assess your own abilities and those of others so you can use the most capable people to create your plans.

- a. Put yourself in the position of pain for a while so that you gain a richer understanding of what you're designing for.** Either literally or vicariously (through reading reports, job descriptions, etc.), temporarily insert yourself into the workflow of the area you're looking at to gain a better understanding of what it is that you are dealing with. As you design, you'll be able to apply what you've learned, and revise the machine appropriately as a result.
- b. Visualize alternative machines and their outcomes, and then choose.** A good designer is able to visualize the machine and its outcomes in various iterations. First they imagine how Harry, Larry, and Sally can operate in various ways with various tools and different incentives and penalties; then they replace Harry with George, and so on, thinking through what the products and people and finances would look like month by month (or quarter by quarter) under each scenario. Then they choose.
- c. Consider second- and third-order consequences, not just first-order ones.** The outcome you get as a first-order consequence might be desirable, while the second- or third-order consequences could be the opposite. So focusing solely on first-order consequences, which people tend to do, can lead to bad decision making. For example, if you asked me if I'd like to not have rainy days, I probably would say yes if I didn't consider the second- and third-order consequences.
- d. Use standing meetings to help your organization run like a Swiss clock** Regularly scheduled meetings add to overall efficiency by ensuring that important interactions and to-do's aren't overlooked, eliminating the need for inefficient coordination, and improving operations (because repetition leads to refinement). It pays to have standardized meeting agendas that ask the same feedback questions in each meeting (such as how effective the meeting was) and nonstandard meeting agendas that include things done infrequently (such as quarterly budget reviews).
- e. Remember that a good machine takes into account the fact that people are imperfect.** Design in such a way that you produce good results even when people make mistakes.

### **3.4 Recognize that design is an iterative process. Between a bad “now” and a good “then” is a “working through it” period.**

That “working through it” period is when you try out different processes and people, seeing what goes well or poorly, learning from the iterations, and moving toward the ideal systematic design.

Even with a good future design picture in mind, it will naturally take some mistakes and learning to get to a good “then” state.

People frequently complain about this kind of iterative process because it tends to be true that people are happier with nothing at all than with something imperfect, even though it would be more logical to have the imperfect thing. That kind of thinking doesn’t make sense, so don’t let it distract you.

**a. Understand the power of the “cleansing storm.”** In nature, cleansing storms are big infrequent events that clear out all the overgrowth that’s accumulated during good times. Forests need these storms to be healthy—without them, there would be more weak trees and a buildup of overgrowth that stifles other growth. The same is true for companies. Bad times that force cutbacks so only the strongest and most essential employees (or companies) survive are inevitable and can be great, even though they seem terrible at the time.

### **3.5 Build the organization around goals rather than tasks.**

Giving each department a clear focus and the appropriate resources to achieve its goals makes the diagnosis of resource allocations more straightforward and reduces job slip. As an example of how this works, at Bridgewater we have a Marketing Department (goal: to market) that is separate from our Client Service Department (goal: to service clients), even though they do similar things and there would be advantages to having them work together. But marketing and servicing clients are two distinct goals; if they were merged, the department head, salespeople, client advisors, analysts, and others would be giving and receiving conflicting feedback. If asked why clients were receiving relatively poor attention, the answer might be: “We have incentives to raise sales.” If asked why they weren’t making sales, the merged department might explain that they need to take care of their clients.

**a. Build your organization from the top down.** An organization is the opposite of a building: Its foundation is at the top, so make sure you hire managers before you hire their reports. Managers can help design the machine and choose the people who complement it. People overseeing departments need to be able to think strategically as well as run the day-to-day. If they don’t anticipate what’s coming up, they’ll run the day-to-day off a cliff.

**b. Remember that everyone must be overseen by a believable person who has high standards.** Without strong oversight, there is potential for inadequate quality control, inadequate training, and inadequate appreciation of excellent work. Never just trust people to do their jobs well.

**c. Make sure the people at the top of each pyramid have the skills and focus to manage their direct reports and a deep understanding of their jobs.** A few years ago, someone at Bridgewater proposed that our facilities group (the people who take care of the building and grounds, food service, office supplies, etc.) should begin to report to our head of technology because of the overlap in the two areas (computers are a facility too, they use electricity, and so

on). But having the people who are responsible for janitorial services and meals report to a technology manager would be as inappropriate as having technology people report to the person taking care of facilities. These functions, even if they're considered "facilities" in the broadest sense, are very different, as are the respective skill sets. Similarly, at another time, we talked about putting the folks who work on client agreements under the same manager as those who do counterparty agreements. But that would have been a mistake because the skills required to reach agreements with clients are very different from the skills required to reach agreements with counterparties. It would be wrong to conflate both departments under the general heading of "agreements," because each calls for specific knowledge and skills.

**d. In designing your organization, remember that the 5-Step Process is the path to success and that different people are good at different steps.** Assign specific people to do each of these steps based on their natural inclinations.

For example, the big-picture visionary should be responsible for goal setting, the taste tester should be assigned the job of identifying and not tolerating problems, the logical detective who doesn't mind probing people should be the diagnoser, the imaginative designer should craft the plan to make the improvements, and the reliable taskmaster should make sure the plan gets executed. Of course, some people can do more than one of these things—generally people do two or three well. Virtually nobody can do them all well. A team should consist of people with all of these abilities and they should know who is responsible for which steps.

**e. Don't build the organization to fit the people.** Managers will often take the people who work in their organization as a given and try to make the organization work well with them. That's backward. Instead, they should imagine the best organization and then make sure the right people are chosen for it. Jobs should be created based on the work that needs to be done, not what people want to do or which people are available. You can always search outside to find the people who click best for a particular role. First come up with the best workflow design, then sketch it out on an organizational chart, visualize how the parts interact, and specify what qualities are required for each job. Only after all that is done should you choose the people to fill the slots.

**f. Keep scale in mind.** Your goals must be the right size to warrant the resources that you allocate to them. An organization might not be big enough to justify having both a sales and an analytics group, for example. Bridgewater successfully evolved from a one-cell organization, in which most people were involved in everything, to a multi-cellular organization because we retained our ability to focus efficiently as we grew.

Temporarily sharing or rotating resources is fine and is not the same as a merging of responsibilities. On the other hand, the efficiency of an organization decreases as the number of people and/or its complexity increases, so keep things as simple as possible. And the larger the organization, the more important are information technology management and cross-departmental communication.

**g. Organize departments and sub-departments around the most logical groupings based on “gravitational pull.”** Some groups naturally gravitate toward one another. That gravitational pull might be based on common goals, shared abilities and skills, workflow, physical location, and so forth. Imposing your own structure without acknowledging these magnetic pulls will likely result in inefficiency.

**h. Make departments as self-sufficient as possible so that they have control over the resources they need to achieve their goals.** We do this because we don’t want to create a bureaucracy that forces departments to requisition resources from a pool that lacks the focus to do the job.

**i. Ensure that the ratios of senior managers to junior managers and of junior managers to their reports are limited to preserve quality communication and mutual understanding.** Generally, the ratio should not be more than 1:10, and preferably closer to 1:5. Of course, the appropriate ratio will vary depending on how many people your direct reports have reporting to them, the complexity of the jobs they’re doing, and a manager’s ability to handle several people or projects at once. The number of layers from top to bottom and the ratio of managers to their direct reports will limit the size of an effective organization.

**j. Consider succession and training in your design.** This is a subject I wish I had thought about much earlier in my career. To ensure that your organization continues to deliver results, you need to build a perpetual motion machine that can work well without you. This involves more than the mechanics of your own “stepping out,” but the selection and training and governance of the new leaders who “step up,” and most importantly, the preservation of the culture and its values.

The best approach I’ve seen for doing this is what companies and organizations like GE, 3G, and the Chinese Politburo do, which is to build a pyramid-like “succession pipeline” in which the next generation of leaders is exposed to the thinking and decision making of the current leaders so they can both learn and be tested.

**k Don’t just pay attention to your job; pay attention to how your job will be done if you are no longer around.** I wrote about key-man risk earlier, which applies the most to those with the largest areas of responsibility, especially the head of an organization. If that’s you, then you should designate the people who could replace you and have them do your job for a while so they can be vetted and tested. These results should be documented in a manual that the appropriate people can go to if you should be hit by a bus. If all the key people in the organization do this, you will have a strong “farm team,” or at least a clear understanding of vulnerabilities and a plan to deal with them. Remember that a ninja manager is somebody who can sit back and watch beauty happen—i.e., an orchestrator. If you are always trying to hire somebody who is as good as or better than you at your job, that will both free you up to go on to other things and build your succession pipeline.

Beyond that, visualizing your replacement is an enlightening and productive experience. In addition to taking stock of what you are doing and coming up with both bad and good names, you will start to think about how to get your best people into slots that don’t yet exist. Knowing that you

will have to test them by letting them do your job without interference, you will be motivated to train them properly before the test. And, of course, the stress-testing will help you learn and adapt, which will lead to better results.

**L. Use “double-do” rather than “double-check” to make sure mission-critical tasks are done correctly.** Double-checking has a much higher rate of errors than double-doing, which is having two different people do the same task so that they produce two independent answers. This not only ensures better answers but will allow you to see the differences in people’s performance and abilities. I use double-do’s in critical areas such as finance, where large amounts of money are at risk.

And because an audit is only as effective as the auditor is knowledgeable, remember that a good double-check can only be done by someone capable of double-doing. If the person double-checking the work isn’t capable of doing the work himself, how could he possibly evaluate it accurately?

**m. Use consultants wisely and watch out for consultant addiction.** Sometimes hiring an external consultant is the best fit for your design. Doing so can get you precisely the amount of specialized expertise you need to tackle a problem. When you can outsource you don’t have to worry about managing, and that’s a real advantage. If a position is part-time and requires highly specialized knowledge, I would prefer to have it done by consultants or outsiders.

At the same time, you need to beware of the chronic use of consultants to do work that should be done by employees. This will cost you in the long run and erode your culture. Also make sure you are careful not to ask consultants to do things that they don’t normally do. They will almost certainly revert to doing things in their usual way; their own employers will demand that.

When evaluating whether to use a consultant, consider the following factors:

- 1. Quality Control.** When someone doing work for you is an employee, you are responsible for the quality of their work. But when the person working for you works for another company, you’re operating by their standards, so it’s important to know whether their standards are as high or higher than yours.
- 2. Economics.** If a full-time person is required, it is almost certainly more cost-effective to create a position. Consultants’ daily rates add up to considerably more than the annualized cost of a full-time person.
- 3. Institutionalization of Knowledge.** Someone who is around your environment on an ongoing basis will gain knowledge and an appreciation of your culture that no outsider can.
- 4. Security.** Having outsiders do the job substantially increases your security risks, especially if you can’t see them at work (and monitor whether they follow proper precautions, like not leaving sensitive documents on their desks).

You have to consider whether you should be outsourcing or developing capabilities in-house. Though temps and consultants are good for a quick fix, they won’t augment your capacities in the long term.

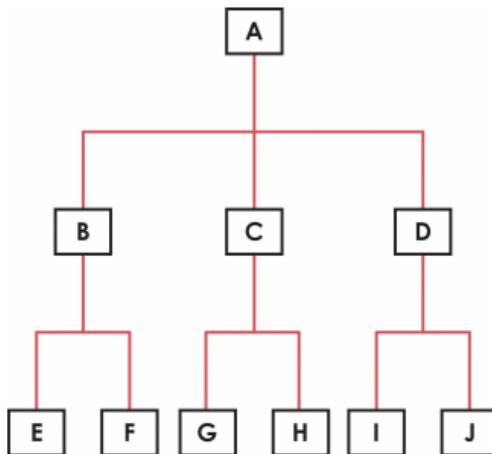
### **3.6 Create an organizational chart to look like a pyramid, with straight lines down that don't cross.**

The whole organization should look like a series of descending pyramids, but the number of layers should be limited to minimize hierarchy.

- a. Involve the person who is the point of the pyramid when encountering cross-departmental or cross-sub-departmental issues.** Imagine an organizational chart as a pyramid that consists of numerous pyramids.

When issues involve parties not in the same part of the pyramid, it is generally desirable to involve the person who is at the point of the pyramid, and thus has the perspective and knowledge to weigh the trade-offs and make informed decisions.

- b. Don't do work for people in another department or grab people from another department to do work for you unless you speak to the person responsible for overseeing the other department.** If there is a dispute about this, it needs to be resolved at the point of the pyramid.



- c. Watch out for “department slip.”** This happens when a support department mistakes its responsibility to provide support with a mandate to determine how the thing they are supporting should be done. An example of this sort of mistake would be if the facilities group thought it should determine what facilities we should have. While support departments should know the goals of the people they’re supporting and provide feedback regarding possible choices, they are not the ones to determine the vision.

### **3.7 Create guardrails when needed—and remember it's better not to guardrail at all.**

Even when you find people who are great clicks for your design, there will be times when you'll want to build guardrails around them. No one is perfect, everyone has strengths and weaknesses, and as hard as you look, you won't always be able to find everything you want in one person. So look down on your machine and the people you choose for your roles, and think about where you might need to supplement your design by adding people or processes to ensure that each job is done excellently.

Remember, guardrailing is meant to help people who can by and large do their jobs well—it's intended to help good people perform better, not to help failing people reach the bar. If you're trying to guardrail someone who is missing the core abilities required for their job, you should probably just fire them and look for someone else who will be a better click.

A good guardrail typically takes the form of a team member whose strengths compensate for the weaknesses of the team member who needs to be guardrailed. A good guardrailing relationship should be firm without being overly rigid. Ideally, it should work like two people dancing—they're literally pushing against each other, but with a lot of mutual give-and-take. Of course, having someone in a job who needs to be guardrailed is not as good as having someone in a job who will naturally do the right things. Strive for that.

**a. Don't expect people to recognize and compensate for their own blind spots.** I constantly see people form wrong opinions and make bad decisions, even though they've made the same kinds of mistakes before—and even though they know that doing so is illogical and harmful. I used to think that they would avoid these pitfalls when they became aware of their blind spots, but typically that's not the case. Only very rarely do I hear someone recuse himself from offering an opinion because they aren't capable of forming a good one in a particular area. Don't bet on people to save themselves; proactively guardrail them or, better yet, put them in roles in which it's impossible for them to make the types of decisions they shouldn't make.

**b. Consider the clover-leaf design.** In situations where you're unable to identify one excellent Responsible Party for a role (which is always best), find two or three believable people who care deeply about producing excellent results and are willing to argue with each other and escalate their disagreements if necessary. Then set up a design in which they check and balance each other. Though it's not optimal, such a system will have a high probability of effectively sorting the issues you need to examine and resolve.

### **3.8 Keep your strategic vision the same while making appropriate tactical changes as circumstances dictate.**

Bridgewater's values and strategic goals have been the same since the beginning (to produce excellent results, meaningful work, and meaningful relationships through radical truth and transparency) but its people, systems, and tools have changed over forty-plus years as we have

grown from a one-person company to a 1,500-person organization—and they can continue to change while maintaining values and strategic goals as newer generations replace older ones. That can happen for organizations in much the same way as it happens for families and communities. To help nurture that, it is desirable to reinforce the traditions and reasons for them, as well as to make sure the values and strategic goals are imbued in the successive leaders and the population as a whole.

**a. Don't put the expedient ahead of the strategic.** People often tell me they can't deal with the longer-term strategic issues because they have too many pressing issues they need to solve right away. But rushing into ad hoc solutions while kicking the proverbial can down the road is a “path to slaughter.” Effective managers pay attention both to imminent problems and to problems that haven’t hit them yet. They constantly feel the tug of the strategic path because they worry about not getting to their ultimate goal and they are determined to continue their process of discovery until they do. While they might not have the answer right away, and they might not be able to come up with it by themselves, through a combination of creativity and character they eventually make all the necessary upward loops.

**b. Think about both the big picture and the granular details, and understand the connections between them.** Avoid fixating on irrelevant details. You have to determine what’s important and what’s unimportant at each level. For example, imagine you are designing a house. First you need to start with the big picture: Your house will sit on a plot of land, and you have to think through where the water comes from, how the house gets hooked up to the power grid, and so on. Then you need to decide how many rooms it will have, where the doors will go, where you need windows, and so on. When designing the plan, you need to think about all of these things and connect them, but that doesn’t mean that you actually need to go out and pick the hinges for the door yourself. You just need to know that you’ll need a door with hinges and how it fits into the bigger picture of the house.

### **3.9 Have good controls so that you are not exposed to the dishonesty of others.**

Don’t assume that people are operating in your interest rather than their own. A higher percentage of the population than you might imagine will cheat if given the opportunity. When offered the choice of being fair with you or taking more for themselves, most people will take more for themselves. Even a tiny amount of cheating is intolerable, so your happiness and success will depend on your controls. I have repeatedly learned this lesson the hard way.

**a. Investigate and let people know you are going to investigate.** Investigate and explain to people that you are going to investigate so there are no surprises. Security controls should not be taken personally by the people being checked, just like a teller shouldn’t view the bank counting the money in the drawer (rather than just accepting the teller’s count) as an indication that the bank thinks the teller is dishonest. Explain that concept to employees so that they understand it.

But even the best controls will never be foolproof. For that reason (among many others), trustworthiness is a quality that should be appreciated.

**b. Remember that there is no sense in having laws unless you have policemen (auditors).** The people doing the auditing should report to people outside the department being audited, and auditing procedures should not be made known to those being audited. (This is one of our few exceptions to radical transparency.)

**c. Beware of rubber-stamping.** When a person's role involves reviewing or auditing a high volume of transactions or things that other people are doing, there's a real risk of rubber-stamping. One particularly risky example is expense approvals. Make sure you have ways to audit the auditors.

**d. Recognize that people who make purchases on your behalf probably will not spend your money wisely.** This is because 1) it is not their money and 2) it is difficult to know what the right price should be. For example, if somebody proposes a price of \$125,000 for a consulting project, it is unpleasant, difficult, and confusing to figure out what the market rate is and then negotiate a better price. But the same person who's reluctant to negotiate with the consultant will bargain furiously when he is hiring someone to paint his own house. You need to have proper controls, or better yet, a part of the organization that specializes in this kind of thing. There's retail and there's wholesale. You want to pay wholesale whenever possible.

**e. Use "public hangings" to deter bad behavior.** No matter how carefully you design your controls and how rigorously you enforce them, malicious and grossly negligent people will sometimes find a way around them. So when you catch someone violating your rules and controls, make sure that every body sees the consequences.

### **3.10 Have the clearest possible reporting lines and delineations of responsibilities.**

This applies both within and between departments. Dual reporting causes confusion, complicates prioritization, diminishes focus on clear goals, and muddies the lines of supervision and accountability—especially when the supervisors are in two different departments. When situations require dual reporting, managers need to be informed. Asking someone from another department to do a task without consulting with his or her manager is strictly prohibited (unless the request will take less than an hour or so). However, appointing co-heads of a department or a sub-department can work well if the managers are in sync and combine complementary and essential strengths; dual reporting in that case can work well if properly coordinated.

**a. Assign responsibilities based on workflow design and people's abilities, not job titles.** Just because someone is responsible for "Human Resources," "Recruiting," "Legal," "Programming," and so forth, doesn't necessarily mean they are the appropriate person to do

everything associated with those functions. For example, though HR people help with hiring, firing, and providing benefits, it would be a mistake to give them the responsibility of determining who gets hired and fired and what benefits are provided to employees.

**b. Constantly think about how to produce leverage.** Leverage in an organization is not unlike leverage in the markets; you're looking for ways to achieve more with less. At Bridgewater, I typically work at about 50:1 leverage, meaning that for every hour I spend with each person who works for me, they spend about fifty hours working to move the project along. At our sessions, we go over the vision and the deliverables, then they work on them, and then we review the work, and they move forward based on my feedback—and we do that over and over again. The people who work for me typically have similar relationships with those who work for them, though their ratios are typically between 10:1 and 20:1. I am always eager to find people who can do things nearly as well as (and ideally better than) I can so that I can maximize my output per hour.

Technology is another great tool for providing leverage. To make training as easy to leverage as possible, document the most common questions and answers through audio, video, or written guidelines, and then assign someone to organize them and incorporate them into a manual, which is updated on a regular basis.

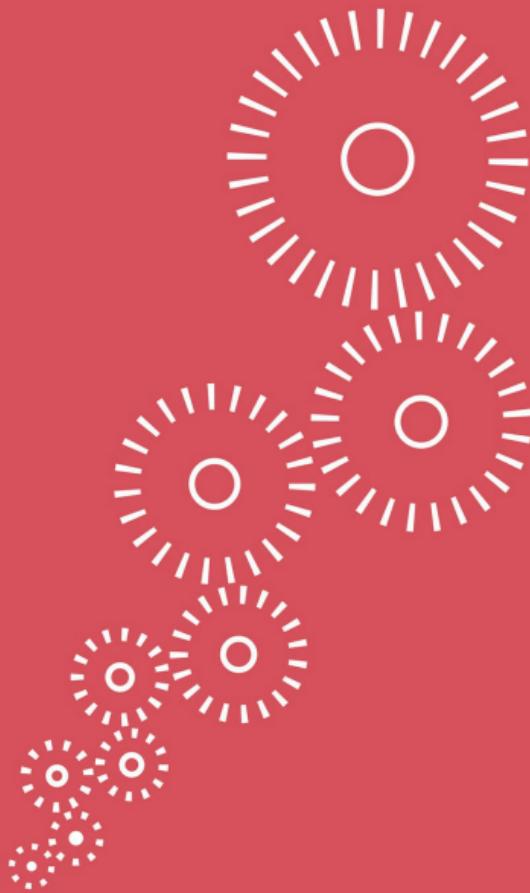
Principles themselves are a form of leverage—they're a way to compound your understanding of situations so that you don't need to exert the same effort each time you encounter a problem.

**c. Recognize that it is far better to find a few smart people and give them the best technology than to have a greater number of ordinary people who are less well equipped.** Great people and great technology both enhance productivity. Put them together in a well-designed machine and they improve it exponentially.

**d. Use leveragers.** Leveragers are people who can go from conceptual to practical effectively and do the most to get your concepts implemented. Conceptualizing and managing takes only about 10 percent of the time needed for implementing, so if you have good leveragers, you can devote a lot more of your time to what's most important to you.

### **3.11 Remember that almost everything will take more time and cost more money than you expect.**

Virtually nothing goes according to plan because one doesn't plan for the things that go wrong. I personally assume things will take about one and a half times as long and cost about one and a half times as much because that's what I've typically experienced. How well you and the people working with you manage will determine your expectations.





## **14 Do What You Set Out to Do**

The organization, like the individual, has to push through to results in order to succeed—this is step five in the 5-Step Process.

While recently cleaning up a huge pile of work products from the 1980s and 1990s, I came across boxes and boxes full of research. There were thousands of pages, most covered with my scribbles, and I realized that they represented just a fraction of the effort I'd put in. At our fortieth-year celebration I was given copies of the almost ten thousand Bridgewater *Daily Observations* that we'd published. Every one of them expressed our deepest thinking and research about markets and economies. I also stumbled across the manuscript of an eight-hundred-page book that I wrote but then got too busy to publish, and countless other memos and letters to clients, research reports, and versions of the book you're reading now. Why did I do all these things? Why do others work so hard to achieve their goals?

From what I can see, we do it for different reasons. For me, the main reason is that I can visualize the results of pushing through so intensely that I experience the thrill of success even while I'm still struggling to achieve it. Similarly, I can visualize the tragic results of not pushing through. I am also motivated by a sense of responsibility; I have a hard time letting people I care about down. But that's just what's true for me. Others describe their motivation as attachment to the community and its mission. Some do it for approval and some do it for financial rewards. All these are perfectly acceptable motivations and should be used and harmonized in a way consistent with the culture.

The way one brings people together to do this is key. This is what most people call “leadership.” What are the most important things that a leader needs to do in order to get their organizations to push through to results? Most importantly, they must recruit individuals who are willing to do the work that success requires. While there might be more glamour in coming up with the brilliant new ideas, most of success comes from doing the mundane and often distasteful stuff, like identifying and dealing with problems and pushing hard over a long time. This was certainly the case with the Client Service Department. Through a lot of relentless hard work in the years since the original problem turned up, the department has become an example to other teams at Bridgewater—and our client satisfaction levels remain consistently high. The great irony of all this is that none of our clients ever even noticed the problems we saw with the memos. Sending out work not up to our standards was bad—and I'm glad it was corrected. But it could've been much worse, tarnishing our reputation for delivering pervasive excellence. Once that happens, it becomes much harder to restore trust.

### **4.1 Work for goals that you and your organization are excited about . . .**

**... and think about how your tasks connect to those goals.** If you're focused on the goal, excited about achieving it, and recognize that doing some undesirable tasks to achieve the goal is required, you will have the right perspective and will be appropriately motivated. If you're not excited about the goal that you're working for, stop working for it. Personally, I like visualizing exciting new and beautiful things that I want to make into realities. The excitement of visualizing these ideas and my desire to build them out is what pulls me through the thorny realities of life to make my dreams happen.

**a. Be coordinated and consistent in motivating others.** Managing groups to push through to results can be done emotionally or intellectually, and by carrots or by sticks. While we each have our own reasons for working, there are unique challenges and advantages to motivating a community. The main challenge is the need to coordinate, i.e., to get in sync on the reasons for pursuing a goal and the best way to do it. For example, you wouldn't want one group to be motivated and compensated so differently from another (one gets big bonuses for example, and another doesn't under the same set of circumstances) that the differences cause problems. The main advantage of working in groups is that it's easier to design a group to include all the qualities needed to be successful than to find all those qualities in one person. As with the steps in the 5-Step Process, some people are great at one step and some are terrible at that step. But it doesn't matter which is the case when everyone is clear on each other's strengths and weaknesses and the group is designed to deal with those realities.

**b. Don't act before thinking. Take the time to come up with a game plan.** The time you spend on thinking through your plan will be virtually nothing in relation to the amount of time that will be spent doing, and it will make the doing radically more effective.

**c. Look for creative, cut-through solutions.** When people are facing thorny problems or have too much to do, they often think that they need to work harder. But if something seems hard, time-consuming, and frustrating, take some time to step back and triangulate with others on whether there might be a better way to handle it. Of course, many things that need getting done are just a slog, but it's often the case that there are better solutions out there that you're not seeing.

## 4.2 Recognize that everyone has too much to do.

How to do more than we think we can is a puzzle we all struggle with. Other than working harder for longer hours, there are three ways to fix the problem: 1) having fewer things to do by prioritizing and saying no, 2) finding the right people to delegate to, and 3) improving your productivity.

Some people spend a lot of time and effort accomplishing very little while others do a lot in the same amount of time. What differentiates people who can do a lot from those who can't is creativity, character, and wisdom. Those with more creativity invent ways to do things more effectively (for instance by finding good people, good technologies, and/or good designs). Those with more character are better able to wrestle with their challenges and demands. And those with

more wisdom can maintain their equanimity by going to the higher level and looking down on themselves and their challenges to properly prioritize, realistically design, and make sensible choices.

**a. Don't get frustrated.** If nothing bad is happening to you now, wait a bit and it will. That is just reality. My approach to life is that it is what it is and the important thing is for me to figure out what to do about it and not spend time moaning about how I wish it were different. Winston Churchill hit the nail on the head when he said, "Success consists of going from failure to failure without loss of enthusiasm." You will come to enjoy this process of careening between success and failure because it will determine your trajectory.

It makes no sense to get frustrated when there's so much that you can do, and when life offers so many things to savor. Your path through any problem is outlined in these principles—and in others you'll discover yourself. There's nothing you can't accomplish if you think creatively and have the character to do the difficult things.

#### **4.3 Use checklists.**

When people are assigned tasks, it is generally desirable to have them captured on checklists. Crossing items off a checklist will serve as both a task reminder and a confirmation of what has been done.

**a. Don't confuse checklists with personal responsibility.** People should be expected to do their whole job well, not just the tasks on their checklists.

#### **4.4 Allow time for rest and renovation.**

If you just keep *doing*, you will burn out and grind to a halt. Build downtime into your schedule just as you would make time for all the other stuff that needs to get done.

#### **4.5 Ring the bell.**

When you and your team have successfully pushed through to achieve your goals, celebrate!

# **15 Use Tools and Protocols to Shape How Work Is Done**

**Words alone aren't enough.**

That's something I learned from watching people struggle to get themselves to do things that are in their best interests. After I shared these principles with the people at Bridgewater and refined them, nearly everyone saw the connection between the principles and our excellent results and wanted to operate in accordance with them. But there's a big difference between *wanting* to do something and actually being able to do it. Assuming people will do what they intellectually want to do is like assuming that people will lose weight simply because they understand why it's beneficial for them to do it. It won't happen until the proper habits are developed. In organizations, that happens with the help of tools and protocols.

Take a minute to think about how this applies to your reading of this book or reading books in general. How often have you read a book describing some behavioral change you've wanted to make but then failed to? How much behavioral change do you think will result from this book if you don't have tools and protocols to help you? My guess is hardly any. Just as you can't learn many things by reading a book (how to ride a bike, speak a language, etc.), it's nearly impossible to change a behavior without practicing it. That is why I plan to make the tools that I describe in the Appendix publicly available.

## **5.1 Having systemized principles embedded in tools is especially valuable for an idea meritocracy.**

That is because an idea meritocracy needs to operate in accordance with agreed-upon principles and to be evidence-based and fair instead of following the more autocratic and arbitrary decisions of the CEO and his or her lieutenants. Rather than be above the principles, the people responsible for running the organization must be evaluated, chosen, and—if needed—replaced in an evidence-based way according to rules, just like everyone else in the organization. Their strengths and weaknesses, like everyone's, must be taken into consideration. Collecting objective data about all people is essential for this. And you need good tools to convert data into decisions in agreed-upon ways. Moreover, the tools allow the people and the system to work together in a symbiotic way to improve each other.

**a. To produce real behavioral change, understand that there must be internalized or habituated learning.** Thankfully, technology has made internalized learning much easier today than it was when books were the primary way of conveying knowledge. Don't get me wrong, the book was a powerful invention. Johannes Gutenberg's printing press allowed easy dissemination of knowledge

that helped people build on each other's learnings. But experiential learning is so much more powerful. Now that technology makes it so easy to create experiential/virtual learning, I believe that we are on the brink of another step-change improvement in the quality of learning that will be as great as or even greater than Gutenberg's.

We have been trying to create internalized learning at Bridge-water for a long time, so how we do it has evolved a lot. Since we tape virtually all our meetings, we have been able to create virtual learning case studies that allow everyone to participate without actually being in the room. People see the meeting transpire as though they were in it, and then the case study pauses and asks them for their own thinking on the matter at hand. In some cases, they input their reactions in real time as they watch. Their thinking is recorded and compared with others' using expert systems that help us all understand more about how we think. With this information, we can better tailor their learning and their job assignments to their thinking styles.

That is just one example of a number of tools and protocols we have developed to help our people learn and operate by our principles.

**b. Use tools to collect data and process it into conclusions and actions.** Imagine that virtually everything important going on in your company can be captured as data, and that you can build algorithms to instruct the computer, as you would instruct a person, to analyze that data and use it in the way you agreed it should be used. In that way, you and the computer on your behalf could look at each person and all the people together and provide tailored guidance, just like your GPS provides you guidance by knowing all the traffic patterns and routes. You don't have to make it mandatory to follow that guidance, though you can. Generally speaking, the system operates like a coach. And the coach can learn about its team: Data is collected about what people do so that if they make more insightful moves or less insightful moves, learning will occur and be used to create improvements. Because the thinking behind the algorithms is available to everyone, anyone can assess the quality of the logic and its fairness, and have a hand in shaping it.

**c. Foster an environment of confidence and fairness by having clearly-stated principles that are implemented in tools and protocols so that the conclusions reached can be assessed by tracking the logic and data behind them.** In all organizations, it's always the case that some of the people judged to be ineffective will argue that those judgments are wrong. When that happens, a data- and rules-based system with clearly laid-out criteria allows less room for such arguments and greater belief that the system is fair. Though the system won't be perfect, it is much less arbitrary—and can much more easily be examined for bias—than the much less specified and much less open decision making of individuals with authority. My ideal is to have a process in which everyone contributes criteria for good decision making and those criteria are assessed and selected by appropriately assigned (believable) people. If people maintain the right balance of open-mindedness and assertiveness so they understand where they are and aren't believable to make decisions, having these open discussions on the criteria for assessing and managing people can be very powerful in building and reinforcing the idea meritocracy.

We have early-stage tools that achieve these things and we are striving to refine them so that our people management system operates as effectively as our investment management system.

Even with its imperfections, our evidence-based approach to learning about people, guiding

them, and sorting them is much fairer and more effective than the arbitrary and subjective management systems that most organizations still rely on. I believe that the forces of evolution will push most organizations toward systems that combine human and computer intelligence to program principles into algorithms that substantially improve decision making.

In the Appendix, I've provided detailed descriptions of a number of the tools and protocols that support this idea-meritocratic approach and reinforce the behaviors that people need to operate consistently with it. They are designed to help us achieve our goals of 1) learning what people are like, 2) sharing what people are like, 3) providing personalized training and development, 4) offering guidance and oversight in specific situations, and 5) helping managers sort people into the right roles or out of the company based on what they are like and what is required.

You don't need to use these same tools and protocols for your own idea meritocracy, but you should have ways of producing the internalized learning that it will require. While ours have evolved a lot, yours don't have to be as fancy or automated. For example, providing a form or a template to help guide people through the steps required for them to manage their work or carry out a process will yield better results than expecting them to just remember—or figure it out—on their own.

How you decide to use tools and protocols is up to you. The main point I want to make here is that they're important.

## **16 And for Heaven's Sake, Don't Overlook Governance!**

All that I've said thus far will be useless if you don't have good governance. Governance is the oversight system that removes the people and the processes if they aren't working well. It is the process that checks and balances power to assure that the principles and interests of the community as a whole are always placed above the interests and power of any individual or faction. Because power will rule, power must be put in the hands of capable people in key roles who have the right values, do their jobs well, and will check and balance the power of others.

I didn't realize the importance of this sort of governance until after I transitioned out of the CEO role, because I was an entrepreneur and company builder (as well as an investment manager) who largely did what I thought was best. While I needed and developed double-checks on myself—I created a Management Committee that I put above me so that I had to report to it—I always had the power of my equity to change things, though I never used it. Some might say that I was a benevolent despot because while I had all the power (the complete voting rights), I exercised my power in an idea-meritocratic way, recognizing that the good of the whole was best for us all, and that I needed to be double-checked. I certainly did not create the sort of governance system appropriate for Bridgewater, given its scale.

For example, Bridgewater didn't have a board of directors overseeing the CEOs, there were no internal regulations, no judicial system for people to appeal to, and no enforcement system, because we didn't need them. I, with the help of others, simply created the rules and enforced them, though everyone had the right to appeal and overturn my and others' judgments. Our principles were the equivalent of what the Articles of Confederation had been to the United States in its first years, and our policies were like our laws, but I never created a formal way of operating such as a "Constitution" or a justice system to enforce them and resolve disputes. As a result, when I stepped out and passed the power to others, confusions about decision rights arose. After conferring with some of the world's greatest experts on governance, we put a new system in place based on these principles. Still, I want to make clear that I don't consider myself an expert on governance and can't vouch for the following principles as much as I can vouch for the previous ones, because they are still new as of this writing.

### **6.1 To be successful, all organizations must have checks and balances.**

By checks, I mean people who check on other people to make sure they're performing well, and by balances, I mean balances of power. Even the most benevolent leaders are prone to becoming more autocratic, if for no other reason than because managing a lot of people and having limited time to do it requires them to make numerous difficult choices quickly, and they sometimes lose

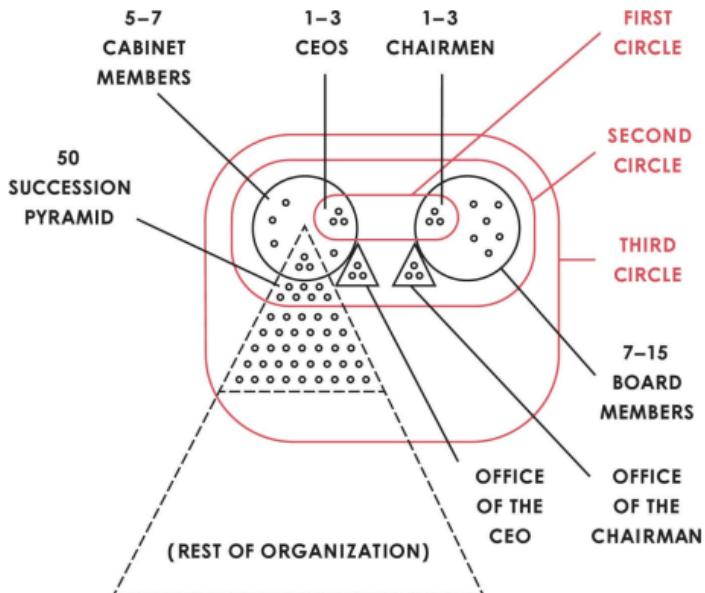
patience with arguments and issue commands instead. And most leaders are not so benevolent that they can be trusted to put the organization's interests ahead of their own.

**a. Even in an idea meritocracy, merit cannot be the only determining factor in assigning responsibility and authority.** Appropriate vested interests also need to be taken into consideration. For example, the owners of a company might have vested interests that they are perfectly entitled to that might be at odds with the vested interests of the people in the company who, based on the idea meritocracy, are most believable. That should not lead the owners to simply turn over the keys to those leaders. That conflict has to be worked out. Since the purpose of the idea meritocracy is to produce the best results, and the owners have the rights and powers to assess that, of course they will make the determination—though I recommend they choose wisely.

**b. Make sure that no one is more powerful than the system or so important that they are irreplaceable.** For an idea meritocracy, it is especially important that its governance system is more powerful than any individual—and that it directs and constrains its leaders rather than the other way around. The Chinese leader Wang Qishan drew my attention to what happened in ancient Rome when Julius Caesar revolted against the government, defeated his fellow general Pompey, seized control of the Republic from the Senate, and named himself emperor for life. Even after he was assassinated and governance by the Senate was restored, Rome would never again be what it was; the era of civil strife that followed was more damaging than any foreign war.

**c. Beware of fiefdoms.** While it's great for teams and departments to feel a strong bond of shared purpose, loyalty to a boss or department head cannot be allowed to conflict with loyalty to the organization as a whole. Fiefdoms are counterproductive and contrary to the values of an idea meritocracy.

**d. Make clear that the organization's structure and rules are designed to ensure that its checks-and-balances system functions well.** Every organization has its own way of doing this. The diagram on the next page is a sketch of my conceptualization of how this should work for Bridgewater, which is currently an organization of about 1,500 people. The principles it follows, however, are universal; I believe that all organizations need some version of this basic structure.



There are one to three chairmen working with seven to fifteen board members supported by staff, whose purpose is primarily to assess whether: 1) The people running the company are capable; 2) The company is operating in accordance with its agreed-upon principles and rules. The board has the power to select and replace the CEOs, but doesn't engage in the micromanagement of the firm nor the people running it, though in the event of an emergency, they can drop into a more active role. (They can also help the CEOs to the extent they want it.) While Bridgewater's idea meritocracy is ideally all-inclusive, there need to be various circles of authority, trust and access to information, and decision-making authority, which are shown in the chart's three circles.

**e. Make sure reporting lines are clear.** While this is important throughout the organization, it is especially important that the reporting lines of the board (those doing the oversight) are independent of the reporting lines of the CEOs (those doing the management), though there should be cooperation between them.

**f. Make sure decision rights are clear.** Make sure it's clear how much weight each person's vote has so that if a decision must be made when there is still disagreement, there is no doubt how to resolve it.

**g. Make sure that the people doing the assessing** 1) have the time to be fully informed about how the person they are checking on is doing, 2) have the ability to make the assessments, and 3) are not in a conflict of interest that stands in the way of carrying out oversight effectively. In order to assess well, one has to gain a threshold level of understanding and that takes time.

Some people have the ability and the courage to hold people accountable, while most don't; having such ability and courage is essential. And the person doing the assessing must not have conflicts of interest—such as being in a subordinate position to the person they are intended to check on—that stand in the way of holding them accountable, including recommending that they be fired.

**h. Recognize that decision makers must have access to the information necessary to make decisions and must be trustworthy enough to handle that information safely.** That doesn't mean that all people must have access and be trustworthy. It is possible to have subcommittees who have access to sensitive information and make recommendations to the board that are substantiated with enough information to make good judgments, but without disclosing the highly sensitive particulars.

## **6.2 Remember that in an idea meritocracy a single CEO is not as good as a great group of leaders.**

Dependence on one person produces too much key-man risk, limits the range of expertise (because nobody is good at everything), and fails to establish adequate checks and balances. It also creates a burden because there's generally too much to do. That's why we have a co-CEO model at Bridgewater that is essentially a partnership of two or three people who lead the firm.

At Bridgewater the CEOs are overseen by a board largely via the executive chairman or chairmen. In our idea meritocracy, the CEOs are also held accountable by the employees of the company, even though these employees are subordinate to the CEOs. The challenge of having two or three people is for them to dance well together. If they can't do that, and coordinate well with the chairmen, they have to notify the executive chairman or chairmen so changes can be made.

For the same reason we have more than one CEO overseeing management of the company, we have more than one chief investment officer (there are currently three).

## **6.3 No governance system of principles, rules, and checks and balances can substitute for a great partnership.**

All these principles, rules, and checks and balances won't be worth much if you don't have capable people in positions of power who instinctually want to operate for the good of the community based on the agreed-upon principles. A company's leaders must have wisdom, competence, and the ability to have close, cooperative, and effective working relationships characterized by both thoughtful disagreement and commitment to following through with whatever the idea-meritocratic process decides.

We work with others to  
get three things:

- 1) Leverage to accomplish  
our chosen missions in  
bigger and better ways  
than we could alone.
- 2) Quality relationships  
that together make for a  
great community.
- 3) Money that allows us  
to buy what we need and  
want for ourselves and  
others.

# WORK PRINCIPLES: PUTTING IT ALL TOGETHER

Since the relative importance of these three things varies by person, it is up to you to determine the quantities and mix you want. The important thing to realize is that they are mutually supportive. If you want to accomplish your mission, you will be better off having quality relationships with people committed to that mission and financial resources to put behind it. Similarly, if you want to have a great work community, you will need a shared mission and financial resources to support you, and if you want to make the most money possible, you will need clear goals and tight relationships to achieve them. In my life, I have been lucky to have much more of all three of these than I could have ever imagined. I have tried to convey the approach that worked for me—an idea meritocracy in which meaningful work and meaningful relationships are the goals and radical truth and radical transparency are the ways of achieving them—so that you can decide what, if any of it, is of use to you.

Recognizing that I gave you a pile of principles that could be confusing, I want to make sure that the headline I'm trying to get across comes through. It is that of all approaches to decision making, **an idea meritocracy is the best.<sup>40</sup>** It's almost too obvious to warrant saying, but I will anyway: Knowing what you can and cannot expect from each person and knowing what to do to make sure the best ideas win out are the best way to make decisions. Idea-meritocratic decision making is better than traditional autocratic or democratic decision making in almost all cases.

That's not just theory. While there is no such thing as utopia just like there is no such thing as perfect, there is great—and there isn't much doubt that the results of this idea-meritocratic approach have been pretty great for Bridgewater for more than forty years. Because this approach can work equally well in most organizations, I wanted to lay it out clearly and in detail. While you needn't follow this idea-meritocratic approach exactly as I've done it, the big question is: Do you want to work in an idea meritocracy? If so, what is the best way for you to do that?

An idea meritocracy requires people to do three things: 1) Put their honest thoughts on the table for everyone to see, 2) Have thoughtful disagreements where there are quality back-and-forths in which people evolve their thinking to come up with the best collective answers possible, and 3) Abide by idea-meritocratic ways of getting past the remaining disagreements (such as believability-weighted decision making). While an idea meritocracy doesn't have to operate exactly in any particular way, it does have to by and large follow those three steps. Don't worry about remembering all the particular principles that I gave you in this book. Just go after having an idea meritocracy and figure out what works for you by encountering your trade-offs and coming up with your principles for handling them.

In my case, I wanted meaningful work and meaningful relationships, and I believed that being radically truthful and radically transparent were required to get those. Then I went after them and encountered problems that forced me to make choices. By writing down how I made these choices, I was able to flesh out my principles, which led me to shape Bridgewater's idea meritocracy with the people I worked with so that it would work well for us. As you set out on

your own and encounter your own impediments, you might want to refer back to these principles because chances are that I've encountered many of the same impediments, did my wrestling with how to handle them, and laid out my thinking in principles. And then write down your own.

Of course, people's abilities to influence how their group works vary, and I don't know your circumstances. But I do know that if you want to work in an idea-meritocratic way, you can find your own way of doing that. Maybe it will be by helping shape your organization from the top, maybe it will be by choosing the right organization for you, and maybe it will be by simply dealing with the people you work with in an idea-meritocratic way. No matter your position, you can always practice being open-minded and assertive at the same time, and thinking about your and others' believabilities when deciding what to do.

Above all else, my wishes for you are that: 1) You can make your work and your passion one and the same; 2) You can struggle well with others on your common mission to produce the previously mentioned rewards; 3) You can savor both your struggles and your rewards; and 4) You will evolve quickly and contribute to evolution in significant ways.

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**40** I'm not saying that it is always the best, as there are some cases where it's not. I'm saying that I believe that it is almost always the best if it can be implemented well.

**It's up to you to decide  
what you want to get out  
of life and what you want  
to give.**

## ACKNOWLEDGMENTS

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Bob, Greg, and I have spent the greater parts of our adult lives trying to discover the timeless and universal laws of economies and markets. In the process, we had daily interactions that were typically thoughtful, infrequently bloody, and occasionally euphoric. While our meetings were primarily about economies and markets and led to the discovery of invaluable economic and investment principles, they also taught us a great amount about ourselves and about how people should be with each other. We captured these lessons as life and work principles that were even more valuable. More recently, we did that with Eileen Murray and Dave McCormick, who together replaced me as co-CEOs. Thank you, Dave and Eileen, for contributing to, receiving, and taking care of the boon.

When I first imagined transitioning Bridgewater from a first-generation organization to a second-generation one, I decided to pull together my scattered collection of principles into this recipe book to help others at Bridgewater. Collecting and transforming what started as a messy pile of principles into this beautiful book was an epic effort that Mark Kirby, more than anyone, was responsible for helping me with. I also appreciate Arthur Goldwag's and Mike Kubin's contributions in tightening up and refining the entire manuscript. (Mike did that as a friend.) I further appreciate Arianna Huffington, Tony Robbins, Norm Rosenthal, and Kristina Nikolova for taking the time to read the book and provide valuable suggestions.

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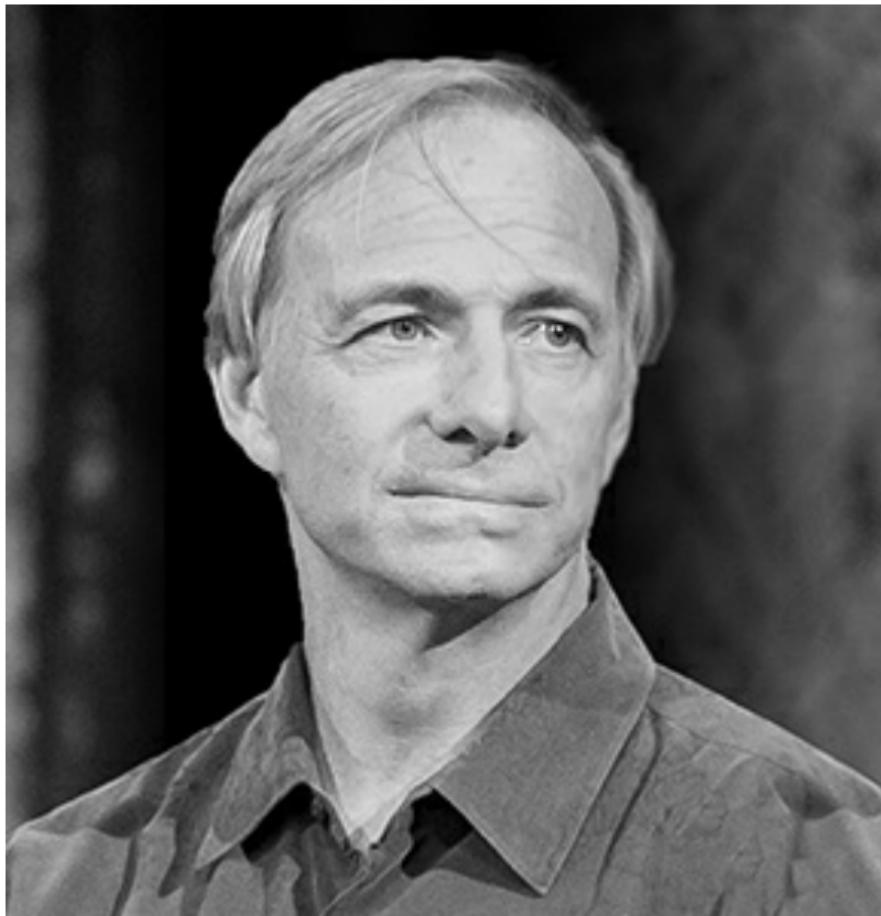
me moving forward. Without their help, I wouldn't have accomplished anything close to what I have. Thank you for enduring me and for selflessly supporting me.

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Six years ago, Jofie Ferrari-Adler, Executive Editor at Simon & Schuster, read the principles online, found them valuable, and explained to me why sharing this book was an important thing for me to do to help others. He has been a valued partner in making that happen. In exploring my publishing options, I triangulated with others to find the best agent available. This search led me to Jim Levine. I learned why he is so admired by his clients as he provides his great time, skill, and empathy. Jim guided me through the publishing process, which led me to Jon Karp, Simon & Schuster's President. From the start, Jon wanted my book to be more what I wanted it to be than what he wanted it to be, and he helped me make it happen.

Finally, I'd like to thank my wife, Barbara, and my sons Devon, Paul, Matt, and Mark for putting up with me and my principles—and for giving me the time and space to create both these principles and this book.

## ABOUT THE AUTHOR



Ray Dalio, who grew up a very ordinary middle-class kid from Long Island, started the investment company Bridgewater Associates out of his two-bedroom apartment when he was 26 years old, and built it over the next 42 years into what *Fortune* magazine assessed to be the fifth most important private company in the U.S. He did that by creating a unique culture—an idea meritocracy based on radical truth, radical transparency, and believability-weighted decision making—that he believes most people and organizations can use to better achieve their own goals.

Along the way, Dalio became one of the 100 most influential (according to *Time*) and 100 wealthiest (according to *Forbes*) people in the world, and because his unique investment principles changed the industry, *CIO* magazine called him “the Steve Jobs of investing.” (Those principles will be conveyed in his next book, *Economic and Investment Principles*.) He believes that his success isn’t due to anything special about him—it is the result of principles he learned, largely by making mistakes, from which he also believes most people can benefit.

At 68 years old, Dalio’s primary objective is to pass along these principles in case others find them of value.

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# CONCLUSION

As I said at the outset, my goal is to pass along the principles that worked well for me; what you do with them is up to you.

I of course hope that they will help you visualize your own audacious goals, navigate through your painful mistakes, have quality reflections, and come up with good principles of your own that you will systematically follow to produce outcomes that vastly exceed your expectations. I hope that they will help you do these things both individually and when working with others. And, since your journey and evolution will certainly be a struggle, I hope that these principles will help you struggle and evolve well. Perhaps they will even inspire you and others to put your principles in writing and collectively figure out what's best in an idea-meritocratic way. If I could tilt the world even one degree more in that direction, that would thrill me.

Along these lines, there is more to come. Because I know that having tools and protocols is necessary to helping people convert what they want to do into actually doing it, I will soon be making the ones we've created available to you.

I feel I have now done the best I can to pass along my Life and Work Principles. Of course, we aren't done with our struggles until we die. Since my latest struggle has been to pass along whatever I have that has been of value, I feel a certain sense of relief to have gotten these principles out to you, and a sense of contentment as I end this book and turn my attention to passing along my economic and investment principles.

# TOOLS AND PROTOCOLS FOR BRIDGEWATER'S IDEA MERITOCRACY

What follows is a quick overview of many of the tools and processes currently in use at Bridgewater. It's my intention to soon share many of these with the wider world in a Principles app so you can try them out for yourself.

## COACH

Because there are too many principles for anyone to keep top of mind enough to apply appropriately to whatever situation they face, and because it's easier to ask for advice than to seek it out in a book, I created Coach. Coach's platform is populated with a library of common situations, or "ones of those" (e.g., disagreeing with an assessment someone made, someone lied or did something unethical, etc.), which are linked to the relevant principles to help people handle them. As people use Coach, they give feedback on the quality of advice it provides, essentially coaching the Coach so that it can deliver better and better advice. Over time, Coach has become increasingly effective in much the same way Siri has.

## DOT COLLECTOR

The **Dot Collector** is an app used in meetings that allows people to express their thoughts and see others' thoughts in real time, and then helps them collectively reach an idea-meritocratic decision. It surfaces people's thinking, analyzes it, and uses the information to help people make real-time decisions better in a few ways. Specifically:

- Participants continuously record their assessments of each other by giving them "dots," positive or negative, on any number of several dozen attributes. These dots are laid out in a grid that updates dynamically, so that everyone in the conversation can see one another's thinking as the meeting progresses. Doing this helps people shift their perspectives from being stuck in their own heads with their own opinions to looking down on everyone's views. Seeing things through everyone's eyes naturally causes most people to adopt the higher-level view in which they recognize that their own perspective is just one of many, so they ask themselves which criteria are best for deciding how to resolve the issue at hand. In this way it promotes open-minded, idea-meritocratic, collective decision making.
- It helps people make better decisions by providing advice in the same way a GPS does. By taking data on what everyone in the room is like, the app is able to give people individualized

coaching, which is especially important when their own opinions are unlikely to be right. We have found that helping people through such times can be invaluable.

- The Dot Collector highlights what we call “nubby questions”—cases where the pattern of answers and attributes of people on different sides of an issue suggest that there’s an important disagreement to be resolved. For example, it will alert you automatically if you disagree with the believability-weighted majority on a given issue and give you guidance on the appropriate steps to take to resolve that disagreement in an evidence-based way.
- It enables believability-weighted voting. The Dot Collector provides both a polling interface where people can vote yes or no (or provide a numerical rating) and a back-end system of believability weighting, which allows us to look at vote results on both equal-weighted and believability-weighted bases, not as just simple majorities but also based on which way the people whose views have the most merit voted. While this may sound complicated, it’s simply a way of helping people keep track of believability without having to remember who is more believable at what.

## BASEBALL CARDS

In addition to collecting “dots” about people in meetings, we collect data on our people in numerous other ways (reviews, tests, the choices people make, etc.). All these dots are analyzed via computerized algorithms based on stress-tested logic in order to create pointillist pictures of what people are like. That logic is typically shared with and vetted by the people in the company to help its objectivity and believability. We then capture these pictures in **Baseball Cards**, which are a simple way of presenting a person’s strengths and weaknesses and the evidence behind them (in much the same way as a baseball card does for a professional baseball player).

I found that we needed to have these and refer to them regularly because without them, people tended to interact with each other without any regard to who was good or bad at what. For example, Baseball Cards are useful in meetings, where they allow people to assess the qualities of whoever is expressing a point of view to determine the merit of that opinion. As a supplement to Baseball Cards, we developed another tool called the People Profile, which takes all the data from Baseball Cards (which have grown complex over time) to provide a simple, text-based summary of what each person is like. Over time, this is meant to provide employees with a systemized synthesis that captures Bridgewater’s best thinking about what someone is like. We work with the people being assessed to compare these pictures with the assessed person’s own perceptions. In this way of seeking alignment between the process and the person’s self-perception, both the processes and the confidences in the perceptions are improved.

In order to match people to jobs, I developed the **Combinator**, which takes the data from the Baseball Cards and allows one to look at people based on their key attributes and compare them to one another. If you’re looking for a certain type of person to fill a role, you can enter a few names of people who fit the image, and the Combinator will call up the precise data on what those people are like, synthesize the key qualities that make them that way, and then search the database to help you find other similar people. The Combinator can also be used to generate job

specifications (based on the type of person you are looking for) that you can apply both inside and outside the company.

## ISSUE LOG

The **Issue Log** is our primary tool for recording our mistakes and learning from them. We use it to bring all problems to the surface, so we can put them in the hands of problem solvers to make systematic improvements. It acts like a water filter that catches garbage. Anything that goes wrong must be “issue logged” with the severity of the issue and who is responsible for it specified, so that it’s easy to sort through most problems. Issue logs also provide paths for diagnosing problems and the information pertaining to them. In that way, they also provide effective metrics of performance, as they allow you to measure the numbers and types of problems coming up (and identify the people who are contributing to them and fixing them).

The Issue Log is a good example of a tool that changed habits and perceptions. A common challenge people had at first was openly pointing out mistakes, because some people instinctively viewed pointing out mistakes as hurtful to the people who made them. Once they got used to doing this, they realized the benefit of it and they got in the good habit of doing it. Now most people can’t do without it.

## PAIN BUTTON

I believe *Pain+Reflection=Progress*. In other words, pain is an important signal that there is something to be learned, and if you reflect on your pain well, you will almost always learn something important. That prompted me to create the **Pain Button**.

The moment someone experiences pain is the best time for them to record what the pain is like, but it’s a bad time to reflect because it’s hard to keep a clear head. So the app is designed to let people record the emotions they are feeling (anger, disappointment, frustration, etc.) as they feel them and then come back at a later time to reflect on them using guided reflection questions. The tool prompts the people who experienced the pain to specify what they will do to deal with that situation, so that the pain is mitigated in the future (for example, have a quality conversation with the person who is causing the pain, etc.). There is a part of the app that shows the frequency of the pain and the causes of the pain and whether the actions were followed through and productive. In that way, one receives a sort of biofeedback connection among the pain that occurred, the diagnosis of it, the plan for improvement so that the problems are reduced or eliminated, the following through on these plans, and the results produced. The tool creates a template for looping toward improvement that everyone can see. It allows you to share your entries with others or keep them to yourself. Some people have described the Pain Button as like having a psychologist in your pocket, although better as it’s always available and a hell of a lot cheaper.

## DISPUTE RESOLVER

Disputes need clear paths toward resolution. That is especially so in an idea meritocracy where people are expected to disagree and create paths for resolving disagreements. The **Dispute Resolver** provides paths for resolving disagreements in an idea-meritocratic way. It asks a series of questions used to guide the people through the resolution process. One of its features is that it locates believable people who can help determine whether a disagreement is worth taking up at a higher management level. The app also makes clear to everyone that if they have a different point of view from others, it's up to them to express it and work to get in sync—instead of privately holding on to the view and not putting it on the table. Whether you have a tool like the Dispute Resolver or not, you must have a clear and fair system to resolve disputes in order to ensure there is a real idea meritocracy. Otherwise the person with greater power could pull rank on the person with lesser power.

We also have a number of tools that help us complete and oversee our day-to-day work and stay in sync regarding how things are going.

## DAILY UPDATE TOOL

For years, I have asked each person who reports to me to take about ten to fifteen minutes to write a brief email of what they did that day, the issues pertaining to them, and their reflections. By reading these updates and triangulating them (in other words, seeing different people's takes on what they are doing), I can gauge how they are working together, what their moods are, and which threads I should pull. Over the last few years, I've developed this into a software application that pulls these updates into a dashboard, which makes them much easier to track, record metrics, and respond to than dealing with dozens of separate email threads. It also allows people to easily provide helpful data—like their morale, how heavy their workload is, issues they want to escalate—on a daily basis. I and those I work with find this simple tool invaluable in helping us stay in sync. Also, at the company level, it provides valuable information for taking the daily pulse of what's going on (morale, workloads, specific issues, who is doing what, etc.).

## CONTRACT TOOL

How often have you ended a meeting with everybody saying we should do this or that, but then everybody walks off and nothing actually happens because people lose track of what was agreed upon? Implicit contracts are pretty much worthless; the commitments people make to each other need to be explicit to be actionable—and firm enough to hold each other accountable. The **Contract Tool** is a simple app that lets people make and monitor their commitments to each other. It helps both the people who requested things, and those who are required to provide those things, to easily stay on top of them.

## PROCESS FLOW DIAGRAM

Just as an engineer uses flow charts to understand the workflow of what they're designing, a manager needs a **Process Flow Diagram** to help visualize the organization as a machine. It might have references to an organizational chart that shows who reports to whom, or the org chart might supplement the Process Flow Diagram. Ideally the Process Flow Diagram is made in a way that allows you to both see things simply at a high level and drop down to lower levels of detail as needed (e.g., when looking at a person in the diagram, one can click into their Baseball Card and view other info about them).

At Bridgewater, we've created process maps for every department in the company that show us clearly all the roles and the responsibilities for each role and how the work flows among them to reach intended outcomes.

## POLICY AND PROCEDURES MANUALS

This is the compendium of policies and procedures that people can consult as one would an operating manual. It's a living document in which the organization's learning is codified.

## METRICS

As the saying goes, "You can't manage what you can't measure." By measuring how your machine is working, you can manage it more easily, especially if you can enlist the help of algorithms to do a lot of your thinking and work for you.

Good metrics come about by first thinking of what information you need to answer your pressing questions and then figuring out how to get it. They do not come about by gathering information and putting it together to see what it tells you. At Bridgewater, we talk about four helpful steps to creating good metrics: 1) know what goal your business is achieving, 2) understand the process for getting to the goal (your "machine" with its *people* and *design*), 3) identify the key parts in the process that are the best places to measure, so you know how your *machine* is working to achieve that goal, and 4) explore how to create levers, tied to those key metrics, that allow you to adjust your process and change your outcomes. To that end, we encourage employees to construct our metrics in conjunction with process flow diagrams and procedures manuals.

The test of the effectiveness of metrics lies in whether they can tell you what and who is doing well and poorly, all the way down to specific people. We aim to have metrics that cascade from the most important matters the CEOs are responsible for at the company level, down through the departments, to the teams within them and the people responsible in each role.

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THE ALMANACK OF NAVAL RAVIKANT



# THE ALMANACK OF NAVAL RAVIKANT

A guide to wealth and happiness

ERIC JORGENSON



# MAGRATHEA

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FOR MY PARENTS, WHO GAVE ME  
EVERYTHING AND ALWAYS SEEM TO  
FIND A WAY TO GIVE MORE.

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# IMPORTANT NOTES ON THIS BOOK (DISCLAIMER)

I built the Navalmanack entirely out of transcripts, Tweets, and talks Naval has shared. Every attempt is made to present Naval in his own words. However, there are a few important points.

- The transcripts have been edited for clarity and brevity (multiple times).
- Not all sources are primary (some excerpts are from other writers quoting Naval).
- I can't be 100 percent certain of every source's authenticity.
- Concepts and interpretations change over time, medium, and context.
- Please verify phrasing with a primary source before citing Naval from this text.
- **Please interpret generously.**

By definition, everything in this book is taken out of context. Interpretations will change over time. Read and interpret gen-

erously. Understand the original intent may be different than your interpretation in a different time, medium, format, and context.

In the process of creating this book, I may have mistakenly re-contextualized, misinterpreted, or misunderstood things. As content passed through time, space, and medium, some phrasing may have shifted in flight. Every effort has been made to maintain the original intent, but errors are (very) possible.

Interviews have been transcribed, edited, rearranged, and re-edited for readability. I did my best to keep Naval's ideas in his own words.

All brilliance in this book is Naval's; any mistakes are mine.

## TWEETS AND TWEETSTORMS

Tweets are formatted like pull quotes but are unique content. I use them to summarize or punctuate an idea from the main prose.

This formatting shows I'm quoting a tweet.

Tweetstorms are connected tweets, formatted like this:

This is the first tweet in a tweetstorm.



This is the second tweet. Tweetstorms are longer series of tweets all threaded together, similar to a blog post.

## BOLDED QUESTIONS

Many excerpts are from interviews by fantastic creators like Shane Parrish, Sarah Lacy, Joe Rogan, and Tim Ferriss. The questions are bolded. For simplicity and continuity, I do not distinguish various interviewers from each other.

## NON-NARRATIVE

This is a choose-your-own adventure book. Jump to anything that interests you and skip anything that doesn't.

## LOOK IT UP

If you find a word or concept you're not familiar with, look it up. Or, read on to find more context. Some referenced ideas are expanded upon later in the book.

## CITATIONS

Citations (like [1]) indicate the end of an excerpt. I've done my best to maintain context for smooth reading. Sources are in the appendix for reference. Some sources appear many times and do not appear in order.



# I FOREWORD

BY TIM FERRISS

Dear Reader,

It feels strange for me to write these words, as I committed many years ago to never write forewords.

I'm making a rare exception in this case for three reasons. First, a free version of this book is being offered to the world in a digital/Kindle/eBook format with no strings attached. Second, I've known Naval for more than a decade and have long wanted someone to compile this book. Third, I'm increasing the likelihood of Naval's next child being named "Tim" (I'll settle for "Timbo," if he prefers).

Naval is one of the smartest people I've ever met, and he's also one of the most courageous. Not in the "run into the fire without thinking twice" sense, but in the "think twice and then tell everyone they're focusing on the wrong fire" sense. He is rarely part of any consensus, and the uniqueness of his life, lifestyle, family dynamics, and startup successes is a reflection of conscious choices he's made to do things differently.

He can be as blunt as a foot to the face, but that's part of what I love and respect about him: you never have to guess what Naval is thinking. I've never had to guess how he's feeling about me, someone else, or a situation. This is a huge relief in a world of double-talk and ambiguity.

We've shared a lot of meals, shared a lot of deals, and hopped around the world together. That's all to say that, while I consider myself a good people-watcher, I consider myself an excellent Naval-watcher. He is one of the people I call most for advice, and I've watched him in many habitats through many seasons: easy times, hard times, recessions, booms—you name it.

Sure, he's the CEO and a co-founder of AngelList. Sure, he previously co-founded Vast.com and Epinions, which went public as part of Shopping.com. Sure, he's an angel investor and has invested in many mega successes, including Twitter, Uber, Yammer, and OpenDNS, to name but a few.

That's all great, of course, and it shows Naval is a world-class operator instead of an armchair philosopher.

But I don't take his perspectives, maxims, and thoughts seriously because of the business stuff. There are lots of miserable "successful" people out there. Be careful about modeling those, as you will get all the bathwater with the baby.

I take Naval seriously because he:

- Questions nearly everything
- Can think from first principles
- Tests things well

- Is good at not fooling himself
- Changes his mind regularly
- Laughs a lot
- Thinks holistically
- Thinks long-term
- And...doesn't take himself too goddamn seriously.

That last one is important.

This book will give you a good taste of what that cocktail of bullets looks like in Naval's head.

So, pay attention...but don't simply parrot his words. Follow his advice...but only if it holds up after scrutiny and stress-testing in your own life. Consider everything...but take nothing as gospel. Naval would want you to challenge him, as long as you bring your A-game.

Naval has changed my life for the better, and if you approach the following pages like a friendly but highly competent sparring partner, he might just change yours.

Keep your hands up and your mind open.

Pura Vida,  
Tim Ferriss  
Austin, Texas



# ERIC'S NOTE (ABOUT THIS BOOK)

Throughout his career, Naval has generously shared his wisdom, and millions of people around the world follow his advice on building wealth and living happily.

Naval Ravikant is an icon in Silicon Valley and startup culture around the world. He founded multiple successful companies (Epinions during the 2000 dot-com crash, AngelList in 2010). Naval is also an angel investor, betting early on companies like Uber, Twitter, Postmates, and hundreds more.

More than a financial success, Naval has been sharing his own philosophy of life and happiness, attracting readers and listeners throughout the world. Naval is broadly followed because he is a rare combination of successful and happy. After a lifetime of study and application of philosophy, economics, and wealth creation, he has proven the impact of his principles.

Today, Naval continues to build and invest in companies almost casually, in his own artistic way, while maintaining a healthy, peaceful, and balanced life. This book collects and organizes

the pieces of wisdom he has shared and shows you how to achieve the same for yourself.

Naval's life story is instructive. An introspective founder, self-taught investor, capitalist, and engineer certainly has something to teach us all.

As a first-principles thinker with no fear of speaking his truth, Naval's thoughts are often unique and thought-provoking. His instinct for seeing through life's veneer has changed how I see the world.

I've learned an enormous amount from Naval. Reading, listening, and applying his principles of wealth and happiness has given me calm confidence on my path and taught me to enjoy every moment of this journey. Closely studying his career has shown me how great things are accomplished through small, persistent steps, and how large an impact one individual can have.

I refer to his work often and recommend it to friends. Those conversations inspired me to create this book, so people can learn from his perspective whether they're new to Naval's ideas or have followed him the past ten years.

This book collects the wisdom shared by Naval over the past decade in his own words through Twitter, blog posts, and podcasts. With this book, you can get the benefits of a lifetime in a few hours.

I created this book as a public service. Tweets, podcasts, and interviews quickly get buried and lost. Knowledge this valuable deserves a more permanent, accessible format. That is my mission with this book.

I hope this acts as an introduction to Naval's ideas. I've collected his most powerful and useful ideas in his own words, woven them into a readable thread, and organized those into sections for easy reference.

I often find myself reviewing sections of this book before making an investment or opening to the Happiness chapter if I'm feeling off. Creating this book has changed me. I feel more clarity, confidence, and peace through all aspects of life. I hope reading it will do the same for you.

The Almanack is intended as a guide to be read and consulted for specific topics. If Naval doesn't answer your emails, I hope this book gives you the next-best advice.

This book is an introduction to Naval and dives deeply into his two most-explored topics: wealth and happiness. If you want to continue exploring Naval and his other ideas, I encourage you to check out the "Next on Naval" section at the end of this book. I've shared chapters that were edited out of the final book, as well as other popular resources.

Be well,  
Eric



# TIMELINE OF NAVAL RAVIKANT

- 1974 - Born in Delhi, India
- 1985 - Age 9 - Moved from New Delhi to Queens, NY
- 1989 - Age 14 - Attended Stuyvesant High School
- 1995 - Age 21 - Graduated Dartmouth (studied computer science and economics)
- 1999 - Age 25 - Founder/CEO of Epinions
- 2001 - Age 27 - Venture Partner at August Capital
- 2003 - Age 29 - Founder of Vast.com, a classified ad marketplace
- 2005 - Age 30 - Is called “Radioactive Mud” in Silicon Valley
- 2007 - Age 32 - Founded Hit Forge, a small VC fund originally conceived as an incubator
- 2007 - Age 32 - Launched VentureHacks blog
- 2010 - Age 34 - Launched AngelList
- 2010 - Age 34 - Invested in Uber
- 2012 - Age 36 - Lobbied Congress to get the JOBS Act passed
- 2018 - Age 43 - Is named “Angel Investor of the Year”



# | NOW, HERE IS NAVAL | IN HIS OWN WORDS...

## **BACKGROUND**

I grew up in a single-parent household with my mom working, going to school, and raising my brother and me as latchkey kids. We were very self-sufficient from a very early age. There was a lot of hardship, but everyone goes through hardship. It did help me in a number of ways.

We were poor immigrants. My dad came to the US—he was a pharmacist in India. But his degree wasn't accepted here, so he worked in a hardware store. Not a great upbringing, you know. My family split up. [47]

My mother uniquely provided, against the background of hardship, unconditional and unfailing love. If you have nothing in your life, but you have at least one person that loves you unconditionally, it'll do wonders for your self-esteem. [8]

We were in a part of New York City that isn't very safe. Basically, the library was my after-school center. After I came back from school, I would just go straight to the library and hang out there until they closed. Then, I would come home. That was my daily routine. [8]

We moved to the US when we were very young. I didn't have many friends, so I wasn't very confident. I spent a lot of time reading. My only real friends were books. Books make for great friends, because the best thinkers of the last few thousand years tell you their nuggets of wisdom. [8]

My first job was with an illegal catering company in the back of a van delivering Indian food when I was fifteen. Even when I was younger, I had a paper route and I washed dishes in the cafeteria.

I was a totally unknown kid in New York City from a nothing family, an “immigrants trying to survive” situation. Then, I passed the test to get into Stuyvesant High School. That saved my life, because once I had the Stuyvesant brand, I got into an Ivy League college, which led me into tech. Stuyvesant is one of those intelligence lottery situations where you can break in with instant validation. You go from being blue collar to white collar in one move. [73]

At Dartmouth, I studied economics and computer science. There was a time when I thought I was going to be a PhD in economics. [8]

Today, I’m an investor, personally, in about two hundred companies. Advisor to a bunch. I’m on a bunch of boards. I’m also a small partner in a cryptocurrency fund because I’m really into the potential of cryptocurrencies. I’m always cooking up something new. I always have a bunch of side projects. [4]

All that, of course, in addition to being the founder and chairman of AngelList. [4]

I was born poor and miserable. I’m now pretty well-off, and I’m very happy. I worked at those.

I’ve learned a few things, and some principles. I try to lay them out in a timeless manner, where you can figure it out for yourself. Because at the end of the day, I can’t quite teach anything. I can only inspire you and maybe give you a few hooks so you can remember. [77]

Live, on Twitter, it's Naval (applause ensues...)

On May 18th, 2007

# PART I

# WEALTH

How to get rich without getting lucky.



# I BUILDING WEALTH

Making money is not a thing you do—it's a skill you learn.

## **UNDERSTAND HOW WEALTH IS CREATED**

I like to think that if I lost all my money and you dropped me on a random street in any English-speaking country, within five or ten years I'd be wealthy again because it's just a skillset I've developed that anyone can develop. [78]

It's not really about hard work. You can work in a restaurant eighty hours a week, and you're not going to get rich. Getting rich is about knowing what to do, who to do it with, and when to do it. It is much more about understanding than purely hard work. Yes, hard work matters, and you can't skimp on it. But it has to be directed in the right way.

If you don't know yet what you should work on, the most important thing is to figure it out. You should not grind at a lot of hard work until you figure out what you should be working on.

I came up with the principles in my tweetstorm (below) for myself when I was really young, around thirteen or fourteen. I've been carrying them in my head for thirty years, and I've been living them. Over time (sadly or fortunately), the thing I got really good at was looking at businesses and figuring out the point of maximum leverage to actually create wealth and capture some of that created wealth.

This is exactly what I did my famous tweetstorm about. Of course, every one of these tweets can be extrapolated into an hour's worth of conversation. The tweetstorm below is a good starting point. The tweetstorm tries to be information-dense, very concise, high-impact, and timeless. It has all the information and principles, so if you absorb these and you work hard over ten years, you'll get what you want. [77]

How to Get Rich (Without Getting Lucky):



Seek wealth, not money or status. Wealth is having assets that earn while you sleep. Money is how we transfer time and wealth. Status is your place in the social hierarchy.



Understand ethical wealth creation is possible. If you secretly despise wealth, it will elude you.



Ignore people playing status games. They gain status by attacking people playing wealth creation games.



You're not going to get rich renting out your time. You must own equity—a piece of a business—to gain your financial freedom.



You will get rich by giving society what it wants but does not yet know how to get. At scale.



Pick an industry where you can play long-term games with long-term people.



The internet has massively broadened the possible space of careers. Most people haven't figured this out yet.



Play iterated games. All the returns in life, whether in wealth, relationships, or knowledge, come from compound interest.



Pick business partners with high intelligence, energy, and, above all, integrity.



Don't partner with cynics and pessimists. Their beliefs are self-fulfilling.



Learn to sell. Learn to build. If you can do both, you will be unstoppable.



Arm yourself with specific knowledge, accountability, and leverage.



Specific knowledge is knowledge you cannot be trained for. If society can train you, it can train someone else and replace you.



Specific knowledge is found by pursuing your genuine curiosity and passion rather than whatever is hot right now.



Building specific knowledge will feel like play to you but will look like work to others.



When specific knowledge is taught, it's through apprenticeships, not schools.



Specific knowledge is often highly technical or creative. It cannot be outsourced or automated.



Embrace accountability, and take business risks under your own name. Society will reward you with responsibility, equity, and leverage.



"Give me a lever long enough and a place to stand, and I will move the earth."

—Archimedes



Fortunes require leverage. Business leverage comes from capital, people, and products with no marginal cost of replication (code and media).



Capital means money. To raise money, apply your specific knowledge with accountability and show resulting good judgment.



Labor means people working for you. It's the oldest and most fought-over form of leverage. Labor leverage will impress your parents, but don't waste your life chasing it.



Capital and labor are permissioned leverage. Everyone is chasing capital, but someone has to give it to you. Everyone is trying to lead, but someone has to follow you.



Code and media are permissionless leverage. They're the leverage behind the newly rich. You can create software and media that works for you while you sleep.



An army of robots is freely available—it's just packed in data centers for heat and space efficiency. Use it.



If you can't code, write books and blogs, record videos and podcasts.



Leverage is a force multiplier for your judgment.



Judgment requires experience but can be built faster by learning foundational skills.



There is no skill called “business.” Avoid business magazines and business classes.



Study microeconomics, game theory, psychology, persuasion, ethics, mathematics, and computers.



Reading is faster than listening. Doing is faster than watching.



You should be too busy to “do coffee” while still keeping an uncluttered calendar.



Set and enforce an aspirational personal hourly rate. If fixing a problem will save less than your hourly rate, ignore it. If outsourcing a task will cost less than your hourly rate, outsource it.



Work as hard as you can. Even though who you work with and what you work on are more important than how hard you work.



Become the best in the world at what you do. Keep redefining what you do until this is true.



There are no get-rich-quick schemes. Those are just someone else getting rich off you.



Apply specific knowledge, with leverage, and eventually you will get what you deserve.



When you're finally wealthy, you'll realize it wasn't what you were seeking in the first place. But that is for another day. [11]

### Summary: Productize Yourself

Your summary says “Productize yourself”—what does that mean?

“Productize” and “yourself.” “Yourself” has uniqueness. “Productize” has leverage. “Yourself” has accountability. “Productize” has specific knowledge. “Yourself” also has specific knowledge in there. So all of these pieces, you can combine them into these two words.

If you're looking toward the long-term goal of getting wealthy, you should ask yourself, "Is this authentic to me? Is it myself that I am projecting?" And then, "Am I productizing it? Am I scaling it? Am I scaling with labor or with capital or with code or with media?" So it's a very handy, simple mnemonic. [78]

This is hard. This is why I say it takes decades—I'm not saying it takes decades to execute, but the better part of a decade may be figuring out what you can uniquely provide. [10]

### **What's the difference between wealth and money?**

Money is how we transfer wealth. Money is social credits. It is the ability to have credits and debits of other people's time.

If I do my job right, if I create value for society, society says, "Oh, thank you. We owe you something in the future for the work you did in the past. Here's a little IOU. Let's call that money." [78]

Wealth is the thing you want. Wealth is assets that earn while you sleep. Wealth is the factory, the robots, cranking out things. Wealth is the computer program that's running at night, serving other customers. Wealth is even money in the bank that is being reinvested into other assets, and into other businesses.

Even a house can be a form of wealth, because you can rent it out, although that's probably a lower productivity use of land than some commercial enterprise.

So, my definition of wealth is much more businesses and assets that can earn while you sleep. [78]

Technology democratizes consumption but consolidates production. The best person in the world at anything gets to do it for everyone.

Society will pay you for creating things it wants. But society doesn't yet know how to create those things, because if it did, they wouldn't need you. They would already be stamped out.

Almost everything in your house, in your workplace, and on the street used to be technology at one point in time. There was a time when oil was a technology that made J.D. Rockefeller rich. There was a time when cars were technology that made Henry Ford rich.

So, technology is the set of things, as Alan Kay said, that don't quite work yet [correction: Danny Hillis]. Once something works, it's no longer technology. Society always wants new things. And if you want to be wealthy, you want to figure out which one of those things you can provide for society that it does not yet know how to get but it will want and providing it is natural to you, within your skill set, and within your capabilities.

Then, you have to figure out how to scale it because if you only build one, that's not enough. You've got to build thousands, or hundreds of thousands, or millions, or billions of them so everybody can have one. Steve Jobs (and his team, of course) figured out society would want smartphones. A computer in their pocket that had all the phone capability times one hundred and was easy to use. So, they figured out how to build it, and then they figured out how to scale it. [78]

BECOME THE BEST IN THE WORLD AT WHAT YOU DO.



KEEP REDEFINING WHAT YOU DO UNTIL THIS IS TRUE.

## FIND AND BUILD SPECIFIC KNOWLEDGE

Sales skills are a form of specific knowledge.

There's such a thing as "a natural" in sales. You run into them all the time in startups and venture capital. When you meet someone who is a natural at sales, you just know they're amazing. They're really good at what they do. That is a form of specific knowledge.

Obviously they learned somewhere, but they didn't learn it in a classroom setting. They learned probably in their childhood in the school yard, or they learned negotiating with their parents. Maybe some is a genetic component in the DNA.

But you can improve sales skills. You can read Robert Cialdini, you can go to a sales training seminar, you can do door-to-door sales. It is brutal but will train you very quickly. You can definitely improve your sales skills.

Specific knowledge cannot be taught, but it can be learned.

When I talk about specific knowledge, I mean figure out what you were doing as a kid or teenager almost effortlessly. Something you didn't even consider a skill, but people around you noticed. Your mother or your best friend growing up would know.

Examples of what your specific knowledge could be:

- Sales skills
- Musical talents, with the ability to pick up any instrument
- An obsessive personality: you dive into things and remember them quickly
- Love for science fiction: you were into reading sci-fi, which means you absorb a lot of knowledge very quickly
- Playing a lot of games, you understand game theory pretty well
- Gossiping, digging into your friend network. That might make you into a very interesting journalist.

The specific knowledge is sort of this weird combination of unique traits from your DNA, your unique upbringing, and your response to it. It's almost baked into your personality and your identity. Then you can hone it.

No one can compete with you on being you.

Most of life is a search for who and what needs you the most.

For example, I love to read, and I love technology. I learn very quickly, and I get bored fast. If I had gone into a profession where I was required to tunnel down for twenty years into the same topic, it wouldn't have worked. I'm in venture investing, which requires me to come up to speed very, very quickly on new technologies (and I'm rewarded for getting bored because new technologies come along). It matches up pretty well with my specific knowledge and skill sets. [10]

I wanted to be a scientist. That is where a lot of my moral hierarchy comes from. I view scientists as being at the top of the production chain for humanity. The group of scientists who have made real breakthroughs and contributions probably added more to human society, I think, than any single other class of human beings. Not to take away anything from art or politics or engineering or business, but without science, we'd still be scrambling in the dirt fighting with sticks and trying to start fires.

Society, business, & money are downstream of technology, which is itself downstream of science. Science applied is the engine of humanity.

Corollary: Applied Scientists are the most powerful people in the world. This will be more obvious in the coming years.

My whole value system was built around scientists, and I wanted to be a great scientist. But when I actually look back at what I was uniquely good at and what I ended up spending my time doing, it was more around making money, tinkering with technology, and selling people on things. Explaining things and talking to people.

I have some sales skills, which is a form of specific knowledge. I have some analytical skills on how to make money. And I have this ability to absorb data, obsess about it, and break it down—that is a specific skill that I have. I also love tinkering with technology. And all of this stuff feels like play to me, but it looks like work to others.

There are other people to whom these things would be hard, and they say, “Well, how do I get good at being pithy and selling ideas?” Well, if you’re not already good at it or if you’re not really into it, maybe it’s not your thing—focus on the thing that you are really into.

The first person to actually point out my real specific knowledge was my mother. She did it as an aside, talking from the kitchen, and she said it when I was fifteen or sixteen years old. I was telling a friend of mine that I want to be an astrophysicist, and she said, “No, you’re going to go into business.” I was like, “What, my mom’s telling me I’m going to be in business? I’m going to be an astrophysicist. Mom doesn’t know she’s talking about.” But Mom knew exactly what she was talking about. [78]

Specific knowledge is found much more by pursuing your innate talents, your genuine curiosity, and your passion. It’s not by going to school for whatever is the hottest job; it’s not by going into whatever field investors say is the hottest.

Very often, specific knowledge is at the edge of knowledge. It’s also stuff that’s only now being figured out or is really hard to figure out. If you’re not 100 percent into it, somebody else who is 100 percent into it will outperform you. And they won’t just outperform you by a little bit—they’ll outperform you by a lot

because now we're operating the domain of ideas, compound interest really applies and leverage really applies. [78]

The internet has massively broadened the possible space of careers. Most people haven't figured this out yet.

You can go on the internet, and you can find your audience. And you can build a business, and create a product, and build wealth, and make people happy just uniquely expressing yourself through the internet. [78]

The internet enables any niche interest, as long as you're the best person at it to scale out. And the great news is because every human is different, everyone is the best at something—being themselves.

Another tweet I had that is worth weaving in, but didn't go into the "How to Get Rich" tweetstorm, was very simple: "Escape competition through authenticity." Basically, when you're competing with people, it's because you're copying them. It's because you're trying to do the same thing. But every human is different. Don't copy. [78]

If you are fundamentally building and marketing something that is an extension of who you are, no one can compete with you on that. Who's going to compete with Joe Rogan or Scott Adams? It's impossible. Is somebody else going to come along and write a better Dilbert? No. Is someone going to compete with Bill Watterson and create a better Calvin and Hobbes? No. They're being authentic. [78]

The best jobs are neither decreed nor decreed. They are creative expressions of continuous learners in free markets.

The most important skill for getting rich is becoming a perpetual learner. You have to know how to learn anything you want to learn. The old model of making money is going to school for four years, getting your degree, and working as a professional for thirty years. But things change fast now. Now, you have to come up to speed on a new profession within nine months, and it's obsolete four years later. But within those three productive years, you can get very wealthy.

It's much more important today to be able to become an expert in a brand-new field in nine to twelve months than to have studied the "right" thing a long time ago. You really care about having studied the foundations, so you're not scared of any book. If you go to the library and there's a book you cannot understand, you have to dig down and say, "What is the foundation required for me to learn this?" Foundations are super important. [74]

Basic arithmetic and numeracy are way more important in life than doing calculus. Similarly, being able to convey yourself simply using ordinary English words is far more important than being able to write poetry, having an extensive vocabulary, or speaking seven different foreign languages.

Knowing how to be persuasive when speaking is far more important than being an expert digital marketer or click optimizer. Foundations are key. It's much better to be at 9/10 or 10/10 on foundations than to try and get super deep into things.

You do need to be deep in something because otherwise you'll be a mile wide and an inch deep and you won't get what you want out of life. You can only achieve mastery in one or two things. It's usually things you're obsessed about. [74]



### **PLAY LONG-TERM GAMES WITH LONG-TERM PEOPLE**

You said, "All the returns in life, whether in wealth, relationships, or knowledge, come from compound interest." How does one know if they're earning compound interest?

Compound interest is a very powerful concept. Compound interest applies to more than just compounding capital. Compounding capital is just the beginning.

Compounding in business relationships is very important. Look at some of the top roles in society, like why someone is a CEO of a public company or managing billions of dollars. It's because people trust them. They are trusted because the relationships they've built and the work they've done has compounded. They've stuck with the business and shown themselves (in a visible and accountable way) to be high-integrity people.

Compound interest also happens in your reputation. If you have a sterling reputation and you keep building it for decades upon decades, people will notice. Your reputation will literally end up being thousands or tens of thousands of times more valuable than somebody else who was very talented but is not keeping the compound interest in reputation going.

This is also true when you're working with individual people. If you've worked with somebody for five or ten years and you still enjoy working with them, obviously you trust them, and the little foibles are gone. All the normal negotiations in business relationships can work very simply because you trust each other—you know it will work out.

For example, there's another Angel in Silicon Valley named Elad Gil who I like to do deals with.

I love working with Elad because I know when the deal is being done, he will bend over backward to give me extra. He will always round off in my favor if there's an extra dollar being

delivered here or there. If there's some cost to pay, he will pay it out of his own pocket, and he won't even mention it to me. Because he goes so far out of his way to treat me so well, I send him every deal I have—I try to include him in everything. Then, I go out of my way to try and pay for him. Compounding in those relationships is very valuable. [10]

Intentions don't matter. Actions do. That's why being ethical is hard.

When you find the right thing to do, when you find the right people to work with, invest deeply. Sticking with it for decades is really how you make the big returns in your relationships and in your money. So, compound interest is very important. [10]

99% of effort is wasted.

Obviously, nothing is ever completely wasted because it's all a learning moment. You can learn from anything. But for example, when you go back to school, 99 percent of the term papers you did, books you read, exercises you did, things you learned, they don't really apply. You might have read geography and history you never reuse. You might have studied a language you don't speak anymore. You might have studied a branch of mathematics you completely forgot.

Of course, these are learning experiences. You did learn. You learned the value of hard work; you might have learned something that went deep into your psyche and became a piece of

what you're doing now. But at least when it comes to the goal-oriented life, only about 1 percent of the efforts you made paid off.

Another example is all the people you dated until you met your husband or wife. It was wasted time in the goal sense. Not wasted in the exponential sense, not wasted in the learning sense, but definitely wasted in the goal sense.

The reason I say this is not to make some glib comment about how 99 percent of your life is wasted and only 1 percent is useful. I say this because you should be very thoughtful and realize in most things (relationships, work, even in learning) what you're trying to do is find the thing you can go all-in on to earn compound interest.

When you're dating, the instant you know this relationship is not going to be the one that leads to marriage, you should probably move on. When you're studying something, like a geography or history class, and you realize you are never going to use the information, drop the class. It's a waste of time. It's a waste of your brain energy.

I'm not saying don't do the 99 percent, because it's very hard to identify what the 1 percent is. What I'm saying is: when you find the 1 percent of your discipline which will not be wasted, which you'll be able to invest in for the rest of your life and has meaning to you—go all-in and forget about the rest. [10]

.....  
INTENTIONS DON'T MATTER.  
.....

ACTIONS DO.



## TAKE ON ACCOUNTABILITY

Embrace accountability and take business risks under your own name. Society will reward you with responsibility, equity, and leverage.

To get rich, you need leverage. Leverage comes in labor, comes in capital, or it can come through code or media. But most of these, like labor and capital, people have to give to you. For labor, somebody has to follow you. For capital, somebody has to give you money, assets to manage, or machines.

So to get these things, you have to build credibility, and you have to do it under your own name as much as possible, which is risky. So, accountability is a double-edged thing. It allows

you to take credit when things go well and to bear the brunt of the failure when things go badly. [78]

Clear accountability is important. Without accountability, you don't have incentives. Without accountability, you can't build credibility. But you take risks. You risk failure. You risk humiliation. You risk failure under your own name.

Luckily, in modern society, there's no more debtors' prison and people aren't imprisoned or executed for losing other people's money, but we're still socially hardwired to not fail in public under our own names. The people who have the ability to fail in public under their own names actually gain a lot of power.

I'll give a personal anecdote. Up until about 2013, 2014, my public persona was entirely around startups and investing. Only around 2014, 2015 did I start talking about philosophy and psychological things and broader things. It made me a little nervous because I was doing it under my own name. There were definitely people in the industry who sent me messages through the backchannel like, "What are you doing? You're ending your career. This is stupid."

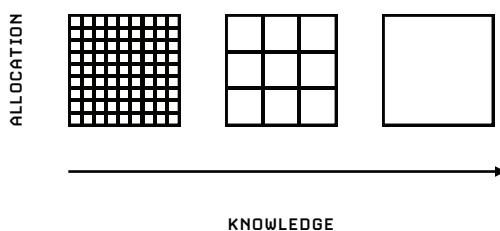
I kind of just went with it. I took a risk. Same with crypto. Early on, I took a risk. But when you put your name out there, you take a risk with certain things. You also get to reap the rewards. You get the benefits. [78]

In the old days, the captain was expected to go down with the ship. If the ship was sinking, then literally the last person to get off was the captain. Accountability does come with real risks, but we're talking about a business context.

The risk here would be you would probably be the last one to get your capital back out. You'd be the last one to get paid for your time. The time that you put in, the capital you put into the company, these are at risk. [78]

Realize that in modern society, the downside risk is not that large. Even personal bankruptcy can wipe the debts clean in good ecosystems. I'm most familiar with Silicon Valley, but generally, people will forgive failures as long as you were honest and made a high-integrity effort.

There's not really that much to fear in terms of failure, and so people should take on a lot more accountability than they do. [78]



## BUILD OR BUY EQUITY IN A BUSINESS

If you don't own a piece of a business, you don't have a path towards financial freedom.

### Why is owning equity in a business important to becoming rich?

It's ownership versus wage work. If you are paid for renting out your time, even lawyers and doctors, you can make some money, but you're not going to make the money that gives you financial freedom. You're not going to have passive income where a business is earning for you while you are on vacation. [10]

This is probably one of the most important points. People seem to think you can create wealth—make money through work. It's probably not going to work. There are many reasons for that.

Without ownership, your inputs are very closely tied to your outputs. In almost any salaried job, even one paying a lot per hour like a lawyer or a doctor, you're still putting in the hours, and every hour you get paid.

Without ownership, when you're sleeping, you're not earning. When you're retired, you're not earning. When you're on vacation, you're not earning. And you can't earn nonlinearly.

If you look at even doctors who get rich (like really rich), it's because they open a business. They open a private practice. The private practice builds a brand, and the brand attracts

people. Or they build some kind of a medical device, a procedure, or a process with an intellectual property.

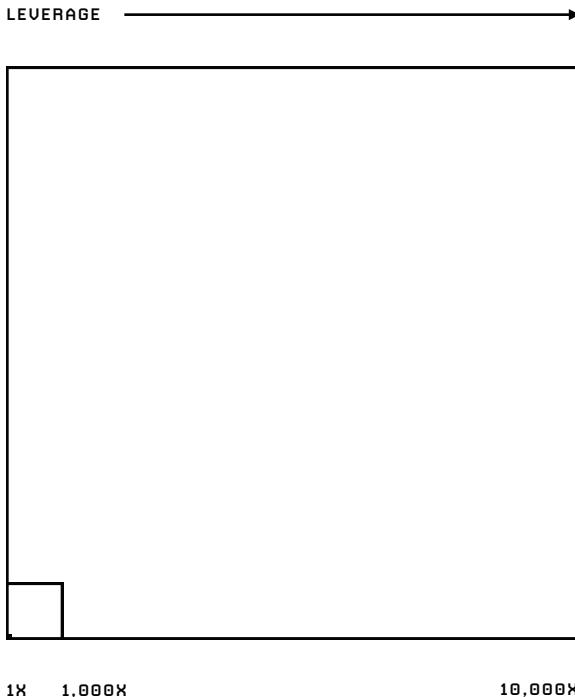
Essentially, you're working for somebody else, and that person is taking on the risk and has the accountability, the intellectual property, and the brand. They're not going to pay you enough. They're going to pay you the bare minimum they have to, to get you to do their job. That can be a high bare minimum, but it's still not going to be true wealth where you're retired but still earning. [78]

Owning equity in a company basically means you own the upside. When you own debt, you own guaranteed revenue streams and you own the downside. You want to own equity. If you don't own equity in a business, your odds of making money are very slim.

You have to work up to the point where you can own equity in a business. You could own equity as a small shareholder where you bought stock. You could also own it as an owner where you started the company. Ownership is really important. [10]

Everybody who really makes money at some point owns a piece of a product, a business, or some IP. That can be through stock options if you work at a tech company. That's a fine way to start.

But usually, the real wealth is created by starting your own companies or even by investing. In an investment firm, they're buying equity. These are the routes to wealth. It doesn't come through the hours. [78]



## FIND A POSITION OF LEVERAGE

We live in an age of infinite leverage, and the economic rewards for genuine intellectual curiosity have never been higher. [11] Following your genuine intellectual curiosity is a better foundation for a career than following whatever is making money right now. [11]

Knowledge only you know or only a small set of people knows is going to come out of your passions and your hobbies, oddly

enough. If you have hobbies around your intellectual curiosity, you're more likely to develop these passions. [1]

If it entertains you now but will bore you someday, it's a distraction. Keep looking.

I only really want to do things for their own sake. That is one definition of art. Whether it's business, exercise, romance, friendship, whatever, I think the meaning of life is to do things for their own sake. Ironically, when you do things for their own sake, you create your best work. Even if you're just trying to make money, you will actually be the most successful.

The year I generated the most wealth for myself was actually the year I worked the least hard and cared the least about the future. I was mostly doing things for the sheer fun of it. I was basically telling people, "I'm retired, I'm not working." Then, I had the time for whatever was my highest valued project in front of me. By doing things for their own sake, I did them at their best. [74]

The less you want something, the less you're thinking about it, the less you're obsessing over it, the more you're going to do it in a natural way. The more you're going to do it for yourself. You're going to do it in a way you're good at, and you're going to stick with it. The people around you will see the quality of your work is higher. [1]

Follow your intellectual curiosity more than whatever is "hot" right now. If your curiosity ever leads you to a place where society eventually wants to go, you'll get paid extremely well. [3]

You're more likely to have skills society does not yet know how to train other people to do. If someone can train other people how to do something, then they can replace you. If they can replace you, then they don't have to pay you a lot. You want to know how to do something other people don't know how to do at the time period when those skills are in demand. [1]

If they can train you to do it, then eventually they will train a computer to do it.

You get rewarded by society for giving it what it wants and doesn't know how to get elsewhere. A lot of people think you can go to school and study for how to make money, but the reality is, there's no skill called "business." [1]

Think about what product or service society wants but does not yet know how to get. You want to become the person who delivers it and delivers it at scale. That is really the challenge of how to make money.

Now, the problem is becoming good at whatever "it" is. It moves around from generation to generation, but a lot of it happens to be in technology.

You are waiting for your moment when something emerges in the world, they need a skill set, and you're uniquely qualified. You build your brand in the meantime on Twitter, on YouTube, and by giving away free work. You make a name for yourself, and you take some risk in the process. When it is time to move

on the opportunity, you can do so with leverage—the maximum leverage possible. [1]

There are three broad classes of leverage:

**One form of leverage is labor**—other humans working for you. It is the oldest form of leverage, and actually not a great one in the modern world. [1] I would argue this is the worst form of leverage that you could possibly use. Managing other people is incredibly messy. It requires tremendous leadership skills. You're one short hop from a mutiny or getting eaten or torn apart by the mob. [78]

**Money is good as a form of leverage.** It means every time you make a decision, you multiply it with money. [1] Capital is a trickier form of leverage to use. It's more modern. It's the one that people have used to get fabulously wealthy in the last century. It's probably been the dominant form of leverage in the last century.

You can see this by looking for the richest people. It's bankers, politicians in corrupt countries who print money, essentially people who move large amounts of money around. If you look at the top of very large companies, outside of technology companies, in many, many large old companies, the CEO job is really a financial job.

It scales very, very well. If you get good at managing capital, you can manage more and more capital much more easily than you can manage more and more people. [78]

The final form of leverage is brand new—the most democratic form. It is: “**products with no marginal cost of replication.**”

This includes books, media, movies, and code. Code is probably the most powerful form of permissionless leverage. All you need is a computer—you don't need anyone's permission. [1]

Forget rich versus poor, white-collar versus blue. It's now leveraged versus un-leveraged.

The most interesting and the most important form of leverage is the idea of products that have no marginal cost of replication. This is the new form of leverage. This was only invented in the last few hundred years. It started with the printing press. It accelerated with broadcast media, and now it's really blown up with the internet and with coding. Now, you can multiply your efforts without involving other humans and without needing money from other humans.

This book is a form of leverage. Long ago, I would have had to sit in a lecture hall and lecture each of you personally. I would have maybe reached a few hundred people, and that would have been that. [78]

This newest form of leverage is where all the new fortunes are made, all the new billionaires. For the last generation, fortunes were made by capital. The people who made fortunes were the Warren Buffetts of the world.

But the new generation's fortunes are all made through code or media. Joe Rogan making \$50 million to \$100 million a year from his podcast. You're going to have PewDiePie. I don't know how much money he's rolling in, but he's bigger than the news. And of course, there's Jeff Bezos, Mark Zuckerberg, Larry Page,

Sergey Brin, Bill Gates, and Steve Jobs. Their wealth is all code-based leverage. [78]

Probably the most interesting thing to keep in mind about new forms of leverage is they are permissionless. They don't require somebody else's permission for you to use them or succeed. For labor leverage, somebody has to decide to follow you. For capital leverage, somebody has to give you money to invest or to turn into a product.

Coding, writing books, recording podcasts, tweeting, You-Tubing—these kinds of things are permissionless. You don't need anyone's permission to do them, and that's why they are very egalitarian. They're great equalizers of leverage. [78] Every great software developer, for example, now has an army of robots working for him at nighttime while he or she sleeps, after they've written the code, and it's cranking away. [78]

You're never going to get rich renting out your time.

Whenever you can in life, optimize for independence rather than pay. If you have independence and you're accountable on your output, as opposed to your input—that's the dream. [10]

Humans evolved in societies where there was no leverage. If I was chopping wood or carrying water for you, you knew eight hours put in would be equal to about eight hours of output. Now we've invented leverage—through capital, cooperation, technology, productivity, all these means. We live in an age of leverage. As a worker, you want to be as leveraged as possible

so you have a huge impact without as much time or physical effort.

A leveraged worker can out-produce a non-leveraged worker by a factor of one thousand or ten thousand. With a leveraged worker, judgment is far more important than how much time they put in or how hard they work.

Forget 10x programmers. 1,000x programmers really exist, we just don't fully acknowledge it. See @ID\_AA\_Carmack, @notch, Satoshi Nakamoto, etc.

For example, a good software engineer, just by writing the right little piece of code and creating the right little application, can literally create half a billion dollars' worth of value for a company. But ten engineers working ten times as hard, just because they choose the wrong model, the wrong product, wrote it the wrong way, or put in the wrong viral loop, have basically wasted their time. Inputs don't match outputs, especially for leveraged workers.

What you want in life is to be in control of your time. You want to get into a leveraged job where you control your own time and you're tracked on the outputs. If you do something incredible to move the needle on the business, they have to pay you. Especially if they don't know how you did it because it's innate to your obsession or your skill or your innate abilities, they're going to have to keep paying you to do it.

If you have specific knowledge, you have accountability and you have leverage; they have to pay you what you're worth. If

they pay you what you're worth, then you can get your time back—you can be hyper-efficient. You're not doing meetings for meetings' sake, you're not trying to impress other people, you're not writing things down to make it look like you did work. All you care about is the actual work itself.

When you do just the actual work itself, you'll be far more productive, far more efficient. You'll work when you feel like it—when you're high-energy—and you won't be trying to struggle through when you're low energy. You'll gain your time back.

Forty hour work weeks are a relic of the Industrial Age.

Knowledge workers function like athletes—train and sprint, then rest and reassess.

Sales is an example—especially very high-end sales. If you're a real estate agent out there selling houses, it's not a great job, necessarily. It's very crowded. But if you're a top-tier real estate agent, you know how to market yourself and you know how to sell houses, it's possible you could sell \$5 million mansions in one tenth of the time while somebody else is struggling to sell \$100,000 apartments or condos. Real estate agent is a job with input and output disconnected.

Building any product and selling any product fits this description. And fundamentally, what else is there? Where you don't necessarily want to be is a support role, like customer service. In customer service, unfortunately, inputs and outputs relate relatively close to each other, and the hours you put in matter. [10]

Tools and leverage create this disconnection between inputs and outputs. The higher the creativity component of a profession, the more likely it is to have disconnected inputs and outputs. If you're looking at professions where your inputs and your outputs are highly connected, it's going to be very hard to create wealth and make wealth for yourself in that process. [78]

If you want to be part of a great tech company, then you need to be able to SELL or BUILD. If you don't do either, learn.

Learn to sell, learn to build. If you can do both, you will be unstoppable.

These are two very broad categories. One is building the product. This is hard, and it's multivariate. It can include design; it can include development; it can include manufacturing, logistics, procurement; and it can even be designing and operating a service. It has many, many definitions.

But in every industry, there is a definition of the builder. In our tech industry, it's the CTO, it's the programmer, it's the software engineer or hardware engineer. But even in the laundry business, it could be the person who's building the laundry service, who is making the trains run on time, who's making sure all the clothes end up in the right place at the right time, and so on.

The other side of it is sales. Again, selling has a very broad definition. Selling doesn't necessarily just mean selling to individual customers, but it can mean marketing, it can mean

communicating, it can mean recruiting, it can mean raising money, it can mean inspiring people, it could mean doing PR. It's a broad umbrella category. [78]

Earn with your mind, not your time.

Let's talk more about the real estate business. The worst kind of job is someone who's doing labor to repair a house. Maybe you get paid ten dollars or twenty dollars an hour. You go to people's houses, your boss demands you're there at 8:00 a.m., and you repair your piece of the house. Here, you have zero leverage. You have some accountability, but not really, because your accountability is to your boss, not to the client. You don't have any real specific knowledge, since what you're doing is labor lots of people can do. You're not going to get paid a lot. You're getting paid minimum wage plus a little bit for your skill and your time.

The next level up might be the general contractor working on the house for the owner. They may be getting paid \$50,000 to do the whole project, then they're paying the labor fifteen dollars an hour and they're keeping the difference.

A general contractor is obviously a better place to be. But how do we measure it? How do we know it's better? Well, we know it's better because this person has some accountability. They're responsible for the outcome, they have to sweat at night if things aren't working. Contractors have leverage through laborers working for them. They also have little bit more specific knowledge: how to organize a team, make them show up on time, and how to deal with city regulations.

The next level up might be a real estate developer. A developer is someone who's going to buy a property, hire a bunch of contractors, and transform it into something higher value. They probably have to take out a loan to buy a house or go to investors to raise money. They buy the old house, tear it down, rebuild it, and sell it. Instead of \$50,000 like the general contractor, or fifteen dollars an hour like the laborer, the developer might be able to make a million dollars or half a million dollars in profit when they sell the house for more than they bought it for, including the expenses of construction. But now, notice what is required from the developer: a very high level of accountability.

The developer takes on more risk, more accountability, has more leverage, and needs to have more specific knowledge. They need to understand fundraising, city regulations, where the real estate market is headed, and whether they should take the risk or not. It is more difficult.

The next level up might be someone who's managing money in a real estate fund. They have an enormous amount of capital leverage. They're dealing with lots and lots of developers, and they're buying huge amounts of housing inventory. [74]

One level beyond that might be somebody who says, "Actually, I want to bring the maximum leverage to bear in this market and the maximum specific knowledge." That person would say, "Well, I understand real estate, and I understand everything from basic housing construction, to building properties and selling them, to how real estate markets move and thrive, and I also understand the technology business. I understand how to recruit developers, how to write code, and how to build a good product, and I understand how to raise money from venture capitalists, how to return it, and how all of that works."

Obviously, not a single person may know this. You may pull a team together to do it where each have different skill sets, but that combined entity would have specific knowledge in technology and in real estate. It would have massive accountability because that company's name would be a very high-risk, high-reward effort attached to the whole thing, and people would devote their lives to it and take on significant risk. It would have leverage in code with lots of developers. It would have capital with investors putting money in and the founder's own capital. It would have some of the highest-quality labor you can find, which is high-quality engineers, designers, and marketers who are working on the company.

Then, you may end up with a Trulia, Redfin, or Zillow company, and then the upside could potentially be in the billions of dollars, or the hundreds of millions of dollars. [78]

Each level has increasing leverage, increasing accountability, increasingly specific knowledge. You're adding in money-based leverage on top of labor-based leverage. Adding in code-based leverage on top of money and labor allows you to actually create something bigger and bigger and get closer and closer to owning all the upside, not just being paid a salary.

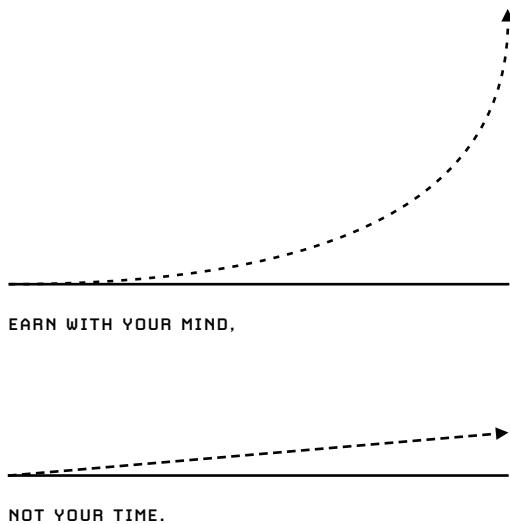
You start as a salaried employee. But you want to work your way up to try and get higher leverage, more accountability, and specific knowledge. The combination of those over a long period of time with the magic of compound interest will make you wealthy. [74]

The one thing you have to avoid is the risk of ruin.

Avoiding ruin means stay out of jail. So, don't do anything ille-

gal. It's never worth it to wear an orange jumpsuit. Stay out of total catastrophic loss. Avoiding ruin could also mean you stay out of things that could be physically dangerous or hurt your body. You have to watch your health.

Stay out of things that could cause you to lose all of your capital, all of your savings. Don't gamble everything on one go. Instead, take rationally optimistic bets with big upsides. [78]



### **GET PAID FOR YOUR JUDGMENT**

Choosing what kinds of jobs, careers, or fields you get into and what sort of deals you're willing to take from your employer will give you much more free time. Then, you don't have to

worry as much about time management. I would love to be paid purely for my judgment, not for any work. I want a robot, capital, or computer to do the work, but I want to be paid for my judgment. [1]

I think every human should aspire to being knowledgeable about certain things and being paid for our unique knowledge. We have as much leverage as is possible in our business, whether it's through robots or computers or what have you. Then, we can be masters of our own time because we are just being tracked on outputs and not inputs.

Imagine someone comes along who demonstrably has slightly better judgment. They're right 85 percent of the time instead of 75 percent. You will pay them \$50 million, \$100 million, \$200 million, whatever it takes, because 10 percent better judgment steering a \$100 billion ship is very valuable. CEOs are highly paid because of their leverage. Small differences in judgment and capability really get amplified. [2]

Demonstrated judgment—credibility around the judgment—is so critical. Warren Buffett wins here because he has massive credibility. He's been highly accountable. He's been right over and over in the public domain. He's built a reputation for very high integrity, so you can trust him. People will throw infinite leverage behind him because of his judgment. Nobody asks him how hard he works. Nobody asks him when he wakes up or when he goes to sleep. They're like, "Warren, just do your thing."

Judgment—especially demonstrated judgment, with high accountability and a clear track record—is critical. [78]

We waste our time with short-term thinking and busywork.  
Warren Buffett spends a year deciding and a day acting.  
That act lasts decades.

Just from being marginally better, like running a quarter mile a fraction of a second faster, some people get paid a lot more—orders of magnitude more. Leverage magnifies those differences even more. Being at the extreme in your art is very important in the age of leverage. [2]

SOLVE VIA ITERATION.



THEN GET PAID VIA REPETITION.



## PRIORITIZE AND FOCUS

I've encountered plenty of bad luck along the way. The first little fortune I made I instantly lost in the stock market. The second little fortune I made, or should have made, I basically

got cheated out of by my business partners. It's only the third time around that has been a charm.

Even then, it has been a slow and steady struggle. I haven't made money in my life in one giant payout. It has always been a whole bunch of small things piling up. It's more about consistently creating wealth by creating businesses, creating opportunities, and creating investments. It hasn't been a giant one-off thing. My personal wealth has not been generated by one big year. It just stacks up a little bit, a few chips at a time: more options, more businesses, more investments, more things I can do.

Thanks to the internet, opportunities are massively abundant. In fact, I have too many ways to make money. I don't have enough time. I literally have opportunities pouring out of my ears, and I keep running out of time. There are so many ways to create wealth, to create products, to create businesses, and to get paid by society as a byproduct. I just can't handle them all. [78]

Value your time at an hourly rate, and ruthlessly spend to save time at that rate. You will never be worth more than you think you're worth.

No one is going to value you more than you value yourself. You just have to set a very high personal hourly rate and you have to stick to it. Even when I was young, I just decided I was worth a lot more than the market thought I was worth, and I started treating myself that way.

Always factor your time into every decision. How much time does it take? It's going to take you an hour to get across town to get something. If you value yourself at one hundred dollars an hour, that's basically throwing one hundred dollars out of your pocket. Are you going to do that? [78]

Fast-forward to your wealthy self and pick some intermediate hourly rate. For me, believe it or not, back when you could have hired me...Which now obviously you can't, but back when you could have hired me...this was true a decade ago or even two decades ago, before I had any real money. My hourly rate, I used to say to myself over and over, is \$5,000 an hour. Today when I look back, really it was about \$1,000 an hour.

Of course, I still ended up doing stupid things like arguing with the electrician or returning the broken speaker, but I shouldn't have, and I did a lot less than any of my friends would. I would make a theatrical show out of throwing something in the trash pile or giving it to Salvation Army rather than trying to return it or handing something to people rather than trying to fix it.

I would argue with my girlfriends, and even today it's my wife, "I don't do that. That's not a problem that I solve." I still argue that with my mother when she hands me little to-do's. I just don't do that. I would rather hire you an assistant. This was true even when I didn't have money. [78]

Another way of thinking about something is, if you can outsource something or not do something for less than your hourly rate, outsource it or don't do it. If you can hire someone to do it for less than your hourly rate, hire them. That even includes things like cooking. You may want to eat your healthy home cooked meals, but if you can outsource it, do that instead. [78]

Set a very high hourly aspirational rate for yourself and stick to it. It should seem and feel absurdly high. If it doesn't, it's not high enough. Whatever you picked, my advice to you would be to raise it. Like I said, for myself, even before I had money, for the longest time I used \$5,000 an hour. And if you extrapolate that out into what it looks like as an annual salary, it's multiple millions of dollars per year.

Ironically, I actually think I've beaten it. I'm not the hardest working person—I'm actually a lazy person. I work through bursts of energy where I'm really motivated with something. If I actually look at how much I've earned per actual hour that I've put in, it's probably quite a bit higher than that. [78]

**Can you expand on your statement, “If you secretly despise wealth, it will elude you”?**

If you get into a relative mindset, you're always going to hate people who do better than you, you're always going to be jealous or envious of them. They'll sense those feelings when you try and do business with them. When you try and do business with somebody, if you have any bad thoughts or any judgments about them, they will feel it. Humans are wired to feel what the other person deep down inside feels. You have to get out of a relative mindset. [10]

Literally, being anti-wealth will prevent you from becoming wealthy, because you will not have the right mindset for it, you won't have the right spirit, and you won't be dealing with people on the right level. Be optimistic, be positive. It's important. Optimists actually do better in the long run. [10]

The business world has many people playing zero sum games and a few playing positive sum games searching for each other in the crowd.

There are fundamentally two huge games in life that people play. One is the money game. Because money is not going to solve all of your problems, but it's going to solve all of your money problems. People realize that, so they want to make money.

But at the same time, many of them, deep down, believe they can't make money. They don't want any wealth creation to happen. So, they attack the whole enterprise by saying, "Well, making money is evil. You shouldn't do it."

But they're actually playing the other game, which is the status game. They're trying to be high status in the eyes of other people watching by saying, "Well, I don't need money. We don't want money." Status is your ranking in the social hierarchy. [78]

Wealth creation is an evolutionarily recent positive-sum game. Status is an old zero-sum game. Those attacking wealth creation are often just seeking status.

Status is a zero-sum game. It's a very old game. We've been playing it since monkey tribes. It's hierarchical. Who's number one? Who's number two? Who's number three? And for number three to move to number two, number two has to move out of that slot. So, status is a zero-sum game.

Politics is an example of a status game. Even sports are an example of a status game. To be the winner, there must be a loser. I don't fundamentally love status games. They play an important role in our society, so we can figure out who's in charge. But fundamentally, you play them because they're a necessary evil. [78]

The problem is, to win at a status game, you have to put somebody else down. That's why you should avoid status games in your life—they make you into an angry, combative person. You're always fighting to put other people down, to put yourself and the people you like up.

Status games are always going to exist. There's no way around it, but realize most of the time, when you're trying to create wealth and you're getting attacked by someone else, they're trying to increase their own status at your expense. They're playing a different game. And it's a worse game. It's a zero-sum game instead of a positive-sum game. [78]

Play stupid games, win stupid prizes.

**What is the most important thing to do for younger people starting out?**

Spend more time making the big decisions. There are basically three really big decisions you make in your early life: where you live, who you're with, and what you do.

We spend very little time deciding which relationship to get into. We spend so much time in a job, but we spend so little

time deciding which job to get into. Choosing what city to live in can almost completely determine the trajectory of your life, but we spend so little time trying to figure out what city to live in.

Advice to a young engineer considering moving to San Francisco: "Do you want to leave your friends behind? Or be the one left behind?"

If you're going to live in a city for ten years, if you're going to be in a job for five years, if you're in a relationship for a decade, you should be spending one to two years deciding these things. These are highly dominating decisions. Those three decisions really matter.

You have to say no to everything and free up your time so you can solve the important problems. Those three are probably the three biggest ones. [1]

**What are one or two steps you'd take to surround yourself with successful people?**

Figure out what you're good at, and start helping other people with it. Give it away. Pay it forward. Karma works because people are consistent. On a long enough timescale, you will attract what you project. But don't measure—your patience will run out if you count. [7]

An old boss once warned: "You'll never be rich since you're obviously smart, and someone will always offer you a job that's just good enough."

## **How did you decide to start your first company?**

I was working at this tech company called @Home Network, and I told everybody around me—my boss, coworkers, my friends, “In Silicon Valley, all of these other people are starting companies. It looks like they can do it. I’m going to start a company. I’m just here temporarily. I’m an entrepreneur.”

...I didn’t actually mean to trick myself into it. It wasn’t a deliberate, calculated thing.

I was just venting, talking out loud, being overly honest. But I didn’t actually start a company. This was in 1996, it was a much scarier, more difficult proposition to start a company then. Sure enough, everyone started saying “What are you still doing here? I thought you were leaving to start a company?” and “Wow, you’re still here...” I was literally embarrassed into starting my own company. [5]

Yes, I know some people aren’t necessarily ready to be entrepreneurs, but long-term, where did we come up with this idea the correct logical thing to do is for everybody to work for somebody else? It is a very hierarchical model. [14]

## **FIND WORK THAT FEELS LIKE PLAY**

Humans evolved as hunters and gatherers where we all worked for ourselves. It’s only at the beginning of agriculture we became more hierarchical. The Industrial Revolution and factories made us extremely hierarchical because one individual couldn’t necessarily own or build a factory, but now, thanks to the internet, we’re going back to an age where more and more people can work for themselves. I would rather be a

failed entrepreneur than someone who never tried. Because even a failed entrepreneur has the skill set to make it on their own. [14]

There are almost 7 billion people on this planet. Someday, I hope, there will be almost 7 billion companies.

I learned how to make money because it was a necessity. After it stopped being a necessity, I stopped caring about it. At least for me, work was a means to an end. Making money was a means to an end. I'm much more interested in solving problems than I am in making money.

Any end goal will just lead to another goal, lead to another goal. We just play games in life. When you grow up, you're playing the school game, or you're playing the social game. Then you're playing the money game, and then you're playing the status game. These games just have longer and longer and longer-lived horizons. At some point, at least I believe, these are all just games. These are games where the outcome really stops mattering once you see through the game.

Then you just get tired of games. I would say I'm at the stage where I'm just tired of games. I don't think there is any end goal or purpose. I'm just living life as I want to. I'm literally just doing it moment to moment.

I want to be off the hedonic treadmill. [1]

What you really want is freedom. You want freedom from your money problems, right? I think that's okay. Once you can solve

your money problems, either by lowering your lifestyle or by making enough money, you want to retire. Not retirement at sixty-five years old, sitting in a nursing home collecting a check retirement—it's a different definition.

### **What is your definition of retirement?**

Retirement is when you stop sacrificing today for an imaginary tomorrow. When today is complete, in and of itself, you're retired.

### **How do you get there?**

Well, one way is to have so much money saved that your passive income (without you lifting a finger) covers your burn rate.

A second is you just drive your burn rate down to zero—you become a monk.

A third is you're doing something you love. You enjoy it so much, it's not about the money. So there are multiple ways to retirement.

The way to get out of the competition trap is to be authentic, to find the thing you know how to do better than anybody. You know how to do it better because you love it, and no one can compete with you. If you love to do it, be authentic, and then figure out how to map that to what society actually wants. Apply some leverage and put your name on it. You take the risks, but you gain the rewards, have ownership and equity in what you're doing, and just crank it up. [77]

**Did your motivation to earn money drop after you become financially independent?**

Yes and no. It did in the sense the desperation was gone.

But if anything, creating businesses and making money are now more of an “art.” [74]

Whether in commerce, science, or politics—history remembers the artists.

Art is creativity. Art is anything done for its own sake. What are the things that are done for their own sake, and there's nothing behind them? Loving somebody, creating something, playing. To me, creating businesses is play. I create businesses because it's fun, because I'm into the product. [77]

I can create a new business within three months: raise the money, assemble a team, and launch it. It's fun for me. It's really cool to see what can I put together. It makes money almost as a side effect. Creating businesses is the game I became good at. It's just my motivation has shifted from being goal-oriented to being artistic. Ironically, I think I'm much better at it now. [74]

Even when I invest, it's because I like the people involved, I like hanging out with them, I learn from them, I think the product is really cool. These days, I will pass on great investments because I don't find the products interesting.

These are not 100 percent-or-nothing things. You can start moving more and more toward that goal in your life. It's a goal.

When I was younger, I used to be so desperate to make money that I would have done anything. If you'd shown up and said, "Hey, I've got a sewage trucking business, want to go into that?" I would have said, "Great, I want to make money!" Thank God no one gave me that opportunity. I'm glad I went down the road of technology and science, which I genuinely enjoy. I got to combine my vocation and my avocation.

I'm always "working." It looks like work to others, but it feels like play to me. And that's how I know no one can compete with me on it. Because I'm just playing, for sixteen hours a day. If others want to compete with me, they're going to work, and they're going to lose because they're not going to do it for sixteen hours a day, seven days a week. [77]

**What was your figure where you thought you were financially safe?**

Money is not the root of all evil; there's nothing evil about it. But the lust for money is bad. The lust for money is not bad in a social sense. It's not bad in the sense of "you're a bad person for lustng for money." It's bad for you.

Lusting for money is bad for us because it is a bottomless pit. It will always occupy your mind. If you love money, and you make it, there's never enough. There is never enough because the desire is turned on and doesn't turn off at some number. It's a fallacy to think it turns off at some number.

The punishment for the love of money is delivered at the same time as the money. As you make money, you just want even more, and you become paranoid and fearful of losing what you do have. There's no free lunch.

You make money to solve your money and material problems. I think the best way to stay away from this constant love of money is to not upgrade your lifestyle as you make money. It's very easy to keep upgrading your lifestyle as you make money. But if you can hold your lifestyle fixed and hopefully make your money in giant lump sums as opposed to a trickle at a time, you won't have time to upgrade your lifestyle. You may get so far ahead you actually become financially free.

Another thing that helps: I value freedom above everything else. All kinds of freedom: freedom to do what I want, freedom from things I don't want to do, freedom from my own emotions or things that may disturb my peace. For me, freedom is my number one value.

To the extent money buys freedom, it's great. But to the extent it makes me less free, which it definitely does at some level as well, I don't like it. [74]

The winners of any game are the people who are so addicted they continue playing even as the marginal utility from winning declines.

### **Do I have to start a company to be successful?**

The most successful class of people in Silicon Valley on a consistent basis are either the venture capitalists (because they are diversified and control what used to be a scarce resource) or people who are very good at identifying companies that have just hit product/market fit. Those people have the background, expertise, and references those companies really want to help

them scale. Then, they go into the latest Dropbox or the latest Airbnb.

**The people who were at Google, then joined Facebook when it was one hundred people, and then joined Stripe when it was one hundred people?**

When Zuckerberg was just starting to scale his company and panicked, he was like, “I don’t know how to do this.” And he called Jim Breyer [venture capitalist and founder of Accel Partners]. And Jim Breyer said, “Well, I have this really great head of product at this other company, and you need this person.” Those people tend to do the best, risk-adjusted over a long period of time, other than the venture investors themselves. [30]

Some of the most successful people I’ve seen in Silicon Valley had breakouts very early in their careers. They got promoted to VP, director, or CEO, or started a company that did well fairly early. If you’re not getting promoted through the ranks, it gets a lot harder to catch up later in life. It’s good to be in a smaller company early because there’s less of an infrastructure to prevent early promotion. [76]

For someone who is early in their career (and maybe even later), the single most important thing about a company is the alumni network you’re going to build. Think about who you will work with and what those people are going on to do. [76]

## **HOW TO GET LUCKY**

**Why do you say, “Get rich without getting lucky”?**

In 1,000 parallel universes, you want to be wealthy in 999 of them. You don't want to be wealthy in the fifty of them where you got lucky, so we want to factor luck out of it.

### But getting lucky would help, right?

Just recently, Babak Nivi, my co-founder, and I were talking on Twitter about how one gets lucky, and there are really four kinds of luck we were talking about.

The first kind of luck is blind luck where one just gets lucky because something completely out of their control happened. This includes fortune, fate, etc.

Then, there's luck through persistence, hard work, hustle, and motion. This is when you're running around creating opportunities. You're generating a lot of energy, you're doing a lot to stir things up. It's almost like mixing a petri dish or mixing a bunch of reagents and seeing what combines. You're just generating enough force, hustle, and energy for luck to find you.

A third way is you become very good at spotting luck. If you are very skilled in a field, you will notice when a lucky break happens in your field, and other people who aren't attuned to it won't notice. So, you become sensitive to luck.

The last kind of luck is the weirdest, hardest kind, where you build a unique character, a unique brand, a unique mindset, which causes luck to find you.

For example, let's say you're the best person in the world at deep-sea diving. You're known to take on deep-sea dives nobody else will even dare to attempt. By sheer luck, somebody

finds a sunken treasure ship off the coast they can't get to. Well, their luck just became your luck, because they're going to come to you to get to the treasure, and you're going to get paid for it.

This is an extreme example, but it shows how one person had blind luck finding the treasure. Them coming to you to extract it and give you half is not blind luck. You created your own luck. You put yourself in a position to capitalize on luck or to attract luck when nobody else created the opportunity for themselves. To get rich without getting lucky, we want to be deterministic. We don't want to leave it to chance. [78]

Ways to get lucky:

- Hope luck finds you.
- Hustle until you stumble into it.
- Prepare the mind and be sensitive to chances others miss.
- Become the best at what you do. Refine what you do until this is true. Opportunity will seek you out. Luck becomes your destiny.

It starts becoming so deterministic, it stops being luck. The definition starts fading from luck to destiny. To summarize the fourth type: build your character in a certain way, then your character becomes your destiny.

One of the things I think is important to make money is having a reputation that makes people do deals through you. Remember the example of being a great diver where treasure hunters will come and give you a piece of the treasure for your diving skills.

If you are a trusted, reliable, high-integrity, long-term-thinking dealmaker, when other people want to do deals but don't know how to do them in a trustworthy manner with strangers, they will literally approach you and give you a cut of the deal just because of the integrity and reputation you've built up.

Warren Buffett gets offered deals to buy companies, buy warrants, bail out banks, and do things other people can't do because of his reputation. Of course, he has accountability on the line, and he has a strong brand on the line.

Your character and your reputation are things you can build, which will let you take advantage of opportunities other people may characterize as lucky, but you know it wasn't luck. [78] My co-founder Nivi said, "In a long-term game, it seems that everybody is making each other rich. And in a short-term game, it seems like everybody is making themselves rich."

I think that is a brilliant formulation. In a long-term game, it's positive sum. We're all baking the pie together. We're trying to make it as big as possible. And in a short-term game, we're cutting up the pie. [78]

### **How important is networking?**

I think business networking is a complete waste of time. And I know there are people and companies popularizing this concept because it serves them and their business model well, but the reality is if you're building something interesting, you will always have more people who will want to know you. Trying to build business relationships well in advance of doing business is a complete waste of time. I have a much more comfortable philosophy: "Be a maker who makes something interesting

people want. Show your craft, practice your craft, and the right people will eventually find you.” [14]

**And once you've met someone, how do you determine if you can trust someone? What signals do you pay attention to?**

If someone is talking a lot about how honest they are, they're probably dishonest. That is just a little telltale indicator I've learned. When someone spends too much time talking about their own values or they're talking themselves up, they're covering for something. [4]

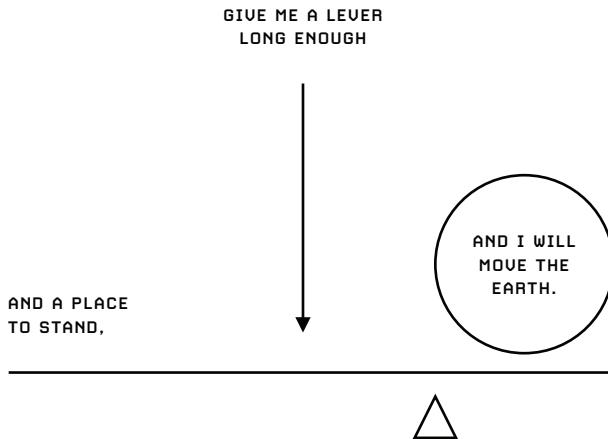
Sharks eat well but live a life surrounded by sharks.

I have great people in my life who are extremely successful, very desirable (like everybody wants to be their friend), very smart. Yet, I've seen them do one or two things slightly not great to other people. The first time, I'll say, “Hey, I don't think you should do this to that other person. Not because you won't get away with it. You will get away with it, but because it will hurt you in the end.”

Not in some cosmic, karma kind of way, but I believe deep down we all know who we are. You cannot hide anything from yourself. Your own failures are written within your psyche, and they are obvious to you. If you have too many of these moral shortcomings, you will not respect yourself. The worst outcome in this world is not having self-esteem. If you don't love yourself, who will?

I think you just have to be very careful about doing things you

are fundamentally not going to be proud of, because they will damage you. The first time someone acts this way, I will warn them. By the way, nobody changes. Then I just distance myself from them. I cut them out of my life. I just have this saying inside my head: “The closer you want to get to me, the better your values have to be.” [4]



### **BE PATIENT**

One thing I figured out later in life is generally (at least in the tech business in Silicon Valley), great people have great outcomes. You just have to be patient. Every person I met at the beginning of my career twenty years ago, where I looked at them and said, “Wow, that guy or gal is super capable—so smart and dedicated”...all of them, almost without exception,

became extremely successful. You just had to give them a long enough timescale. It never happens in the timescale you want, or they want, but it does happen. [4]

Apply specific knowledge with leverage and eventually, you will get what you deserve.

It takes time—even once you have all of these pieces in place, there is an indeterminate amount of time you have to put in. If you’re counting, you’ll run out of patience before success actually arrives.

Everybody wants to get rich immediately, but the world is an efficient place; immediate doesn’t work. You do have to put in the time. You do have to put in the hours, and so I think you have to put yourself in the position with the specific knowledge, with accountability, with leverage, with the authentic skill set you have, to be the best in the world at what you do.

You have to enjoy it and keep doing it, keep doing it, and keep doing it. Don’t keep track, and don’t keep count because if you do, you will run out of time. [78]

The most common bad advice I hear is: “You’re too young.” Most of history was built by young people. They just got credit when they were older. The only way to truly learn something is by doing it. Yes, listen to guidance. But don’t wait. [3]

People are oddly consistent. Karma is just you, repeating your patterns, virtues, and flaws until you finally get what you deserve.

Always pay it forward. And don't keep count.

This is not to say it's easy. It's not easy. It's actually really freaking hard. It is the hardest thing you will do. But it's also rewarding. Look at the kids who are born rich—they have no meaning to their lives.

Your real résumé is just a catalog of all your suffering. If I ask you to describe your real life to yourself, and you look back from your deathbed at the interesting things you've done, it's all going to be around the sacrifices you made, the hard things you did.

However, anything you're given doesn't matter. You have your four limbs, your brain, your head, your skin—that's all for granted. You have to do hard things anyway to create your own meaning in life. Making money is a fine thing to choose. Go struggle. It is hard. I'm not going to say it's easy. It's really hard, but the tools are all available. It's all out there. [77]

Money buys you freedom in the material world. It's not going to make you happy, it's not going to solve your health problems, it's not going to make your family great, it's not going to make you fit, it's not going to make you calm. But it will solve a lot of external problems. It's a reasonable step to go ahead and make money. [10]

What making money will do is solve your money problems. It will remove a set of things that could get in the way of being happy, but it is not going to make you happy. I know many very wealthy people who are unhappy. Most of the time, the person you have to become to make money is a high-anxiety, high-stress, hard-working, competitive person. When you have done that for twenty, thirty, forty, fifty years, and you suddenly make money, you can't turn it off. You've trained yourself to be a high-anxiety person. Then, you have to learn how to be happy. [11]

Let's get you rich first. I'm very practical about it because, you know, Buddha was a prince. He started off really rich, then he got to go off in the woods.

In the old days, if you wanted to be peaceful inside, you would become a monk. You would give up everything, renounce sex, children, money, politics, science, technology, everything, and you would go out in the woods by yourself. You had to give everything up to be free inside.

Today, with this wonderful invention called money, you can store it in a bank account. You can work really hard, do great things for society, and society will give you money for things it wants but doesn't know how to get. You can save money, you can live a little below your means, and you can find a certain freedom.

That will give you the time and the energy to pursue your own internal peace and happiness. I believe the solution to making everybody happy is to give them what they want.

Let's get them all rich.

Let's get them all fit and healthy.

Then, let's get them all happy. [77]

Amazing how many people confuse wealth and wisdom.



# I BUILDING JUDGMENT

| There's no shortcut to smart.

## JUDGMENT

If you want to make the maximum amount of money possible, if you want to get rich over your life in a deterministically predictable way, stay on the bleeding edge of trends and study technology, design, and art—become really good at something. [1]

You don't get rich by spending your time to save money.

You get rich by saving your time to make money.

Hard work is really overrated. How hard you work matters a lot less in the modern economy.

### What is underrated?

Judgment. Judgment is underrated. [1]

### Can you define judgment?

My definition of wisdom is knowing the long-term consequences of your actions. Wisdom applied to external problems is judgment. They're highly linked; knowing the long-term consequences of your actions and then making the right decision to capitalize on that. [78]

In an age of leverage, one correct decision can win everything.

Without hard work, you'll develop neither judgment nor leverage.

You have to put in the time, but the judgment is more important. The direction you're heading in matters more than how fast you move, especially with leverage. Picking the direction you're heading in for every decision is far, far more important than how much force you apply. Just pick the right direction to start walking in, and start walking. [1]

## HOW TO THINK CLEARLY

"Clear thinker" is a better compliment than "smart."

Real knowledge is intrinsic, and it's built from the ground up. To use a math example, you can't understand trigonometry without understanding arithmetic and geometry. Basically, if someone is using a lot of fancy words and a lot of big concepts, they probably don't know what they're talking about. I think the smartest people can explain things to a child. If you can't explain it to a child, then you don't know it. It's a common saying and it's very true.

Richard Feynman very famously does this in "Six Easy Pieces," one of his early physics lectures. He basically explains mathematics in three pages. He starts from the number line—counting—and then he goes all the way up to precalculus. He just builds it up through an unbroken chain of logic. He doesn't rely on any definitions.

The really smart thinkers are clear thinkers. They understand the basics at a very, very fundamental level. I would rather understand the basics really well than memorize all kinds of complicated concepts I can't stitch together and can't rederive from the basics. If you can't rederive concepts from the basics as you need them, you're lost. You're just memorizing. [4]

The advanced concepts in a field are less proven. We use them to signal insider knowledge, but we'd be better off nailing the basics. [11]

Clear thinkers appeal to their own authority.

**Part of making effective decisions boils down to dealing with reality. How do you make sure you're dealing with reality when you're making decisions?**

By not having a strong sense of self or judgments or mind presence. The “monkey mind” will always respond with this regurgitated emotional response to what it thinks the world should be. Those desires will cloud your reality. This happens a lot of times when people are mixing politics and business.

The number one thing clouding us from being able to see reality is we have preconceived notions of the way it should be.

One definition of a moment of suffering is “the moment when you see things exactly the way they are.” This whole time, you’ve been convinced your business is doing great, and really, you’ve ignored the signs it’s not doing well. Then, your business fails,

and you suffer because you've been putting off reality. You've been hiding it from yourself.

The good news is, the moment of suffering—when you're in pain—is a moment of truth. It is a moment where you're forced to embrace reality the way it actually is. Then, you can make meaningful change and progress. You can only make progress when you're starting with the truth.

The hard thing is seeing the truth. To see the truth, you have to get your ego out of the way because your ego doesn't want to face the truth. The smaller you can make your ego, the less conditioned you can make your reactions, the less desires you can have about the outcome you want, the easier it will be to see the reality.

What we wish to be true clouds our perception of what is true.  
Suffering is the moment when we can no longer deny reality.

Imagine we're going through something difficult like a breakup, a job loss, a business failure, or a health problem, and our friends are advising us. When we're advising them, the answer is obvious. It comes to us in a minute, and we tell them exactly, "Oh that girl, get over her, she wasn't good for you anyway. You'll be happier. Trust me. You'll find someone."

You know the correct answer, but your friend can't see it, because they're in the moment of suffering and pain. They're still wishing reality was different. The problem isn't reality. The problem is their desire is colliding with reality and pre-

venting them from seeing the truth, no matter how much you say it. The same thing happens when I make decisions.

The more desire I have for something to work out a certain way, the less likely I am to see the truth. Especially in business, if something isn't going well, I try to acknowledge it publicly and I try to acknowledge it publicly in front of my co-founders and friends and co-workers. Then, I'm not hiding it from anybody else. If I'm not hiding it from anybody, I'm not going to delude myself from what's actually going on. [4]

What you feel tells you nothing about the facts—it merely tells you something about your estimate of the facts.

It's actually really important to have empty space. If you don't have a day or two every week in your calendar where you're not always in meetings, and you're not always busy, then you're not going to be able to think.

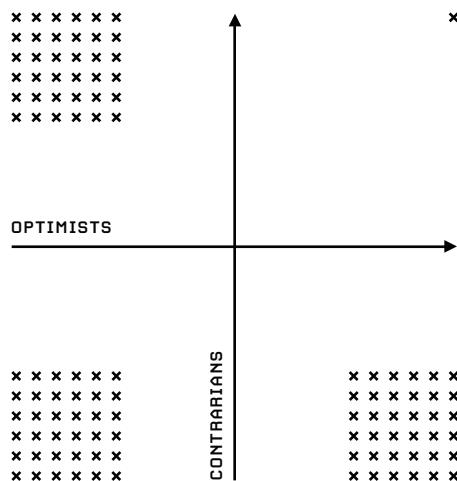
You're not going to be able to have good ideas for your business. You're not going to be able to make good judgments. I also encourage taking at least one day a week (preferably two, because if you budget two, you'll end up with one) where you just have time to think.

It's only after you're bored you have the great ideas. It's never going to be when you're stressed, or busy, running around or rushed. Make the time. [7]

Very smart people tend to be weird since they insist on thinking everything through for themselves.

A contrarian isn't one who always objects—that's a conformist of a different sort. A contrarian reasons independently from the ground up and resists pressure to conform.

Cynicism is easy. Mimicry is easy.  
Optimistic contrarians are the rarest breed.



## **SHED YOUR IDENTITY TO SEE REALITY**

Our egos are constructed in our formative years—our first two decades. They get constructed by our environment, our parents, society. Then, we spend the rest of our life trying to make our ego happy. We interpret anything new through our ego: “How do I change the external world to make it more how I would like it to be?” [8]

“Tension is who you think you should be.  
Relaxation is who you are.”

—Buddhist saying

You absolutely need habits to function. You cannot solve every problem in life as if it is the first time it's thrown at you. We accumulate all these habits. We put them in the bundle of identity, ego, ourselves, and then we get attached to them. “I'm Naval. This is the way I am.”

It's really important to be able to uncondition yourself, to be able to take your habits apart and say, “Okay, this is a habit I probably picked up when I was a toddler trying to get my parent's attention. Now I've reinforced it and reinforced it, and I call it a part of my identity. Does it still serve me? Does it make me happier? Does it make me healthier? Does it make me accomplish whatever I set out to accomplish?”

I'm less habitual than most people. I don't like to structure my day. To the extent I have habits, I try to make them more deliberate rather than accidents of history. [4]

Any belief you took in a package (ex. Democrat, Catholic, American) is suspect and should be re-evaluated from base principles.

I try not to have too much I've pre-decided. I think creating identities and labels locks you in and keeps you from seeing the truth.

To be honest, speak without identity.

I used to identify as libertarian, but then I would find myself defending positions I hadn't really thought through because they're a part of the libertarian canon. If all your beliefs line up into neat little bundles, you should be highly suspicious.

I don't like to self-identify on almost any level anymore, which keeps me from having too many of these so-called stable beliefs. [4]

We each have a contrarian belief society rejects. But the more our own identity and local tribe reject it, the more real it likely is.

There are two attractive lessons about suffering in the long term. It can make you accept the world the way it is. The other lesson is it can make your ego change in an extremely hard way.

Maybe you're a competitive athlete, and you get injured badly,

like Bruce Lee. You have to accept being an athlete is not your entire identity, and maybe you can forge a new identity as a philosopher. [8]

Facebook redesigns. Twitter redesigns. Personalities, careers, and teams also need redesigns. There are no permanent solutions in a dynamic system.

TENSION IS WHO YOU THINK YOU SHOULD BE.

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RELAXATION IS WHO YOU ARE.



## LEARN THE SKILLS OF DECISION-MAKING

The classical virtues are all decision-making heuristics to make one optimize for the long term rather than for the short term. [11]

Self-serving conclusions should have a higher bar.

I do view a lot of my goals over the next few years of unconditioning previous learned responses or habituated responses, so I can make decisions more cleanly in the moment without relying on memory or prepackaged heuristics and judgments. [4]

Almost all biases are time-saving heuristics. For important decisions, discard memory and identity, and focus on the problem.

Radical honesty just means I want to be free. Part of being free means I can say what I think and think what I say. They're highly congruent and integrated. Theoretical physicist Richard Feynman famously said, "You should never, ever fool anybody, and you are the easiest person to fool." The moment you tell somebody something dishonest, you've lied to yourself. Then you'll start believing your own lie, which will disconnect you from reality and take you down the wrong road.

I never ask if "I like it" or "I don't like it." I think "this is what it is" or "this is what it isn't."

—Richard Feynman

It's really important for me to be honest. I don't go out of my way volunteering negative or nasty things. I would combine

radical honesty with an old rule Warren Buffett has, which is praise specifically, criticize generally. I try to follow this. I don't always follow it, but I think I follow it enough to have made a difference in my life.

If you have a criticism of someone, then don't criticize the person—criticize the general approach or criticize the class of activities. If you have to praise somebody, then always try and find the person who is the best example of what you're praising and praise the person, specifically. Then people's egos and identities, which we all have, don't work against you. They work for you. [4]

**Any advice on developing capacity for instinctual blunt honesty?**

Tell everyone. Start now. It doesn't have to be blunt. Charisma is the ability to project confidence and love at the same time. It's almost always possible to be honest and positive. [71]

**As an investor and CEO of AngelList, you're paid to be right when other people are wrong. Do you have a process around how you make decisions?**

Yes. Decision-making is everything. In fact, someone who makes decisions right 80 percent of the time instead of 70 percent of the time will be valued and compensated in the market hundreds of times more.

I think people have a hard time understanding a fundamental fact of leverage. If I manage \$1 billion and I'm right 10 percent more often than somebody else, my decision-making creates \$100 million worth of value on a judgment call. With modern

technology and large workforces and capital, our decisions are leveraged more and more.

If you can be more right and more rational, you're going to get nonlinear returns in your life. I love the blog *Farnam Street* because it really focuses on helping you be more accurate, an overall better decision-maker. Decision-making is everything. [4]

The more you know, the less you diversify.

## COLLECT MENTAL MODELS

During decision-making, the brain is a memory prediction machine.

A lousy way to do memory prediction is “X happened in the past, therefore X will happen in the future.” It’s too based on specific circumstances. What you want is principles. You want mental models.

The best mental models I have found came through evolution, game theory, and Charlie Munger. Charlie Munger is Warren Buffett’s partner. Very good investor. He has tons and tons of great mental models. Author and trader Nassim Taleb has great mental models. Benjamin Franklin had great mental models. I basically load my head full of mental models. [4]

I use my tweets and other people’s tweets as maxims that help compress my own learnings and recall them. The brain space is finite—you have finite neurons—so you can almost think

of these as pointers, addresses, or mnemonics to help you remember deep-seated principles where you have the underlying experience to back it up.

If you don't have the underlying experience, then it just reads like a collection of quotes. It's cool, it's inspirational for a moment, maybe you'll make a nice poster out of it. But then you forget it and move on. Mental models are really just compact ways for you to recall your own knowledge. [78]

## EVOLUTION

I think a lot of modern society can be explained through evolution. One theory is civilization exists to answer the question of who gets to mate. If you look around, from a purely sexual selection perspective, sperm is abundant and eggs are scarce. It's an allocation problem.

Literally all of the works of mankind and womankind can be traced down to people trying to solve this problem.

Evolution, thermodynamics, information theory, and complexity have explanatory and predictive power in many aspects of life. [11]

## INVERSION

I don't believe I have the ability to say what is going to work. Rather, I try to eliminate what's not going to work. I think being successful is just about not making mistakes. It's not about having correct judgment. It's about avoiding incorrect judgments. [4]

## COMPLEXITY THEORY

I was really into complexity theory back in the mid-90s. The more I got into it, the more I understand the limits of our knowledge and the limits of our prediction capability. Complexity has been super helpful to me. It has helped me come to a system that operates in the face of ignorance. I believe we are fundamentally ignorant and very, very bad at predicting the future. [4]

## ECONOMICS

Microeconomics and game theory are fundamental. I don't think you can be successful in business or even navigate most of our modern capitalist society without an extremely good understanding of supply-and-demand, labor-versus-capital, game theory, and those kinds of things. [4]

Ignore the noise. The market will decide.

## PRINCIPAL-AGENT PROBLEM

To me, the principal-agent problem is the single most fundamental problem in microeconomics. If you do not understand the principal-agent problem, you will not know how to navigate your way through the world. It is important if you want to build a successful company or be successful in your dealings.

It's a very simple concept. Julius Caesar famously said, "If you want it done, then go. And if not, then send." What he meant was, if you want it done right, then you have to go yourself and do it. When you are the principal, then you are the owner—you

care, and you will do a great job. When you are the agent and you are doing it on somebody else's behalf, you can do a bad job. You just don't care. You optimize for yourself rather than for the principal's assets.

The smaller the company, the more everyone feels like a principal. The less you feel like an agent, the better the job you're going to do. The more closely you can tie someone's compensation to the exact value they're creating, the more you turn them into a principal, and the less you turn them into an agent. [12]

I think at a core fundamental level, we understand this. We're attracted to principals, and we all bond with principals, but the media and modern society spend a lot of time brainwashing you about needing an agent, an agent being important, and the agent being knowledgeable. [12]

## COMPOUND INTEREST

Compound interest—most of you should know it in the finance context. If you don't, crack open a microeconomics textbook. It's worth reading a microeconomics textbook from start to finish.

An example of compound interest—let's say you're earning 10 percent a year on your \$1. The first year, you make 10 percent, and you end up with \$1.10. The next year, you end up with \$1.21, and the next year \$1.33. It keeps adding onto itself. If you're compounding at 30 percent per year for thirty years, you don't just end up with ten or twenty times your money—you end up with thousands of times your money. [10]

In the intellectual domain, compound interest rules. When

you look at a business with one hundred users growing at a compound rate of 20 percent per month, it can very, very quickly stack up to having millions of users. Sometimes, even the founders of these companies are surprised by how large the business scales. [10]

## BASIC MATH

I think basic mathematics is really underrated. If you're going to make money, if you're going to invest money, your basic math should be really good. You don't need to learn geometry, trigonometry, calculus, or any of the complicated stuff if you're just going into business. But you want arithmetic, probability, and statistics. Those are extremely important. Crack open a basic math book, and make sure you are really good at multiplying, dividing, compounding, probability, and statistics.

## BLACK SWANS

There's a new branch of probability statistics, which is really around tail events. Black swans are extreme probabilities. Again, I have to refer back to Nassim Taleb, who I think is one of the greatest philosopher-scientists of our times. He's really done a lot of pioneering work on this.

## CALCULUS

Calculus is useful to know, to understand the rates of change and how nature works. But it's more important to understand the principles of calculus—where you're measuring the change in small discrete or small continuous events. It's not important you solve integrals or do derivations on demand, because you're not going to need to in the business world.

## FALSIFIABILITY

Least understood, but the most important principle for anyone claiming “science” on their side—falsifiability. If it doesn’t make falsifiable predictions, it’s not science. For you to believe something is true, it should have predictive power, and it must be falsifiable. [11]

I think macroeconomics, because it doesn’t make falsifiable predictions (which is the hallmark of science), has become corrupted. You never have a counterexample when studying the economy. You can never take the US economy and run two different experiments at the same time. [4]

## IF YOU CAN’T DECIDE, THE ANSWER IS NO.

If I’m faced with a difficult choice, such as:

- Should I marry this person?
- Should I take this job?
- Should I buy this house?
- Should I move to this city?
- Should I go into business with this person?

If you cannot decide, the answer is no. And the reason is, modern society is full of options. There are tons and tons of options. We live on a planet of seven billion people, and we are connected to everybody on the internet. There are hundreds of thousands of careers available to you. There are so many choices.

You’re biologically not built to realize how many choices there are. Historically, we’ve all evolved in tribes of 150 people. When someone comes along, they may be your only option for a partner.

When you choose something, you get locked in for a long time. Starting a business may take ten years. You start a relationship that will be five years or maybe more. You move to a city for ten to twenty years. These are very, very long-lived decisions. It's very, very important we only say yes when we are pretty certain. You're never going to be absolutely certain, but you're going to be very certain.

If you find yourself creating a spreadsheet for a decision with a list of yes's and no's, pros and cons, checks and balances, why this is good or bad...forget it. If you cannot decide, the answer is no. [10]

## RUN UPHILL

Simple heuristic: If you're evenly split on a difficult decision, take the path more painful in the short term.

If you have two choices to make, and they're relatively equal choices, take the path more difficult and more painful in the short term.

What's actually going on is one of these paths requires short-term pain. And the other path leads to pain further out in the future. And what your brain is doing through conflict-avoidance is trying to push off the short-term pain.

By definition, if the two are even and one has short-term pain, that path has long-term gain associated. With the law of compound interest, long-term gain is what you want to go toward.

Your brain is overvaluing the side with the short-term happiness and trying to avoid the one with short-term pain.

So you have to cancel the tendency out (it's a powerful subconscious tendency) by leaning into the pain. As you know, most of the gains in life come from suffering in the short term so you can get paid in the long term.

Working out for me is not fun; I suffer in the short term, I feel pain. But then in the long term, I'm better off because I have muscles or I'm healthier.

If I am reading a book and I'm getting confused, it is just like working out and the muscle getting sore or tired, except now my brain is being overwhelmed. In the long run I'm getting smarter because I'm absorbing new concepts from working at the limit or edge of my capability.

So you generally want to lean into things with short-term pain, but long-term gain.

### **What are the most efficient ways to build new mental models?**

Read a lot—just read. [2]

Reading science, math, and philosophy one hour per day will likely put you at the upper echelon of human success within seven years.

## **LEARN TO LOVE TO READ**

*(Specific recommendations for books, blogs, and more are in “Naval’s Recommended Reading” section.)*

The genuine love for reading itself, when cultivated, is a super-power. We live in the age of Alexandria, when every book and every piece of knowledge ever written down is a fingertip away. The means of learning are abundant—it’s the desire to learn that is scarce. [3]

Reading was my first love. [4]

I remember my grandparents’ house in India. I’d be a little kid on the floor going through all of my grandfather’s *Reader’s Digests*, which is all he had to read. Now, of course, there’s a smorgasbord of information out there—anybody can read anything all the time. Back then, it was much more limited. I would read comic books, storybooks, whatever I could get my hands on.

I think I always loved to read because I’m actually an anti-social introvert. I was lost in the world of words and ideas from an early age. I think some of it comes from the happy circumstance that when I was young, nobody forced me to read certain things.

I think there’s a tendency among parents and teachers to say, “Oh, you should read this, but don’t read that.” I read a lot which (by today’s standards) would be considered mental junk food. [4]

Read what you love until you love to read.

You almost have to read the stuff you’re reading, because you’re into it. You don’t need any other reason. There’s no mission here to accomplish. Just read because you enjoy it.

These days, I find myself rereading as much (or more) as I do reading. A tweet from @illacertus said, “I don’t want to read everything. I just want to read the 100 great books over and over again.” I think there’s a lot to that idea. It’s really more about identifying the great books for you because different books speak to different people. Then, you can really absorb those.

Reading a book isn’t a race—the better the book, the more slowly it should be absorbed.

I don’t know about you, but I have very poor attention. I skim. I speed read. I jump around. I could not tell you specific passages or quotes from books. At some deep level, you absorb them, and they become threads in the tapestry of your psyche. They kind of weave in there.

I’m sure you’ve had this feeling where you pick up a book and start reading it, and you’re like, “This is pretty interesting. This is pretty good.” You’re getting this increasing sense of *deja vu*. Then halfway through the book, you realize, “I’ve read this book before.” That’s perfectly fine. It means you were ready to reread it. [4]

I don't actually read a lot of books. I pick up a lot of books and only get through a few which form the foundation of my knowledge.

The reality is, I don't actually read much compared to what people think. I probably read one to two hours a day. That puts me in the top .00001 percent. I think that alone accounts for any material success I've had in my life and any intelligence I might have. Real people don't read an hour a day. Real people, I think, read a minute a day or less. Making it an actual habit is the most important thing.

It almost doesn't matter what you read. Eventually, you will read enough things (and your interests will lead you there) that it will dramatically improve your life. Just like the best workout for you is one you're excited enough to do every day, I would say for books, blogs, tweets, or whatever—anything with ideas and information and learning—the best ones to read are the ones you're excited about reading all the time. [4]

"As long as I have a book in my hand, I don't feel like I'm wasting time."

—Charlie Munger

Everyone's brain works differently. Some people love to take notes. Actually, my notetaking is Twitter. I read and read and read. If I have some fundamental "ah-ha" insight or concept, Twitter forces me to distill it into a few characters. Then I try and put it out there as an aphorism. Then I get attacked by

random people who point out all kinds of obvious exceptions and jump down my throat. Then I think, “Why did I do this again?” [4]

Pointing out obvious exceptions implies either the target isn’t smart or you aren’t.

**When you first pick up a book, are you skimming for something interesting? How do you go about reading it? Do you just flip to a random page and start reading? What’s your process?**

I’ll start at the beginning, but I’ll move fast. If it’s not interesting, I’ll just start flipping ahead, skimming, or speed reading. If it doesn’t grab my attention within the first chapter in a meaningful, positive way, I’ll either drop the book or skip ahead a few chapters.

I don’t believe in delayed gratification when there are an infinite number of books out there to read. There are so many great books.

The number of books completed is a vanity metric. As you know more, you leave more books unfinished. Focus on new concepts with predictive power.

Generally, I’ll skim. I’ll fast forward. I’ll try and find a part to catch my attention. Most books have one point to make. (Obviously, this is nonfiction. I’m not talking about fiction.) They

have one point to make, they make it, and then they give you example after example after example after example, and they apply it to explain everything in the world. Once I feel like I've gotten the gist, I feel very comfortable putting the book down. There's a lot of these, what I would call pseudoscience bestsellers...People are like, "Oh, did you read this book?" I always say yes, but the reality is I read maybe two chapters of it. I got the gist.

If they wrote it to make money, don't read it.

**What practices do you follow to internalize/organize information from reading books?**

Explain what you learned to someone else. Teaching forces learning.

If it's not about "educated" vs. "uneducated." It's about "likes to read" and "doesn't like to read."

**What can I do for the next sixty days to become a clearer, more independent thinker?**

Read the greats in math, science, and philosophy. Ignore your contemporaries and news. Avoid tribal identification. Put truth above social approval. [11]

Study logic and math, because once you've mastered them, you won't fear any book.

No book in the library should scare you. Whether it's a math, physics, electrical engineering, sociology, or economics book. You should be able to take any book down off the shelf and read it. A number of them are going to be too difficult for you. That's okay—read them anyway. Then go back and reread them and reread them.

When you're reading a book and you're confused, that confusion is similar to the pain you get in the gym when you're working out. But you're building mental muscles instead of physical muscles. Learn how to learn and read the books.

The problem with saying "just read" is there is so much junk out there. There are as many different kinds of authors as there are people. Many of them are going to write lots of junk.

I have people in my life I consider to be very well-read who aren't very smart. The reason is because even though they're very well-read, they read the wrong things in the wrong order. They started out reading a set of false or just weakly true things, and those formed the axioms of the foundation for their worldview. Then, when new things come, they judge the new idea based on a foundation they already built. Your foundation is critical.

Because most people are intimidated by math and can't independently critique it, they overvalue opinions backed with math/pseudoscience.

When it comes to reading, make sure your foundation is very, very high quality.

The best way to have a high-quality foundation (you may not love this answer), but the trick is to stick to science and to stick to the basics. Generally, there are only a few things you can read people don't disagree with. Very few people disagree  $2+2=4$ , right? That is serious knowledge. Mathematics is a solid foundation.

Similarly, the hard sciences are a solid foundation. Microeconomics is a solid foundation. The moment you start wandering outside of these solid foundations you're in trouble because now you don't know what's true and what's false. I would focus as much as I could on having solid foundations.

It's better to be really great at arithmetic and geometry than to be deep into advanced mathematics. I would read microeconomics all day long—Microeconomics 101.

Another way to do this is to read originals and read classics. If you're interested in evolution, read Charles Darwin. Don't begin with Richard Dawkins (even though I think he's great). Read him later; read Darwin first.

If you want to learn macroeconomics, first read Adam Smith, read von Mises, or read Hayek. Start with the original philosophers of the economy. If you're into communist or socialist ideas (which I'm personally not), start by reading Karl Marx. Don't read the current interpretation someone is feeding you about how things should be done and run.

If you start with the originals as your foundations, then you

have enough of a worldview and understanding that you won't fear any book. Then you can just learn. If you're a perpetual learning machine, you will never be out of options for how to make money. You can always see what's coming up in society, what the value is, where the demand is, and you can learn to come up to speed. [74]

To think clearly, understand the basics. If you're memorizing advanced concepts without being able to re-derive them as needed, you're lost.

We're now in a day and age of Twitter and Facebook. We're getting bite-sized, pithy wisdom, which is really hard to absorb. Books are very difficult to read as a modern person because we've been trained. We have two contradictory pieces of training:

One is our attention span has gone through the floor because we're hit with so much information all the time. We want to skip, summarize, and cut to the chase.

Twitter has made me a worse reader but a much better writer.

On the other hand, we're also taught from a young age to finish your books. Books are sacred—when you go to school and you're assigned to read a book, you have to finish the book. Over time, we forget how to read books. Everyone I know is stuck on some book.

I'm sure you're stuck on something right now—it's page 332,

you can't go any further, but you know you should finish the book. So what do you do? You give up reading books for a while.

For me, giving up reading was a tragedy. I grew up on books, then I switched to blogs, then I switched to Twitter and Facebook, and I realized I wasn't actually learning anything. I was just taking little dopamine snacks all day long. I was getting my little 140-character burst of dopamine. I would Tweet, then look to see who retweeted my Tweet. It's a fun and wonderful thing, but it's a game I was playing.

I realized I had to go back to reading books. [6]

I knew it was a very hard problem because my brain had now been trained to spend time on Facebook, Twitter, and these other bite-sized pieces.

I came up with this hack where I started treating books as throwaway blog posts or bite-sized tweets or posts. I felt no obligation to finish any book. Now, when someone mentions a book to me, I buy it. At any given time, I'm reading somewhere between ten and twenty books. I'm flipping through them.

If the book is getting a little boring, I'll skip ahead. Sometimes, I start reading a book in the middle because some paragraph caught my eye. I'll just continue from there, and I feel no obligation whatsoever to finish the book. All of a sudden, books are back into my reading library. That's great, because there is ancient wisdom in books. [6]

When solving problems: the older the problem, the older the solution.

If you're trying to learn how to drive a car or fly a plane, you should read something written in the modern age because this problem was created in the modern age and the solution is great in the modern age.

If you're talking about an old problem like how to keep your body healthy, how to stay calm and peaceful, what kinds of value systems are good, how you raise a family, and those kinds of things, the older solutions are probably better.

Any book that survived for two thousand years has been filtered through many people. The general principles are more likely to be correct. I wanted to get back into reading these sorts of books. [6]

You know that song you can't get out of your head? All thoughts work that way. Careful what you read.

A calm mind, a fit body, and a house full of love.

These things cannot be bought.

They must be earned.

# PART II

# HAPPINESS

The three big ones in life are wealth, health, and happiness.  
We pursue them in that order, but their importance is reverse.



# I LEARNING HAPPINESS

Don't take yourself so seriously. You're just a monkey with a plan.

## HAPPINESS IS LEARNED

Ten years ago, if you would have asked me how happy I was, I would have dismissed the question. I didn't want to talk about it.

On a scale of 1–10, I would have said 2/10 or 3/10. Maybe 4/10 on my best days. But I did not value being happy.

Today, I am a 9/10. And yes, having money helps, but it's actually a very small piece of it. Most of it comes from learning over the years my own happiness is the most important thing to me, and I've cultivated it with a lot of techniques. [10]

Maybe happiness is not something you inherit or even choose, but a highly personal skill that can be learned, like fitness or nutrition.

Happiness is a very evolving thing, I think, like all the great questions. When you're a little kid, you go to your mom and ask, "What happens when we die? Is there a Santa Claus? Is there a God? Should I be happy? Who should I marry?" Those kinds of things. There are no glib answers because no answers apply to everybody. These kinds of questions ultimately do have answers, but they have personal answers.

The answer that works for me is going to be nonsense to you, and vice versa. Whatever happiness means to me, it means something different to you. I think it's very important to explore what these definitions are.

For some people I know, it's a flow state. For some people, it's

satisfaction. For some people, it's a feeling of contentment. My definition keeps evolving. The answer I would have given you a year ago will be different than what I tell you now.

Today, I believe happiness is really a default state. Happiness is there when you remove the sense of something missing in your life.

We are highly judgmental survival-and-replication machines. We constantly walk around thinking, "I need this," or "I need that," trapped in the web of desires. Happiness is the state when nothing is missing. When nothing is missing, your mind shuts down and stops running into the past or future to regret something or to plan something.

In that absence, for a moment, you have internal silence. When you have internal silence, then you are content, and you are happy. Feel free to disagree. Again, it's different for everybody.

People mistakenly believe happiness is just about positive thoughts and positive actions. The more I've read, the more I've learned, and the more I've experienced (because I verify this for myself), every positive thought essentially holds within it a negative thought. It is a contrast to something negative. The *Tao Te Ching* says this more articulately than I ever could, but it's all duality and polarity. If I say I'm happy, that means I was sad at some point. If I say he's attractive, then somebody else is unattractive. Every positive thought even has a seed of a negative thought within it and vice versa, which is why a lot of greatness in life comes out of suffering. You have to view the negative before you can aspire to and appreciate the positive.

To me, happiness is not about positive thoughts. It's not about

negative thoughts. It's about the absence of desire, especially the absence of desire for external things. The fewer desires I can have, the more I can accept the current state of things, the less my mind is moving, because the mind really exists in motion toward the future or the past. The more present I am, the happier and more content I will be. If I latch onto a feeling, if I say, "Oh, I'm happy now," and I want to stay happy, then I'm going to drop out of that happiness. Now, suddenly, the mind is moving. It's trying to attach to something. It's trying to create a permanent situation out of a temporary situation.

Happiness to me is mainly not suffering, not desiring, not thinking too much about the future or the past, really embracing the present moment and the reality of what is, and the way it is. [4]

If you ever want to have peace in your life, you have to move beyond good and evil.

Nature has no concept of happiness or unhappiness. Nature follows unbroken mathematical laws and a chain of cause and effect from the Big Bang to now. Everything is perfect exactly the way it is. It is only in our particular minds we are unhappy or not happy, and things are perfect or imperfect because of what we desire. [4]

The world just reflects your own feelings back at you. Reality is neutral. Reality has no judgments. To a tree, there is no concept of right or wrong, good or bad. You're born, you have a whole set of sensory experiences and stimulations (lights, colors, and sounds), and then you die. How you choose to interpret them is up to you—you have that choice.

This is what I mean when I say happiness is a choice. If you believe it's a choice, you can start working on it. [77]

There are no external forces affecting your emotions—as much as it may feel that way.

I've also come to believe in the complete and utter insignificance of the self, and I think that helps a lot. For example, if you thought you were the most important thing in the Universe, then you would have to bend the entire Universe to your will. If you're the most important thing in the Universe, then how could it not conform to your desires. If it doesn't conform to your desires, something is wrong.

However, if you view yourself as a bacteria or an amoeba—or if you view all of your works as writing on water or building castles in the sand, then you have no expectation for how life should “actually” be. Life is just the way it is. When you accept that, you have no cause to be happy or unhappy. Those things almost don't apply.

Happiness is what's there when you remove the sense that something is missing in your life.

What you're left with in that neutral state is not neutrality. I think people believe neutrality would be a very bland existence. No, this is the existence little children live. If you look at little children, on balance, they're generally pretty happy because they are really immersed in the environment and the moment,

without any thought of how it should be given their personal preferences and desires. I think the neutral state is actually a perfection state. One can be very happy as long as one isn't too caught up in their own head. [4]

Our lives are a blink of a firefly in the night. You're just barely here. You have to make the most of every minute, which doesn't mean you chase some stupid desire for your entire life. What it means is every second you have on this planet is very precious, and it's your responsibility to make sure you're happy and interpreting everything in the best possible way. [9]

We think of ourselves as fixed and the world as malleable, but it's really we who are malleable and the world is largely fixed.

### Can practicing meditation help you accept reality?

Yeah. But it's amazing how little it helps. [laughs] You can be a long-time meditator, but if someone says the wrong thing in the wrong way, you go back to your ego-driven self. It's almost like you're lifting one-pound weights, but then somebody drops a huge barbell with a stack of plates on your head.

It's absolutely better than doing nothing. But when the actual moment of mental or emotional suffering arrives, it's still never easy. [8] Real happiness only comes as a side-effect of peace. Most of it is going to come from acceptance, not from changing your external environment. [8]

A rational person can find peace by cultivating indifference to things outside of their control.

I have lowered my identity.

I have lowered the chattering of my mind.

I don't care about things that don't really matter.

I don't get involved in politics.

I don't hang around unhappy people.

I really value my time on this earth.

I read philosophy.

I meditate.

I hang around with happy people.

And it works.

You can very slowly but steadily and methodically improve your happiness baseline, just like you can improve your fitness. [10]

## HAPPINESS IS A CHOICE

Happiness, love, and passion...aren't things you find—they're choices you make.

Happiness is a choice you make and a skill you develop.

The mind is just as malleable as the body. We spend so much time and effort trying to change the external world, other people, and our own bodies—all while accepting ourselves the way we were programmed in our youths.

We accept the voice in our head as the source of all truth. But all of it is malleable, and every day is new. Memory and identity are burdens from the past preventing us from living freely in the present. [3]

### **HAPPINESS REQUIRES PRESENCE**

At any given time, when you’re walking down the streets, a very small percentage of your brain is focused on the present. The rest is planning the future or regretting the past. This keeps you from having an incredible experience. It’s keeping you from seeing the beauty in everything and for being grateful for where you are. You can literally destroy your happiness if you spend all of your time living in delusions of the future. [4]

We crave experiences that will make us be present, but the cravings themselves take us from the present moment.

I just don’t believe in anything from my past. Anything. No memories. No regrets. No people. No trips. Nothing. A lot of our unhappiness comes from comparing things from the past to the present. [4]

Anticipation for our vices pulls us into the future. Eliminating vices makes it easier to be present.

There's a great definition I read: "Enlightenment is the space between your thoughts." It means enlightenment isn't something you achieve after thirty years sitting on a mountaintop. It's something you can achieve moment to moment, and you can be enlightened to a certain percent every single day. [5]

What if this life is the paradise we were promised, and we're just squandering it?

## HAPPINESS REQUIRES PEACE

**Are happiness and purpose interconnected?**

Happiness is such an overloaded word, I'm not even sure what it means. For me these days, happiness is more about peace than it is about joy. I don't think peace and purpose go together.

If it's your internal purpose, the thing you most want to do, then sure, you'll be happy doing it. But an externally inflicted purpose, like "society wants me to do X," "I am the first son of the first son of this, so I should do Y," or "I have this debt or burden I took on," I don't think it will make you happy.

I think a lot of us have this low-level pervasive feeling of anxiety. If you pay attention to your mind, sometimes you're just running around doing your thing and you're not feeling great, and you notice your mind is chattering and chattering about

something. Maybe you can't sit still...There's this "nexting" thing where you're sitting in one spot thinking about where you should be next.

It's always the next thing, then the next thing, the next thing after that, then the next thing after that creating this pervasive anxiety.

It's most obvious if you ever just sit down and try and do nothing, nothing, I mean nothing, I mean not read a book, I mean not listen to music, I mean literally just sit down and do nothing. You can't do it, because there's anxiety always trying to make you get up and go, get up and go, get up and go. I think it's important just being aware the anxiety is making you unhappy. The anxiety is just a series of running thoughts.

How I combat anxiety: I don't try and fight it, I just notice I'm anxious because of all these thoughts. I try to figure out, "Would I rather be having this thought right now, or would I rather have my peace?" Because as long as I have my thoughts, I can't have my peace.

You'll notice when I say happiness, I mean peace. When a lot of people say happiness, they mean joy or bliss, but I'll take peace. [2]

A happy person isn't someone who's happy all the time.

It's someone who effortlessly interprets events in such a way that they don't lose their innate peace.

DESIRE

IS A CONTRACT  
THAT YOU MAKE  
WITH YOURSELF

TO BE UNHAPPY  
UNTIL YOU GET

- WHAT
- YOU
- WANT.

## **EVERY DESIRE IS A CHOSEN UNHAPPINESS**

I think the most common mistake for humanity is believing you're going to be made happy because of some external circumstance. I know that's not original. That's not new. It's fundamental Buddhist wisdom—I'm not taking credit for it. I think I really just recognize it on a fundamental level, including in myself.

We bought a new car. Now, I'm waiting for the new car to arrive. Of course, every night, I'm on the forums reading about the car. Why? It's a silly object. It's a silly car. It's not going to change my life much or at all. I know the instant the car arrives I won't care about it anymore. The thing is, I'm addicted to the desiring. I'm addicted to the idea of this external thing bringing me some kind of happiness and joy, and this is completely delusional.

Looking outside yourself for anything is the fundamental delusion. Not to say you shouldn't do things on the outside. You absolutely should. You're a living creature. There are things you do. You locally reverse entropy. That's why you're here.

You're meant to do something. You're not just meant to lie there in the sand and meditate all day long. You should self-actualize. You should do what you are meant to do.

The idea you're going to change something in the outside world, and that is going to bring you the peace, everlasting joy, and happiness you deserve, is a fundamental delusion we all suffer from, including me. The mistake over and over and over is to say, "Oh, I'll be happy when I get that thing," whatever it is. That is the fundamental mistake we all make, 24/7, all day long. [4]

The fundamental delusion: There is something out there that will make me happy and fulfilled forever.

Desire is a contract you make with yourself to be unhappy until you get what you want. I don't think most of us realize that's what it is. I think we go about desiring things all day long and then wonder why we're unhappy. I like to stay aware of it, because then I can choose my desires very carefully. I try not to have more than one big desire in my life at any given time, and I also recognize it as the axis of my suffering. I realize the area where I've chosen to be unhappy. [5]

Desire is a contract you make with yourself to be unhappy until you get what you want.

One thing I've learned recently: it's way more important to perfect your desires than to try to do something you don't 100 percent desire. [1]

When you're young and healthy, you can do more. By doing more, you're actually taking on more and more desires. You don't realize this is slowly destroying your happiness. I find younger people are less happy but more healthy. Older people are more happy but less healthy.

When you're young, you have time. You have health, but you have no money. When you're middle-aged, you have money and you have health, but you have no time. When you're old, you have money and you have time, but you have no health. So the trifecta is trying to get all three at once.

By the time people realize they have enough money, they've lost their time and their health. [8]

## **SUCCESS DOES NOT EARN HAPPINESS**

Happiness is being satisfied with what you have.

Success comes from dissatisfaction. Choose.

**Confucius says you have two lives, and the second one begins when you realize you only have one. When and how did your second life begin?**

That's a very deep question. Most people who are past a certain age have had this feeling or phenomenon; they've gone

through life a certain way and then gotten to a certain stage and had to make some pretty big changes. I'm definitely also in that boat.

I struggled for a lot of my life to have certain material and social successes. When I achieved those material and social successes (or at least was beyond a point where they didn't matter as much), I realized the people around me who had achieved similar successes and were on their way to achieving more didn't seem all that happy. In my case, there was definitely hedonic adaptation: I'd very quickly get used to anything.

This led me to the conclusion, which seems trite, that happiness is internal. That conclusion set me on a path of working more on my internal self and realizing all real success is internal and has very little to do with external circumstances.

One has to do the external thing anyway. We're biologically hard-wired. It's glib to say, "You can just turn it off." Your own life experience will bring you back to the internal path. [7]

The problem with getting good at a game, especially one with big rewards, is you continue playing it long after you should have outgrown it.

Survival and replication drive put us on the work treadmill. Hedonic adaptation keeps us there. The trick is knowing when to jump off and play instead.

**Who do you think of as successful?**

Most people think of someone as successful when they win a game, whatever game they play themselves. If you're an athlete, you're going to think of a top athlete. If you're in business, you might think Elon Musk.

A few years ago, I would have said Steve Jobs, because he was part of the driving force creating something that changed lives for all of humanity. I think Marc Andreessen is successful, not because of his recent incarnation as a venture capitalist, but because of the incredible work he did with Netscape. Satoshi Nakamoto is successful in that he created Bitcoin, which is this incredible technological creation that will have repercussions for decades to come. Of course, Elon Musk, because he changed everyone's viewpoint on what is possible with modern technology and entrepreneurship. I consider those creators and commercializers successful.

To me, the real winners are the ones who step out of the game entirely, who don't even play the game, who rise above it. Those are the people who have such internal mental and self-control and self-awareness, they need nothing from anybody else. There are a couple of these characters I know in my life. Jerzy Gregorek—I would consider him successful because he doesn't need anything from anybody. He's at peace, he's healthy, and whether he makes more money or less money compared to the next person has no effect on his mental state.

Historically, I would say the legendary Buddha or Krishnamurti, whose stuff I like reading, they are successful in the sense that they step out of the game entirely. Winning or losing does not matter to them.

There's a line from Blaise Pascal I read. Basically, it says: "All of

man's troubles arise because he cannot sit in a room quietly by himself." If you could just sit for thirty minutes and be happy, you are successful. That is a very powerful place to be, but very few of us get there. [6]

I think of happiness as an emergent property of peace. If you're peaceful inside and out, that will eventually result in happiness. But peace is a very hard thing to come by. The irony is the way most of us try to find peace is through war. When you start a business, in a way, you're going to war. When you struggle with your roommates as to who should clean the dishes, you're going to war. You're struggling so you can have some sense of security and peace later.

In reality, peace is not a guarantee. It's always flowing. It's always changing. You want to learn the core skill set of flowing with life and accepting it in most cases. [8]

You can get almost anything you want out of life, as long as it's one thing and you want it far more than anything else.

In my own personal experience, the place I end up the most is wanting to be at peace.

Peace is happiness at rest, and happiness is peace in motion. You can convert peace into happiness anytime you want. But peace is what you want most of the time. If you're a peaceful person, anything you do will be a happy activity.

Today, the way we think you get peace is by resolving all your external problems. But there are unlimited external problems.

The only way to actually get peace on the inside is by giving up this idea of problems. [77]

## **ENVY IS THE ENEMY OF HAPPINESS**

I don't think life is that hard. I think we make it hard. One of the things I'm trying to get rid of is the word "should." Whenever the word "should" creeps up in your mind, it's guilt or social programming. Doing something because you "should" basically means you don't actually want to do it. It's just making you miserable, so I'm trying to eliminate as many "shoulds" from my life as possible. [1]

The enemy of peace of mind is expectations drilled into you by society and other people.

Socially, we're told, "Go work out. Go look good." That's a multi-player competitive game. Other people can see if I'm doing a good job or not. We're told, "Go make money. Go buy a big house." Again, external multiplayer competitive game. Training yourself to be happy is completely internal. There is no external progress, no external validation. You're competing against yourself—it is a single-player game.

We're like bees or ants. We are such social creatures, we're externally programmed and driven. We don't know how to play and win these single-player games anymore. We compete purely in multiplayer games.

The reality is life is a single-player game. You're born alone. You're going to die alone. All of your interpretations are alone.

All your memories are alone. You're gone in three generations, and nobody cares. Before you showed up, nobody cared. It's all single player.

Perhaps one reason why yoga and meditation are hard to sustain is they have no extrinsic value. Purely single-player games.

**Buffett has a great example when he asks if you want to be the world's best lover and known as the worst, or the world's worst lover and known as the best? [paraphrased] in reference to an inner or external scorecard.**

Exactly right. All the real scorecards are internal.

Jealousy was a very hard emotion for me to overcome. When I was young, I had a lot of jealousy. By and by, I learned to get rid of it. It still crops up every now and then. It's such a poisonous emotion because, at the end of the day, you're no better off with jealousy. You're unhappier, and the person you're jealous of is still successful or good-looking or whatever they are.

One day, I realized with all these people I was jealous of, I couldn't just choose little aspects of their life. I couldn't say I want his body, I want her money, I want his personality. You have to be that person. Do you want to actually be that person with all of their reactions, their desires, their family, their happiness level, their outlook on life, their self-image? If you're not willing to do a wholesale, 24/7, 100 percent swap with who that person is, then there is no point in being jealous.

Once I came to that realization, jealousy faded away because I don't want to be anybody else. I'm perfectly happy being me. By the way, even that is under my control. To be happy being me. It's just there are no social rewards for it. [4]

## HAPPINESS IS BUILT BY HABITS

My most surprising discovery in the last five years is that peace and happiness are skills. These are not things you are born with. Yes, there is a genetic range. And a lot of it is conditioning from your environment, but you can un-condition and recondition yourself.

You can increase your happiness over time, and it starts with believing you can do it.

It's a skill. Just like nutrition is a skill, dieting is a skill, working out is a skill, making money is a skill, meeting girls and guys is a skill, having good relationships is a skill, even love is a skill. It starts with realizing they're skills you can learn. When you put your intention and focus on it, the world can become a better place.

When working, surround yourself with people more successful than you.

When playing, surround yourself with people happier than you.

## What type of skill is happiness?

It's all trial and error. You just see what works. You can try sitting meditation. Did that work for you? Was it Tantra meditation or was it Vipassana meditation? Was it a ten-day retreat or was twenty minutes enough?

Okay. None of those worked. But what if I tried yoga? What if I kite-surfed? What if I go car racing? What about cooking? Does that make me Zen? You literally have to try all of these things until you find something that works for you.

When it comes to medicines for the mind, the placebo effect is 100 percent effective. When it comes to your mind, you want to be positively inclined, not incredulous in belief. If it is fully internal, you should have a positive mindset.

For example, I was reading *The Power of Now* by Eckhart Tolle, which is a fantastic introduction to being present, for people who are not religious. He shows you the single-most important thing is to be present and hammers it home over and over again until you get it.

He wrote about this body-energy exercise. You lie down and you feel the energy moving around your body. At that point, the old me would have put the book down and said, "Well, that's BS." But the new me said, "Well, if I believe it, maybe it'll work." I went into it with a positive mindset. I laid down and tried the meditation. You know what? It felt really good.

### **How does someone build the skill of happiness?**

You can build good habits. Not drinking alcohol will keep your mood more stable. Not eating sugar will keep your mood more stable. Not going on Facebook, Snapchat, or Twitter will keep

your mood more stable. Playing video games will make you happier in the short run—and I used to be an avid gamer—but in the long run, it could ruin your happiness. You’re being fed dopamine and having dopamine withdrawn from you in these little uncontrollable ways. Caffeine is another one where you trade long term for the short term.

Essentially, you have to go through your life replacing your thoughtless bad habits with good ones, making a commitment to be a happier person. At the end of the day, you are a combination of your habits and the people who you spend the most time with.

When we’re kids, we have very few habits. Over time, we learn the things we are not supposed to do. We become self-conscious. We start forming habits and routines.

Many distinctions between people who get happier as they get older and people who don’t can be explained by what habits they have developed. Are they habits that will increase your long-term happiness rather than your short-term happiness? Are you surrounding yourself with people who are generally positive and upbeat people? Are those relationships low-maintenance? Do you admire and respect but not envy them?

There’s the “five chimps theory” where you can predict a chimp’s behavior by the five chimps it hangs out with the most. I think that applies to humans as well. Maybe it’s politically incorrect to say you should choose your friends very wisely. But you shouldn’t choose them haphazardly based on who you live next to or who you happen to work with. The people who are the most happy and optimistic choose the right five chimps. [8]

The first rule of handling conflict is: Don't hang around people who constantly engage in conflict. I'm not interested in anything unsustainable or even hard to sustain, including difficult relationships. [5]

If you can't see yourself working with someone for life, don't work with them for a day.

There's a friend of mine, a Persian guy named Behzad. He just loves life, and he has no time for anybody who is not happy.

If you ask Behzad what's his secret? He'll just look up and say, "Stop asking why and start saying wow." The world is such an amazing place. As humans, we're used to taking everything for granted. Like what you and I are doing right now. We're sitting indoors, wearing clothes, well-fed, and communicating with each other through space and time. We should be two monkeys sitting in the jungle right now watching the sun going down, asking ourselves where we are going to sleep.

When we get something, we assume the world owes it to us. If you're present, you'll realize how many gifts and how much abundance there is around us at all times. That's all you really need to do. I'm here now, and I have all these incredible things at my disposal. [8]

The most important trick to being happy is to realize happiness is a skill you develop and a choice you make. You choose to be happy, and then you work at it. It's just like building muscles. It's just like losing weight. It's just like succeeding at your job. It's just like learning calculus.

You decide it's important to you. You prioritize it above everything else. You read everything on the topic. [7]

## HAPPINESS HABITS

I have a series of tricks I use to try and be happier in the moment. At first, they were silly and difficult and required a lot of attention, but now some of them have become second nature. By doing them religiously, I've managed to increase my happiness level quite a bit.

The obvious one is meditation—insight meditation. Working toward a specific purpose on it, which is to try and understand how my mind works. [7]

Just being very aware in every moment. If I catch myself judging somebody, I can stop myself and say, "What's the positive interpretation of this?" I used to get annoyed about things. Now I always look for the positive side of it. It used to take a rational effort. It used to take a few seconds for me to come up with a positive. Now I can do it sub-second. [7]

I try to get more sunlight on my skin. I look up and smile. [7]

Every time you catch yourself desiring something, say, "Is it so important to me I'll be unhappy unless this goes my way?" You're going to find with the vast majority of things it's just not true. [7]

I think dropping caffeine made me happier. It makes me more of a stable person. [7]

I think working out every day made me happier. If you have peace of body, it's easier to have peace of mind. [7]

The more you judge, the more you separate yourself. You'll feel good for an instant, because you feel good about yourself, thinking you're better than someone. Later, you're going to feel lonely. Then, you see negativity everywhere. The world just reflects your own feelings back at you. [77]

Tell your friends you're a happy person. Then, you'll be forced to conform to it. You'll have a consistency bias. You have to live up to it. Your friends will expect you to be a happy person. [5]

Recover time and happiness by minimizing your use of these three smartphone apps: phone, calendar, and alarm clock. [11]

The more secrets you have, the less happy you're going to be. [11]

Caught in a funk? Use meditation, music, and exercise to reset your mood. Then choose a new path to commit emotional energy for rest of day. [11]

Hedonic adaptation is more powerful for man-made things (cars, houses, clothes, money) than for natural things (food, sex, exercise). [11]

No exceptions—all screen activities linked to less happiness, all non-screen activities linked to more happiness. [11]

A personal metric: how much of the day is spent doing things out of obligation rather than out of interest? [11]

It's the news' job to make you anxious and angry. But its underlying scientific, economic, education, and conflict trends are positive. Stay optimistic. [11]

Politics, academia, and social status are all zero-sum games. Positive-sum games create positive people. [11]

Increase serotonin in the brain without drugs: Sunlight, exercise, positive thinking, and tryptophan. [11]

#### CHANGING HABITS:

Pick one thing. Cultivate a desire. Visualize it.

Plan a sustainable path.

Identify needs, triggers, and substitutes.

Tell your friends.

Track meticulously.

Self-discipline is a bridge to a new self-image.

Bake in the new self-image. It's who you are—now. [11]

First, you know it. Then, you understand it. Then, you can explain it. Then, you can feel it. Finally, you are it.

#### FIND HAPPINESS IN ACCEPTANCE

In any situation in life, you always have three choices: you can change it, you can accept it, or you can leave it.

If you want to change it, then it is a desire. It will cause you

suffering until you successfully change it. So don't pick too many of those. Pick one big desire in your life at any given time to give yourself purpose and motivation.

### **Why not two?**

You'll be distracted.

Even one is hard enough. Being peaceful comes from having your mind clear of thoughts. And a lot of clarity comes from being in the present moment. It's very hard to be in the present moment if you're thinking, "I need to do this. I want that. This has got to change." [8]

You always have three options: you can change it, you can accept it, or you can leave it. What is not a good option is to sit around wishing you would change it but not changing it, wishing you could leave it but not leaving it and not accepting it. That struggle or aversion is responsible for most of our misery. The phrase I probably use the most to myself in my head is just one word: "accept." [5]

### **What does acceptance look like to you?**

It's to be okay whatever the outcome is. It's to be balanced and centered. It's to step back and to see the grander scheme of things.

We don't always get what we want, but sometimes what is happening is for the best. The sooner you can accept it as a reality, the sooner you can adapt to it.

Achieving acceptance is very difficult. I have a couple of hacks I try, but I wouldn't say they are totally successful.

One hack is stepping back and looking at previous bits of suffering I've had in my life. I write them down. "Last time you broke up with somebody, last time you had a business failure, last time you had a health issue, what happened?" I can trace the growth and improvement that came from it years later.

I have another hack I use for minor annoyances. When they happen, a part of me will instantly react negatively. But I've learned to mentally ask myself, "What is the positive of this situation?"

"Okay, I'll be late for a meeting. But what is the benefit to me? I get to relax and watch the birds for a moment. I'll also spend less time in that boring meeting." There's almost always something positive.

Even if you can't come up with something positive, you can say, "Well, the Universe is going to teach me something now. Now I get to listen and learn."

To give you the simplest example: I was at an event and afterward, someone flooded my inbox with a whole bunch of photos they took.

There was a tiny instant judgment saying, "Come on, couldn't you have just selected a few of the best? Who sends a hundred photos?" But then immediately I asked myself, "What is the positive?" The positive is that I get to pick my five favorite photos. I get to use my judgment.

Over the last year, by practicing this hack enough, I've managed to go from taking a couple of seconds to think of a response, to

now my brain doing it almost instantaneously. That's a habit you can train yourself to do. [8]

### **How do you learn to accept things you can't change?**

Fundamentally, it boils down to one big hack: embracing death.

Death is the most important thing that is ever going to happen to you. When you look at your death and you acknowledge it, rather than running away from it, it'll bring great meaning to your life. We spend so much of our life trying to avoid death. So much of what we struggle for can be classified as a quest for immortality.

If you're religious and believe there is an afterlife, then you'll be taken care of. If you're not religious, maybe you'll have kids. If you're an artist, a painter, or a businessman, you want to leave a legacy behind.

Here's a hot tip: There is no legacy. There's nothing to leave. We're all going to be gone. Our children will be gone. Our works will be dust. Our civilizations will be dust. Our planet will be dust. Our solar system will be dust. In the grand scheme of things, the Universe has been around for ten billion years. It'll be around for another ten billion years.

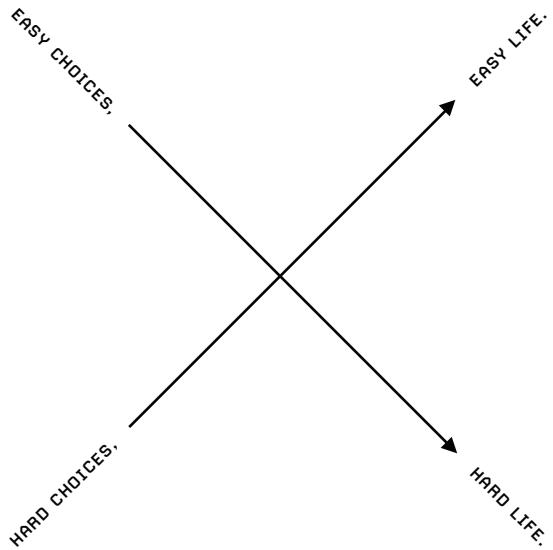
Your life is a firefly blink in a night. You're here for such a brief period of time. If you fully acknowledge the futility of what you're doing, then I think it can bring great happiness and peace because you realize this is a game. But it's a fun game. All that matters is you experience your reality as you go through life. Why not interpret it in the most positive possible way?

Any moment where you're not having a great time, when you're not really happy, you're not doing anyone any favors. It's not like your unhappiness makes them better off somehow. All you're doing is wasting this incredibly small and precious time you have on this Earth. Keeping death on the forefront and not denying it is very important.

Whenever I get caught up in my ego battles, I just think of entire civilizations that have come and gone. For example, take the Sumerians. I'm sure they were important people and did great things, but go ahead and name me a single Sumerian. Tell me anything interesting or important Sumerians did that lasted. Nothing.

So maybe ten thousand years from now or a hundred thousand years from now, people will say, "Oh yeah, Americans. I've heard of Americans." [8]

You're going to die one day, and none of this is going to matter. So enjoy yourself. Do something positive. Project some love. Make someone happy. Laugh a little bit. Appreciate the moment. And do your work. [8]



# I SAVING YOURSELF

Doctors won't make you healthy.  
Nutritionists won't make you slim.  
Teachers won't make you smart.  
Gurus won't make you calm.  
Mentors won't make you rich.  
Trainers won't make you fit.

Ultimately, you have to take responsibility.

Save yourself.

## CHOOSING TO BE YOURSELF

A lot of what goes on today is what many of you are doing right now—beating yourself up and scribbling notes and saying, “I need to do this, and I need to do that, and I need to do...” No, you don’t need to do anything.

All you should do is what you want to do. If you stop trying to figure out how to do things the way other people want you to do them, you get to listen to the little voice inside your head that wants to do things a certain way. Then, you get to be you.

I never met my greatest mentor. I wanted so much to be like him. But his message was the opposite: Be yourself, with passionate intensity.

No one in the world is going to beat you at being you. You’re never going to be as good at being me as I am. I’m never going to be as good at being you as you are. Certainly, listen and absorb, but don’t try to emulate. It’s a fool’s errand. Instead, each person is uniquely qualified at something. They have some specific knowledge, capability, and desire nobody else in the world does, purely from the combinatorics of human DNA and development.

The combinatorics of human DNA and experience are staggering. You will never meet any two humans who are substitutable for each other.

Your goal in life is to find the people, business, project, or art that needs you the most. There is something out there just for you. What you don't want to do is build checklists and decision frameworks built on what other people are doing. You're never going to be them. You'll never be good at being somebody else. [4]

To make an original contribution, you have to be irrationally obsessed with something.

## **CHOOSING TO CARE FOR YOURSELF**

My number one priority in life, above my happiness, above my family, above my work, is my own health. It starts with my physical health. Second, it's my mental health. Third, it's my spiritual health. Then, it's my family's health. Then, it's my family's wellbeing. After that, I can go out and do whatever I need to do with the rest of the world. [4]

Nothing like a health problem to turn up the contrast dial for the rest of life.

### **What about the modern world steers us away from the way humans are meant to live?**

There are many, many things.

There are a number on the physical side. We have diets we are not evolved to eat. A correct diet should probably look closer to a paleo diet, mostly eating vegetables with a small amount of meat and berries.

In terms of exercise, we're probably meant to play instead of running on a treadmill. We're probably evolved to use all of our five senses equally as opposed to favoring the visual cortex. In modern society, almost all of our inputs and communication are visual. We're not meant to walk in shoes. A lot of back and foot problems come from shoes. We're not meant to have clothes keep us warm all of the time. We're meant to have some cold exposure. It kickstarts your immune system.

We're not evolved to live in a perfectly sterile and clean envi-

ronment. It leads to allergies and an untrained immune system. This is known as the hygiene hypothesis. We're evolved to live in much smaller tribes and to have more family around us. I partially grew up in India, and in India, everybody is in your business. There's a cousin, an aunt, an uncle who is in your face, which makes it hard to be depressed, because you are never alone. (I'm not referring to people with chemical depression. I'm talking more about the existential angst and malaise teenagers seem to go through.) But on the other hand, you have no privacy, so you can't be free. There are trade-offs.

We're not meant to check our phone every five minutes. The constant mood swings of getting a "like" then an angry comment makes us into anxious creatures. We evolved for scarcity but live in abundance. There's a constant struggle to say no when your genes always want to say yes. Yes to sugar. Yes to staying in this relationship. Yes to alcohol. Yes to drugs. Yes, yes, yes. Our bodies don't know how to say no. [8]

When everyone is sick, we no longer consider it a disease.

## DIET

Outside of math, physics, and chemistry, there isn't much "settled science." We're still arguing over what the optimal diet is.

**Do you have an opinion on the ketogenic diet?**

It seems really difficult to follow. It makes sense for the brain and the body to have a backup mechanism. For example, in the Ice Ages, humans evolved without many plants available. At the same time, we have been eating plants for thousands of years...I don't think plants are bad for you, but something closer to the paleo diet is probably correct.

I think the interplay between sugar and fat is really interesting. Fat is what makes you satiated. Fatty foods make you feel full. The easiest way to feel full is to go on a ketogenic diet, where you're eating tons of bacon all the time, and you're going to feel almost nauseous and not want to look at fat anymore.

Sugar makes you hungry. Sugar signals to your body, "There's this incredible food resource in the environment we're not evolved for," so you rush out to get sugar. The problem is the sugar effect dominates the fat effect. If you eat a fatty meal and you throw some sugar in, the sugar is going to deliver hunger and fat is going to deliver the calories and you're just going to binge. That's why all desserts are large combinations of fat and carbs together.

In nature, it's very rare to find carbs and fat together. In nature, I find carbs and fat together in coconuts, in mangoes, maybe in bananas, but it's basically tropical fruits. The combination of sugar and fat together is really deadly. You've got to watch out for that in your diet.

I'm not an expert, and the problem is diet and nutrition are like politics: everybody thinks they're an expert. Their identity is wrapped up in it because what they've been eating or what they think they should be eating is obviously the correct answer. Everybody has a little religion—it's just a really difficult topic

to talk about. I will just say in general, any sensible diet avoids the combination of sugar and fat together. [2]

Dietary fat drives satiety. Dietary sugar drives hunger. The sugar effect dominates. Control your appetite accordingly.

Most fit and healthy people focus much more on what they eat than how much. Quality control is easier than (and leads to) quantity control. [11]

Ironically, fasting (from a low-carb/paleo base) is easier than portion control. Once the body detects food, it overrides the brain. [11]

What I wonder about Wonder Bread is how it can stay soft at room temperature for months. If bacteria won't eat it, should you? [11]

It has been five thousand years, and we're still arguing over whether meat is poisonous or plants are poisonous. Ditch the extremists and any food invented in the last few hundred years. [11]

When it comes to medicine and nutrition, subtract before you add. [11]

My trainer sends me photos of his meals, and it reminds me we are all flavor addicts. [11]

World's simplest diet: The more processed the food, the less one should consume.

## EXERCISE

The harder the workout, the easier the day.

### What habit would you say most positively impacts your life?

The daily morning workout. That has been a complete game-changer. It's made me feel healthier, younger. It's made me not go out late. It came from one simple thing, which is everybody says, "I don't have time." Basically, whenever you throw any so-called good habit at somebody, they'll have an excuse for themselves. Usually the most common is "I don't have time." "I don't have time" is just another way of saying "It's not a priority." What you really have to do is say whether it is a priority or not. If something is your number one priority, then you will do it. That's just the way life works. If you've got a fuzzy basket of ten or fifteen different priorities, you're going to end up getting none of them.

What I did was decide my number one priority in life, above my happiness, above my family, above my work, is my own health. It starts with my physical health. [4] Because my physical health became my number one priority, then I could never say I don't have time. In the morning, I work out, and however long it takes is how long it takes. I do not start my day until I've worked out. I don't care if the world is imploding and melt-

ing down, it can wait another thirty minutes until I'm done working out.

It's pretty much every day. There are a few days where I've had to take a break because I'm traveling, or I'm injured or sick or something. I can count on one hand the number of breaks I take every year. [4]

One month of consistent yoga and I feel 10 years younger. To stay flexible is to stay young.

How you make a habit doesn't matter. Do something every day. It almost doesn't matter what you do. The people who are obsessing over whether to do weight training, tennis, Pilates, the high-intensity interval training method, "The Happy Body;" or whatever. They're missing the point. The important thing is to do something every day. It doesn't matter what it is. The best workout for you is one you're excited enough to do every day. [4]

Walking meetings:

- Brain works better
- Exercise & sunlight
- Shorter, less pleasantries
- More dialogue, less monologue
- No slides
- End easily by walking back

Like everything in life, if you are willing to make the short-term sacrifice, you'll have the long-term benefit. My physical trainer

(Jerzy Gregorek) is a really wise, brilliant guy. He always says, “Easy choices, hard life. Hard choices, easy life.”

Basically, if you are making the hard choices right now in what to eat, you’re not eating all the junk food you want, and making the hard choice to work out. So, your life long-term will be easy. You won’t be sick. You won’t be unhealthy. The same is true of values. The same is true of saving up for a rainy day. The same is true of how you approach your relationships. **If you make the easy choices right now, your overall life will be a lot harder.** [4]

MEDITATION  
IS

INTERMITTENT  
FASTING

FOR THE MIND.

## MEDITATION + MENTAL STRENGTH

An emotion is our evolved biology predicting the future impact of a current event. In modern settings, it's usually exaggerated or wrong.

### Why is meditation so powerful?

Your breath is one of the few places where your autonomic nervous system meets your voluntary nervous system. It's involuntary, but you can also control it.

I think a lot of meditation practices put an emphasis on the breath because it is a gateway into your autonomic nervous system. There are many, many cases in the medical and spiritual literature of people controlling their bodies at levels that should be autonomous.

Your mind is such a powerful thing. What's so unusual about your forebrain sending signals to your hindbrain and your hindbrain routing resources to your entire body?

You can do it just by breathing. Relaxed breathing tells your body you're safe. Then, your forebrain doesn't need as many resources as it normally does. Now, the extra energy can be sent to your hindbrain, and it can reroute those resources to the rest of your body.

I'm not saying you can beat whatever illness you have just because you activated your hindbrain. But you're devoting most of the energy normally required to care about the external environment to the immune system.

I highly recommend listening to the Tim Ferriss's podcast with Wim Hof. He is a walking miracle. Wim's nickname is the Ice Man. He holds the world record for the longest time spent in an ice bath and swimming in freezing cold water. I was very inspired by him, not only because he's capable of super-human physical feats, but because he does it while being incredibly kind and happy—which is not easy to accomplish.

He advocates cold exposure, because he believes people are too separate from their natural environment. We're constantly clothed, fed, and warm. Our bodies have lost touch with the cold. The cold is important because it can activate the immune system.

So, he advocates taking long ice baths. Being from the Indian subcontinent, I'm strongly against the idea of ice baths. But Wim inspired me to give cold showers a try. And I did so by using the Wim Hof breathing method. It involves hyperventilating to get more oxygen into your blood, which raises your core temperature. Then, you can go into the shower.

The first few cold showers were hilarious because I'd slowly ease myself in, wincing the entire way. I started about four or five months ago. Now, I turn the shower on full-blast, and then I walk right in. I don't give myself any time to hesitate. As soon as I hear the voice in my head telling me how cold it's going to be, I know I have to walk in.

I learned a very important lesson from this: most of our suffering comes from avoidance. Most of the suffering from a cold shower is the tip-toeing your way in. Once you're in, you're in. It's not suffering. It's just cold. Your body saying it's cold is different than your mind saying it's cold. Acknowledge your

body saying it's cold. Look at it. Deal with it. Accept it, but don't mentally suffer over it. Taking a cold shower for two minutes isn't going to kill you.

Having a cold shower helps you re-learn that lesson every morning. Now hot showers are just one less thing I need out of life. [2]

Meditation is intermittent fasting for the mind.

Too much sugar leads to a heavy body, and too many distractions lead to a heavy mind.

Time spent undistracted and alone, in self-examination, journaling, meditation, resolves the unresolved and takes us from mentally fat to fit.

### **Do you have a current meditation practice?**

I think meditation is like dieting, where everyone is supposedly following a regimen. Everyone says they do it, but nobody actually does it. The real set of people who meditate on a regular basis, I've found, are pretty rare. I've identified and tried at least four different forms of meditation.

The one I found works best for me is called Choiceless Awareness, or Nonjudgmental Awareness. As you're going about your daily business (hopefully, there's some nature) and you're not talking to anybody else, you practice learning to accept the moment you're in without making judgments. You don't think, "Oh, there's a homeless guy over there, better cross the street"

or look at someone running by and say, “He’s out of shape, and I’m in better shape than him.”

If I saw a guy with a bad hair day, I would at first think “Haha, he has a bad hair day.” Well, why am I laughing at him to make me feel better about myself? And why am I trying to make me feel better about my own hair? Because I’m losing my hair, and I’m afraid it’s going to go away. What I find is 90 percent of thoughts I have are fear-based. The other 10 percent may be desire-based.

You don’t make any decisions. You don’t judge anything. You just accept everything. If I do that for ten or fifteen minutes while walking around, I end up in a very peaceful, grateful state. Choiceless Awareness works well for me. [6]

You could also do transcendental meditation, which is where you’re using repetitive chanting to create a white noise in your head to bury your thoughts. Or, you can just very keenly and very alertly be aware of your thoughts as they happen. As you watch your thoughts, you realize how many of them are fear-based. The moment you recognize a fear, without even trying it goes away. After a while, your mind quiets.

When your mind quiets, you stop taking everything around you for granted. You start to notice the details. You think, “Wow, I live in such a beautiful place. It’s so great that I have clothes, and I can go to Starbucks and get a coffee anytime. Look at these people—each one has a perfectly valid and complete life going on in their own heads.”

It pops us out of the story we’re constantly telling ourselves. If you stop talking to yourself for even ten minutes, if you stop

obsessing over your own story, you'll realize we are really far up Maslow's hierarchy of needs, and life is pretty good. [6]

Life-hack: When in bed, meditate. Either you will have a deep meditation or fall asleep. Victory either way.

Another method I've learned is to just sit there and you close your eyes for at least one hour a day. You surrender to whatever happens—don't make any effort whatsoever. You make no effort for something, and you make no effort against anything. If there are thoughts running through your mind, you let the thoughts run.

For your entire life, things have been happening to you. Some good, some bad, most of which you have processed and dissolved, but a few stuck with you. Over time, more and more stuck with you, and they almost became like these barnacles stuck to you.

You lost your childhood sense of wonder and of being present and happy. You lost your inner happiness because you built up this personality of unresolved pain, errors, fears, and desires that glommed onto you like a bunch of barnacles.

How do you get those barnacles off you? What happens in meditation is you're sitting there and not resisting your mind. These things will start bubbling up. It's like a giant inbox of unanswered emails, going back to your childhood. They will come out one by one, and you will be forced to deal with them.

You will be forced to resolve them. Resolving them doesn't take

any work—you just observe them. Now you’re an adult with some distance, time, and space from previous events, and you can just resolve them. You can be much more objective about how you view them.

Over time, you will resolve a lot of these deep-seated unresolved things you have in your mind. Once they’re resolved, there will come a day when you sit down to meditate, and you’ll hit a mental “inbox zero.” When you open your mental “email” and there are none, that is a pretty amazing feeling.

It’s a state of joy and bliss and peace. Once you have it, you don’t want to give it up. If you can get a free hour of bliss every morning just by sitting and closing your eyes, that is worth its weight in gold. It will change your life.

I recommend meditating one hour each morning because anything less is not enough time to really get deep into it. I would recommend if you really want to try meditation, try sixty days of one hour a day, first thing in the morning. After about sixty days, you will be tired of listening to your own mind. You will have resolved a lot of issues, or you have heard them enough to see through those fears and issues.

Meditation isn’t hard. All you have to do is sit there and do nothing. Just sit down. Close your eyes and say, “I’m just going to give myself a break for an hour. This is my hour off from life. This is the hour I’m not going to do anything.

“If thoughts come, thoughts come. I’m not going to fight them. I’m not going to embrace them. I’m not going to think harder about them. I’m not going to reject them. I’m just going to sit here for an hour with my eyes closed, and I’m going to do

nothing.” How hard is that? Why can you not do anything for an hour? What’s so hard about giving yourself an hour-long break? [74]

**Was there a moment you realized you could control how you interpreted things? I think one problem people have is not recognizing they can control how they interpret and respond to a situation.**

I think everyone knows it’s possible. There’s a great Osho lecture, titled “The Attraction for Drugs Is Spiritual.” He talks about why do people do drugs (everything from alcohol to psychedelics to cannabis). They’re doing it to control their mental state. They’re doing it to control how they react. Some people drink because it helps them not care as much, or they’re pot-heads because they can zone out, or they do psychedelics to feel very present or connected to nature. The attraction of drugs is spiritual.

All of society does this to some extent. People chasing thrills in action sports or flow states or orgasms—any of these states people strive for are people trying to get out of their own heads. They’re trying to get away from the voice in their heads—the overdeveloped sense of self.

At the very least, I do not want my sense of self to continue to develop and strengthen as I get older. I want it to be weaker and more muted so I can be more in present everyday reality, accept nature and the world for what it is, and appreciate it very much as a child would. [4]

The first thing to realize is you can observe your mental state. Meditation doesn’t mean you’re suddenly going to gain the

superpower to control your internal state. The advantage of meditation is recognizing just how out of control your mind is. It is like a monkey flinging feces, running around the room, making trouble, shouting, and breaking things. It's completely uncontrollable. It's an out-of-control madperson.

You have to see this mad creature in operation before you feel a certain distaste toward it and start separating yourself from it. In that separation is liberation. You realize, "Oh, I don't want to be that person. Why am I so out of control?" Awareness alone calms you down. [4]

Insight meditation lets you run your brain in debug mode until you realize you're just a subroutine in a larger program.

I try to keep an eye on my internal monologue. It doesn't always work. In the computer programming sense, I try to run my brain in "debugging mode" as much as possible. When I'm talking to someone, or when I'm engaged in a group activity, it's almost impossible because your brain has too many things to handle. If I'm by myself, like just this morning, I'm brushing my teeth and I start thinking forward to a podcast. I started going through this little fantasy where I imagined Shane asking me a bunch of questions and I was fantasy- answering them. Then, I caught myself. I put my brain in debug mode and just watched every little instruction go by.

I said, "Why am I fantasy-future planning? Why can't I just stand here and brush my teeth?" It's the awareness my brain was running off in the future and planning some fantasy scenario out of ego. I was like, "Well, do I really care if I embarrass

myself? Who cares? I'm going to die anyway. This is all going to go to zero, and I won't remember anything, so this is pointless."

Then, I shut down, and I went back to brushing my teeth. I was noticing how good the toothbrush was and how good it felt. Then the next moment, I'm off to thinking something else. I have to look at my brain again and say, "Do I really need to solve this problem right now?"

Ninety-five percent of what my brain runs off and tries to do, I don't need to tackle in that exact moment. If the brain is like a muscle, I'll be better off resting it, being at peace. When a particular problem arises, I'll immerse myself in it.

Right now as we're talking, I'd rather dedicate myself to being completely lost in the conversation and to being 100 percent focused on this as opposed to thinking about "Oh, when I brushed my teeth, did I do it the right way?"

The ability to singularly focus is related to the ability to lose yourself and be present, happy, and (ironically) more effective. [4]

**It's almost like you're taking yourself out of a certain frame and you're watching things from a different perspective even though you're in your own mind.**

Buddhists talk about awareness versus the ego. They're really talking about how you can think of your brain, your consciousness, as a multilayered mechanism. There's a core-base, kernel-level OS running. Then, there are applications running on top. (I like to think of it as computer and geek speak.)

I'm actually going back to my awareness level of OS, which is

always calm, always peaceful, and generally happy and content. I'm trying to stay in awareness mode and not activate the monkey mind, which is always worried, frightened, and anxious. It serves incredible purpose, but I try not to activate the monkey mind until I need it. When I need it, I want to just focus on that. If I run it 24/7, I waste energy and the monkey mind becomes me. I am more than my monkey mind.

Another thing: spirituality, religion, Buddhism, or anything you follow will teach you over time you are more than just your mind. You are more than just your habits. You are more than just your preferences. You're a level of awareness. You're a body. Modern humans, we don't live enough in our bodies. We don't live enough in our awareness. We live too much in this internal monologue in our heads. All of which is just programmed into you by society and by the environment when you were younger.

You are basically a bunch of DNA that reacted to environmental effects when you were younger. You recorded the good and bad experiences, and you use them to prejudge everything thrown against you. Then you're using those experiences, constantly trying and predict and change the future.

As you get older, the sum of preferences you've accumulated is very, very large. These habitual reactions end up as runaway freight trains controlling your mood. We should control our own moods. Why don't we study how to control our moods? What a masterful thing it would be if you could say, "Right now I would like to be in the curious state," and then you can genuinely get yourself into the curious state. Or say, "I want to be in a mourning state. I'm mourning a loved one, and I want to grieve for them. I really want to feel that. I don't want to be distracted by a computer programming problem due tomorrow."

The mind itself is a muscle—it can be trained and conditioned. It has been haphazardly conditioned by society to be out of our control. If you look at your mind with awareness and intent (a 24/7 job you’re working at every moment) I think you can unpack your own mind, your emotions, thoughts, and reactions. Then you can start reconfiguring. You can start rewriting this program to what you want. [4]

Meditation is turning off society and listening to yourself.

It only “works” when done for its own sake.

Hiking is walking meditation.

Journaling is writing meditation.

Praying is gratitude meditation.

Showering is accidental meditation.

Sitting quietly is direct meditation.

## CHOOSING TO BUILD YOURSELF

The greatest superpower is the ability to change yourself.

**What’s the biggest mistake you’ve made in your life and how did you recover?**

I've made a class of mistakes I would summarize the same way. The mistakes were obvious only in hindsight through one exercise, which is asking yourself: when you're thirty, what advice would you give your twenty-year-old self? And when you're forty, what advice would you give your thirty-year-old self? (Maybe if you're younger, you can do it by every five years.) Sit down and say, "Okay, 2007, what was I doing? How was I feeling? 2008, what was I doing? How was I feeling? 2009, what was I doing? How was I feeling?"

Life is going to play out the way it's going to play out. There will be some good and some bad. Most of it is actually just up to your interpretation. You're born, you have a set of sensory experiences, and then you die. How you choose to interpret those experiences is up to you, and different people interpret them in different ways.

Really, I wish I had done all of the same things, but with less emotion and less anger. The most celebrated example would be when I was younger, I started a company. This company did well, but I didn't do well, so I sued some of the people involved. It was a good outcome for me in the end, and everything worked out okay, but there was a lot of angst and a lot of anger.

Today, I wouldn't have the angst and the anger. I would have just walked up to the people and said, "Look, this is what happened. This is what I'm going to do. This is how I'm going to do it. This is what's fair. This is what's not."

I would have realized the anger and emotions are a huge, completely unnecessary consequence. Now, I'm trying to learn from that and do the same things I think are the right things to do but without anger and with a very long-term point of

view. If you take a very long-term point of view and take the emotion out of it, I wouldn't consider those things mistakes anymore. [4]

Again, habits are everything—everything we are. We are trained in habits from when we are children, including potty training, when to cry and when not to, how to smile and when not to. These things become habits—behaviors we learn and integrate into ourselves.

When we're older, we're a collection of thousands of habits constantly running subconsciously. We have a little bit of extra brainpower in our neocortex for solving new problems. You become your habits.

This came to light for me when my trainer gave me a routine to do every single day. I had never worked out every single day before. It's a light workout. It's not tough on your body, but I did this workout every single day. I realized the incredible, astonishing transformation it had on me both physically and mentally.

To have peace of mind, you have to have peace of body first.

This taught me the power of habits. I started realizing it's all about habits. At any given time, I'm either trying to pick up a good habit or discard a previous bad habit. It takes time.

If someone says, "I want to be fit, I want to be healthy. Right now, I'm out of shape and I'm fat." Well, nothing sustainable is going to work for you in three months. It's going to be at least

a ten-year journey. Every six months (depending on how fast you can do it), you're going to break bad habits and pick up good habits. [6]

One of the things Krishnamurti talks about is being in an internal state of revolution. You should always be internally ready for a complete change. Whenever we say we're going to *try* to do something or *try* to form a habit, we're wimping out.

We're just saying to ourselves, "I'm going to buy myself some more time." The reality is when our emotions want us to do something, we just do it. If you want to go approach a pretty girl, if you want to have a drink, if you really desire something, you just go do it.

When you say, "I'm *going to* do this," and "I'm *going to be* that," you're really putting it off. You're giving yourself an out. At least if you're self-aware, you can think, "I say I want to do this, but I don't really because if I really wanted to do it, I would just do it."

Commit externally to enough people. For example, if you want to quit smoking, all you have to do is go to everybody you know and say, "I quit smoking. I did it. I give you my word."

That's all you need to do. Go ahead, right? But most of us say we're not quite ready. We know we don't want to commit ourselves externally. It's important to be honest with yourself and say, "Okay, I'm not ready to give up smoking. I like it too much, it is going to be too hard for me to give up."

Say instead, "I'll set a more reasonable goal for myself; I'll cut down to the following amount. I can commit to that externally. I'm going to work on that for three or six months. When I get

there, I'll take the next step, as opposed to beating myself up over it."

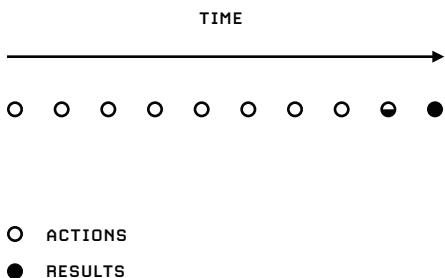
When you really want to change, you just change. But most of us don't really want to change—we don't want to go through the pain just yet. At least recognize it, be aware of it, and give yourself a smaller change you can actually carry out. [6]

Impatience with actions, patience with results.

Anything you have to do, just get it done. Why wait? You're not getting any younger. Your life is slipping away. You don't want to spend it waiting in line. You don't want to spend it traveling back and forth. You don't want to spend it doing things you know ultimately aren't part of your mission.

When you do them, you want to do them as quickly as you can while doing them well with your full attention. But then, you just have to be patient with the results because you're dealing with complex systems and many people.

It takes a long time for markets to adopt products. It takes time for people to get comfortable working with each other. It takes time for great products to emerge as you polish away, polish away, polish away. Impatience with actions, patience with results. As Nivi said, inspiration is perishable. When you have inspiration, act on it right then and there. [78]



## CHOOSING TO GROW YOURSELF

I don't believe in specific goals. Scott Adams famously said, "Set up systems, not goals." Use your judgment to figure out what kinds of environments you can thrive in, and then create an environment around you so you're statistically likely to succeed.

The current environment programs the brain, but the clever brain can choose its upcoming environment.

I'm not going to be the most successful person on the planet, nor do I want to be. I just want to be the most successful version of myself while working the least hard possible. I want to live in a way that if my life played out 1,000 times, Naval is successful 999 times. He's not a billionaire, but he does pretty well each time. He may not have nailed life in every regard, but he sets up systems so he's failed in very few places. [4]

Remember I started as a poor kid in India, right? If I can make it, anybody can, in that sense. Obviously, I had all my limbs, my mental faculties, and I did have an education. There are some prerequisites you can't get past. But if you're reading this book, you probably have the requisite means at your disposal, which is a functioning body and a functioning mind. [78]

If there's something you want to do later, do it now. There is no "later."

### How do you personally learn about new subjects?

Mostly, I just stay on the basics. Even when I learn physics or science, I stick to the basics. I read concepts for fun. I'm more likely to do something that has arithmetic in it than calculus. I won't be a great physicist at this point. Maybe in the next lifetime or my kid will do it, but it's too late for me. I have to stick to what I enjoy.

Science is, to me, the study of truth. It is the only true discipline because it makes falsifiable predictions. It actually changes the world. Applied science becomes technology, and technology is what separates us from the animals and allows us to have things like cell phones, houses, cars, heat, and electricity.

Science, to me, is the study of truth and mathematics is the language of science and nature.

I'm not religious, but I'm spiritual. To me, that is the most devotional thing that I could do, to study the laws of the Universe. The same kick that someone might get out of being in Mecca

or Medina and bowing to the prophet, I get the same feeling of awe and small sense of self when I study science. For me, it's unparalleled and I'd rather stay at the basics. This is the beauty of reading. [4]

**Do you agree with the idea “If you read what everybody else is reading, you’re going to think what everyone else is thinking”?**

I think almost everything that people read these days is designed for social approval. [4]

I know people who have read one hundred regurgitated books on evolution and they've never read Darwin. Think of the number of macroeconomists out there. I think most of them have read tons of treatises in economics but haven't read any Adam Smith.

At some level, you're doing it for social approval. You're doing it to fit in with the other monkeys. You're fitting in to get along with the herd. That's not where the returns are in life. The returns in life are being out of the herd.

Social approval is inside the herd. If you want social approval, definitely go read what the herd is reading. It takes a level of contrarianism to say, "Nope. I'm just going to do my own thing. Regardless of the social outcome, I will learn anything I think is interesting."

**Do you think there's some loss aversion there? Because once you diverge, you're not sure if you're diverging toward a positive outcome or a negative outcome?**

Absolutely. I think that's why the smartest and the most suc-

cessful people I know started out as losers. If you view yourself as a loser, as someone who was cast out by society and has no role in normal society, then you will do your own thing and you're much more likely to find a winning path. It helps to start out by saying, "I'm never going to be popular. I'm never going to be accepted. I'm already a loser. I'm not going to get what all the other kids have. I've just got to be happy being me."

For self-improvement without self-discipline, update your self-image.

Everyone's motivated at something. It just depends on the thing. Even the people that we say are unmotivated are suddenly really motivated when they're playing video games. I think motivation is relative, so you just have to find the thing you're into. [1]

Grind and sweat, toil and bleed, face the abyss. It's all part of becoming an overnight success.

**If you had to pass down to your kids one or two principles, what would they be?**

Number one: read. Read everything you can. And not just the stuff that society tells you is good or even books that I tell you to read. Just read for its own sake. Develop a love for it. Even if you have to read romance novels or paperbacks or comic books. There's no such thing as junk. Just read it all. Eventually, you'll guide yourself to the things that you should and want to be reading.

Related to the skill of reading are the skills of mathematics and persuasion. Both skills help you to navigate through the real world.

Having the skill of persuasion is important because if you can influence your fellow human beings, you can get a lot done. I think persuasion is an actual skill. So you can learn it, and it's not that hard to do so.

Mathematics helps with all the complex and difficult things in life. If you want to make money, if you want to do science, if you want to understand game theory or politics or economics or investments or computers, all of these things have mathematics at the core. It's a foundational language of nature.

Nature speaks in mathematics. Mathematics is us reverse engineering the language of nature, and we have only scratched the surface. The good news is you don't have to know a lot of math. You just have to know basic statistics, arithmetic, etc. You should know statistics and probability forwards and backwards and inside out. [8]

## CHOOSING TO FREE YOURSELF

The hardest thing is not doing what you want—it's knowing what you want.

Be aware there are no “adults.” Everyone makes it up as they go along. You have to find your own path, picking, choosing, and discarding as you see fit. Figure it out yourself, and do it. [71]

## How have your values changed?

When I was younger, I really, really valued freedom. Freedom was one of my core values. Ironically, it still is. It's probably one of my top three values, but it's now a different definition of freedom.

My old definition was "freedom to." Freedom to do anything I want. Freedom to do whatever I feel like, whenever I feel like. Now, the freedom I'm looking for is internal freedom. It's "freedom from." Freedom from reaction. Freedom from feeling angry. Freedom from being sad. Freedom from being forced to do things. I'm looking for "freedom from," internally and externally, whereas before I was looking for "freedom to." [4]

Advice to my younger self: "Be exactly who you are."

Holding back means staying in bad relationships and bad jobs for years instead of minutes.

## FREEDOM FROM EXPECTATIONS

I don't measure my effectiveness at all. I don't believe in self-measurement. I feel like this is a form of self-discipline, self-punishment, and self-conflict. [1]

If you hurt other people because they have expectations of you, that's their problem. If they have an agreement with you, it's your problem. But, if they have an expectation of you, that's completely their problem. It has nothing to do with you. They're going to have lots of expectations out of life. The sooner you can dash their expectations, the better. [1]

Courage isn't charging into a machine gun nest. Courage is not caring what other people think.

Anyone who has known me for a long time knows my defining characteristic is a combination of being very impatient and willful. I don't like to wait. I hate wasting time. I'm very famous for being rude at parties, events, dinners, where the moment I figure out it's a waste of my time, I leave immediately.

Value your time. It is all you have. It's more important than your money. It's more important than your friends. It is more important than anything. Your time is all you have. Do not waste your time.

This doesn't mean you can't relax. As long as you're doing what you want, it's not a waste of your time. But if you're not spending your time doing what you want, and you're not earning, and you're not learning—what the heck are you doing?

Don't spend your time making other people happy. Other people being happy is their problem. It's not your problem. If you are happy, it makes other people happy. If you're happy, other people will ask you how you became happy and they might learn from it, but you are not responsible for making other people happy. [10]

## FREEDOM FROM ANGER

What is anger? Anger is a way to signal as strongly as you can to the other party you're capable of violence. Anger is a precursor to violence.

Observe when you're angry—anger is a loss of control over the situation. Anger is a contract you make with yourself to be in physical and mental and emotional turmoil until reality changes. [1]

Anger is its own punishment. An angry person trying to push your head below water is drowning at the same time.

### FREEDOM FROM EMPLOYMENT

People who live far below their means enjoy a freedom that people busy upgrading their lifestyles can't fathom. [11]

Once you've truly controlled your own fate, for better or for worse, you'll never let anyone else tell you what to do. [11]

A taste of freedom can make you unemployable.

### FREEDOM FROM UNCONTROLLED THINKING

A big habit I'm working on is trying to turn off my "monkey mind." When we're children, we're pretty blank slates. We live very much in the moment. We essentially just react to our environment through our instincts. We live in what I would call the "real world." Puberty is the onset of desire—the first time you really, really want something and you start long-range planning. You start thinking a lot, building an identity and an ego to get what you want.

If you walk down the street and there are a thousand people in the street, all thousand are talking to themselves in their head at any given point. They're constantly judging everything they see. They're playing back movies of things that happened to them yesterday. They're living in fantasy worlds of what's going to happen tomorrow. They're just pulled out of base reality. That can be good when you do long-range planning. It can be good when you solve problems. It's good for us as survival-and-replication machines.

I think it's actually very bad for your happiness. To me, the mind should be a servant and a tool, not a master. My monkey mind should not control and drive me 24/7.

I want to break the habit of uncontrolled thinking, which is hard. [4]

A busy mind accelerates the passage of subjective time.

There is no endpoint to self-awareness and self-discovery. It's a lifelong process you hopefully keep getting better and better at. There is no one meaningful answer, and no one is going to fully solve it unless you're one of these enlightened characters. Maybe some of us will get there, but I'm not likely to, given how involved I am in the rat race. The best case is I'm a rat who might be able to look up at the clouds once in a while.

I think just being aware you're a rat in a race is about as far as most of us are going to get. [8]

The modern struggle:

Lone individuals summoning inhuman willpower, fasting,  
meditating, and exercising...

Up against armies of scientists and statisticians weaponizing  
abundant food, screens, and medicine into junk food,  
clickbait news, infinite porn, endless games, and addictive  
drugs.

# I PHILOSOPHY

The real truths are heresies. They cannot be spoken. Only discovered, whispered, and perhaps read.

## THE MEANINGS OF LIFE

A really unbounded, big question: what is the meaning and purpose of life?

That's a big question. Because it's a big question, I'll give you three answers.

**Answer 1:** It's personal. You have to find your own meaning. Any piece of wisdom anybody else gives you, whether it's Buddha or me, is going to sound like nonsense. Fundamentally, you have to find it for yourself, so the important part is not the answer, it's the question. You just have to sit there and dig with the question. It might take you years or decades. When you find an answer you're happy with, it will be fundamental to your life.

**Answer 2:** There is no meaning to life. There is no purpose to life. Osho said, "It's like writing on water or building houses of sand." The reality is you've been dead for the history of the Universe, 10 billion years or more. You will be dead for the next 70 billion years or so, until the heat death of the Universe.

Anything you do will fade. It will disappear, just like the human race will disappear and the planet will disappear. Even the group who colonizes Mars will disappear. No one is going to remember you past a certain number of generations, whether you're an artist, a poet, a conqueror, a pauper, or anyone else. There's no meaning.

You have to create your own meaning, which is what it boils down to. You have to decide:

"Is this a play I'm just watching?"

“Is there a self-actualization dance I’m doing?”

“Is there a specific thing I desire just for the heck of it?”

These are all meanings you make up.

There is no fundamental, intrinsic purposeful meaning to the Universe. If there was, then you would just ask the next question. You’d say, “Why is that the meaning?” It would be, as physicist Richard Feynman said, it would be “turtles all the way down.” The “why’s” would keep accumulating. There is no answer you could give that wouldn’t have another “why.”

I don’t buy the everlasting afterlife answers because it’s insane to me, with absolutely no evidence, to believe because of how you live seventy years here on this planet, you’re going to spend eternity, which is a very long time, in some afterlife. What kind of silly God judges you for eternity based on some small period of time here? I think after this life, it’s very much like before you were born. Remember that? It’s going to be just like that.

Before you were born, you didn’t care about anything or anyone, including your loved ones, including yourself, including humans, including whether we go to Mars or whether we stay on planet Earth, whether there’s an AI or not. After death, you just don’t care either.

**Answer 3:** The last answer I’ll give you is a little more complicated. From what I’ve read in science (friends of mine have written books on this), I’ve stitched together some theories. Maybe there is a meaning to life, but it’s not a very satisfying purpose.

Basically, in physics, the arrow of time comes from entropy.

The second law of thermodynamics states entropy only goes up, which means disorder in the Universe only goes up, which means concentrated free energy only goes down. If you look at living things (humans, plants, civilizations, what have you) these systems are locally reversing entropy. Humans locally reverse entropy because we have action.

In the process, we globally accelerate entropy until the heat death of the Universe. You could come up with some fanciful theory, which I like, that we're headed towards the heat death of the Universe. In that death, there's no concentrated energy, and everything is at the same energy level. Therefore, we're all one thing. We're essentially indistinguishable.

What we do as living systems accelerates getting to that state. The more complex system you create, whether it's through computers, civilization, art, mathematics, or creating a family—you actually accelerate the heat death of the Universe. You're pushing us towards this point where we end up as one thing. [4]

## LIVE BY YOUR VALUES

**What are your core values?**

I've never fully enumerated them, but a few examples:

Honesty is a core, core, core value. By honesty, I mean I want to be able to just be me. I never want to be in an environment or around people where I have to watch what I say. If I disconnect what I'm thinking from what I'm saying, it creates multiple threads in my mind. I'm no longer in the moment—now I have to be future-planning or past-regretting every time I talk to

somebody. Anyone around whom I can't be fully honest, I don't want to be around.

Before you can lie to another, you must first lie to yourself.

Another example of a foundational value: I don't believe in any short-term thinking or dealing. If I'm doing business with somebody and they think in a short-term manner with somebody else, then I don't want to do business with them anymore. All benefits in life come from compound interest, whether in money, relationships, love, health, activities, or habits. I only want to be around people I know I'm going to be around for the rest of my life. I only want to work on things I know have long-term payout.

Another one is I only believe in peer relationships. I don't believe in hierarchical relationships. I don't want to be above anybody, and I don't want to be below anybody. If I can't treat someone like a peer and if they can't treat me like peer, I just don't want to interact with them.

Another: I don't believe in anger anymore. Anger was good when I was young and full of testosterone, but now I like the Buddhist saying, "Anger is a hot coal you hold in your hand while waiting to throw it at somebody." I don't want to be angry, and I don't want to be around angry people. I just cut them out of my life. I'm not judging them. I went through a lot of anger too. They have to work through it on their own. Go be angry at someone else, somewhere else.

I don't know if these necessarily fall into the classical defini-

tion of values, but it's a set of things I won't compromise on and I live my entire life by. [4] I think everybody has values. Much of finding great relationships, great coworkers, great lovers, wives, husbands, is finding other people where your values line up. If your values line up, the little things don't matter. Generally, I find if people are fighting or quarreling about something, it's because their values don't line up. If their values lined up, the little things wouldn't matter. [4]

Meeting my wife was a great test because I really wanted to be with her, and she wasn't so sure at the beginning. In the end, we ended up together because she saw my values. I am lucky I had developed them by that point. If I hadn't, I wouldn't have gotten her. I wouldn't have deserved her. As investor Charlie Munger says, "To find a worthy mate, be worthy of a worthy mate." [4]

My wife is an incredibly lovely, family-oriented person, and so am I. That was one of the foundational values that brought us together.

The moment you have a child, it's this really weird thing, but it answers the meaning-of-life, purpose-of-life, question. All of a sudden, the most important thing in the Universe moves from being in your body into the child's body. That changes you. Your values inherently become a lot less selfish. [4]

## RATIONAL BUDDHISM

The older the question, the older the answers.

**You've called your philosophy Rational Buddhism. How does it differ from traditional Buddhism? What type of exploration did you go through?**

The rational part means I have to reconcile with science and evolution. I have to reject all the pieces I can't verify for myself. For example, is meditation good for you? Yes. Is clearing your mind a good thing? Yes. Is there a base layer of awareness below your monkey mind? Yes. All these things I've verified for myself.

Some beliefs from Buddhism I believe and follow because, again, I've verified or reasoned with thought experiments myself. What I will not accept is things like, "There's a past life you're paying off the karma for." I haven't seen it. I don't remember any past lives. I don't have any memory. I just have to not believe that.

When people say your third chakra is opening, etc.—I don't know—that's just fancy nomenclature. I have not been able to verify or confirm any of that on my own. If I can't verify it on my own or if I cannot get there through science, then it may be true, it may be false, but it's not falsifiable, so I cannot view it as a fundamental truth.

On the other side, I do know evolution is true. I do know we are evolved as survival and replication machines. I do know we have an ego, so we get up off the ground and worms don't eat us and we actually take action. Rational Buddhism, to me, means understanding the internal work Buddhism espouses to make yourself happier, better off, more present and in control of your emotions—being a better human being.

I don't subscribe to anything fanciful because it was written down in a book. I don't think I can levitate. I don't think meditation will give me superpowers and those kinds of things. Try everything, test it for yourself, be skeptical, keep what's useful, and discard what's not.

I would say my philosophy falls down to this—on one pole is evolution as a binding principle because it explains so much about humans, on the other is Buddhism, which is the oldest, most time-tested spiritual philosophy regarding the internal state of each of us.

I think those are absolutely reconcilable. I actually want to write a blog post at some point about how you can map the tenants of Buddhism, especially the non-fanciful ones, directly into a virtual reality simulation. [4]

Everyone starts out innocent. Everyone is corrupted. Wisdom is the discarding of vices and the return to virtue, by way of knowledge.

### How do you define wisdom?

Understanding the long-term consequences of your actions. [11]

If wisdom could be imparted through words alone, we'd all  
be done here.

## THE PRESENT IS ALL WE HAVE

There is actually nothing but this moment. No one has ever gone back in time, and no one has ever been able to successfully predict the future in any way that matters. Literally, the only thing that exists is this exact point where you are in space at the exact time you happen to be here.

Like all great profound truths, it's all paradoxes. Any two points are infinitely different. Any moment is perfectly unique. Each moment itself slips by so quickly you can't grab it. [4]

You're dying and being reborn at every moment. It's up to you whether to forget or remember that. [2]

"Everything is more beautiful because we're doomed. You will never be lovelier than you are now, and we will never be here again."

—Homer, *The Iliad*

I don't even remember what I said two minutes ago. At best, the past is some fictional little memory tape in my head. As far as I'm concerned, my past is dead. It's gone. All death really means is that there are no more future moments. [2]

Inspiration is perishable—act on it immediately.

**INSPIRATION IS PERISHABLE, ACT ON IT IMMEDIATELY.**



# BONUS

The democratization of technology allows anyone to be a creator, entrepreneur, scientist. The future is brighter.

It's statistically likely there are more advanced alien civilizations out there.

Hopefully, they're good environmentalists and find us cute.

# NAVAL'S RECOMMENDED READING

The truth is, I don't read for self-improvement. I read out of curiosity and interest. The best book is the one you'll devour.

## BOOKS

(Since there are so many links in this section, you may prefer a digital copy. Go to [Navalmanack.com](http://Navalmanack.com) to get a digital version of this chapter for your convenience.)

Read enough, and you become a connoisseur. Then you naturally gravitate more toward theory, concepts, nonfiction.

### NONFICTION

*The Beginning of Infinity: Explanations That Transform the World* by David Deutsch

Not the easiest read, but it made me smarter. [79]



Open the camera on your phone and hover over this image.

*Sapiens: A Brief History of Humankind*  
by Yuval Noah Harari

A history of the human species. The observations, frameworks, and mental models will have you looking at history and your fellow humans differently. [1]

*Sapiens* is the best book of the last decade I have read. He had decades to write *Sapiens*. There are lots of great ideas in there and it's just full of them, chock-full per page. [1]

*The Rational Optimist: How Prosperity Evolves* by Matt Ridley

The most brilliant and enlightening book I've read in years. He has written four of my top twenty books. [11]



Open the camera on your phone and hover over this image.

Everything else written by Matt Ridley. Matt is a scientist, optimist, and forward thinker. One of my favorite authors. I've read everything of his, and reread everything of his. [4]

- Genome: The Autobiography of a Species in 23 Chapters
- The Red Queen: Sex and the Evolution of Human Nature
- The Origins of Virtue: Human Instincts and the Evolution of Cooperation
- The Evolution of Everything: How New Ideas Emerge



Open the camera on your phone and hover over this image.

### *Skin in the Game* by Nassim Taleb

The best book I read in 2018, I highly recommend it. Lots of great ideas in there. Lots of good mental models and constructs. He has a bit of an attitude,

but he has that because he's brilliant, and it's okay. So just look past the attitude and read the book, learn the concepts. It's one of the best business books I've ever read. And luckily, it doesn't masquerade as a business book. [10]

### *The Bed of Procrustes: Philosophical and Practical Aphorisms* by Nassim Taleb

This is his collection of ancient wisdom. He is also famous for *The Black Swan: The Impact of the Highly Improbable*, *Antifragile: Things That Gain from Disorder*, and *Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets*, all of which are worth reading. [7]



Open the camera on your phone and hover over this image.

*Six Easy Pieces: Essentials of Physics Explained by Its Most Brilliant Teacher*  
by Richard Feynman

I would give my kids a copy of Richard Feynman's *Six Easy Pieces* and *Six Not-So-Easy Pieces: Einstein's Relativity, Symmetry, and Space-Time*. Richard Feynman is a famous physicist. I love both his demeanor as well as his understanding of physics.

I've also been reading *Perfectly Reasonable Deviations from the Beaten Track* by Feynman and rereading *Genius: The Life and Science of Richard Feynman*, a biography about him. [8]



Open the camera on your phone and hover over this image.

*Thing Explainer: Complicated Stuff in Simple Words* by Randall Munroe

A great book by Randall Munroe (creator of *xkcd*, a very science-oriented webcomic). In this book, he explains very complicated concepts, all the way from climate change to physical systems to submarines while only using the thousand most common words in the English language. He called the Saturn Five rocket "Up Goer Five." You can't define a rocket as a spaceship or a rocket. It's self-referential. He says "up goer." It's this thing that goes up. Kids get it right away. [4]



Open the camera on your phone and hover over this image.

*Thinking Physics: Understandable Practical Reality* by Lewis Carroll Epstein

There's another great book called *Thinking Physics*. I open this one all the time. I love on the back cover how it has this

great little pitch that says, “The only book used in both grade school and graduate school.” It’s true. It’s all simple physics puzzles that can be explained to a twelve-year-old child and can be explained to a twenty-five-year-old grad student in physics. They all have fundamental insights in physics. They’re all kind of tricky, but anyone can get to the answer through purely logical reasoning. [4]

*The Lessons of History* by Will and Ariel Durant

This is a great book I really like that summarizes some of the larger themes of history; it’s very incisive. And unlike most history books, it’s actually really small, and it covers a lot of ground. [7]

*The Sovereign Individual: Mastering the Transition to the Information Age* by James Dale Davidson and Lord William Rees-Mogg

This is the best book I’ve read since *Sapiens* (far less mainstream, though).



Open the camera on your phone and hover over this image.

*Poor Charlie’s Almanack: The Wit and Wisdom of Charles T. Munger* by Charlie Munger (edited by Peter Kaufman)

This masquerades as a business book, but it’s really just Charlie Munger (of Berkshire Hathaway)’s advice on overcoming oneself to live a successful and virtuous life. [7] [80]

*Reality Is Not What It Seems: The Journey to Quantum Gravity* by Carlo Rovelli

This is the best book I've read in the last year. Physics, poetry, philosophy, and history packaged in a very accessible form.

*Seven Brief Lessons on Physics* by Carlo Rovelli

I've read this one at least twice.

For game theory, in addition to playing strategy games, you may want to try *The Compleat Strategyst: Being a Primer on the Theory of Games of Strategy* by J.D. Williams and *The Evolution of Cooperation* by Robert Axelrod. [11]

## PHILOSOPHY AND SPIRITUALITY

Everything by Jed McKenna

Jed spits raw truth. His style may be off-putting, but the dedication to truth is unparalleled. [79]

*Theory of Everything (The Enlightened Perspective) - Dream-state Trilogy*

*Jed McKenna's Notebook*

*Jed Talks #1 and #2*

Everything by Kapil Gupta, MD

Kapil recently became a personal advisor and coach to me, and this comes from a person who doesn't believe in coaches. [79]

*A Master's Secret Whispers: For those who abhor noise and seek The Truth...about life and living*

*Direct Truth: Uncompromising, non-prescriptive Truths to the enduring questions of life*

*Atmamun: The Path to achieving the bliss of the Himalayan Swamis. And the freedom of a living God.*



Open the camera on your phone and hover over this image.

*The Book of Life* by Jiddu Krishnamurti

Krishnamurti is a lesser-known guy, an Indian philosopher who lived at the turn of the last century and is extremely influential to me. He's an uncompromising, very direct person who basically tells you to look at your own mind at all times. I have been hugely influenced by him. Probably the best book is *The Book of Life*, which is excerpts from his various speeches and books stitched together. [6]

I'll give my kids a copy of *The Book of Life*. I'll tell them to save it until they're older because it won't make much sense while they're younger. [8]

*Total Freedom: The Essential Krishnamurti* by Jiddu Krishnamurti

I like this for someone who's more advanced. A rationalist's guide to the perils of the human mind. The "spiritual" book I keep returning to. [1]

*Siddhartha* by Herman Hesse

I love this as a classic book on philosophy, a good introduction for someone starting out. I've given out more copies of this book than any other. [1]

I'm pretty much always rereading something by either Krishnamurti or Osho. Those are my favorite philosophers. [4]

[Update: I'd now add Jed McKenna, Kapil Gupta, the Vashistha Yoga, and Schopenhauer to that list.]



Open the camera on your phone and hover over this image.

*The Book of Secrets: 112 Meditations to Discover the Mystery Within* by Osho

Most meditation techniques are concentration methods, and there are many, many meditation techniques. If you want to run through a bunch of them, you can pick up a book called *The Book of Secrets* by Osho. I know he's gotten a bad rap recently, but he was a pretty smart guy. It's actually a translation of an old Sanskrit book with 112 different meditations. You can try each one and see which one works for you. [74]

*The Great Challenge: Exploring the World Within* by Osho

*The Way to Love: The Last Meditations of Anthony de Mello* by Anthony de Mello

*The Untethered Soul: The Journey Beyond Yourself* by Michael Singer



Open the camera on your phone and hover over this image.

*Meditations* by Marcus Aurelius

Marcus Aurelius was absolutely life-changing for me. It's the personal diary of the emperor of Rome. Here's a guy who was probably the most powerful

human being on Earth at the time he lived. He's writing a diary to himself, never expecting it to be published. When you open this book, you realize he had all the same issues and all the same mental struggles; he was trying to be a better person. Right there, you figure out success and power don't improve your internal state—you still have to work on it. [6]

### *Love Yourself Like Your Life Depends on It* by Kamal Ravikant

I've actually been reading my brother's book, *Love Yourself Like Your Life Depends on It*. I thought it was very succinctly written. (Obviously a plug for my bro.)

He's the philosopher in the family—I'm just the amateur. He has a great line in his book:

I once asked a monk how he found peace.

"I say 'yes,'" he'd said. "To all that happens, I say 'yes.'" [7]

### *The Tao of Seneca: Practical Letters from a Stoic Master*

My most listened-to audiobook. The most important audiobook I've ever heard.



Open the camera on your phone and hover over this image.

*How to Change Your Mind* by Michael Pollan

There's a good book Michael Pollan wrote recently called *How to Change*

*Your Mind*, and I think it is a brilliant book everybody should read.

The book discusses psychedelics. Psychedelics are a bit of a cheat code in self-observation. I don't recommend drugs for anybody—you can do it all through pure meditation. If you want to accelerate ahead, you know, psychedelics are good for that. [74]

*Striking Thoughts: Bruce Lee's Wisdom for Daily Living* by Bruce Lee

Oddly enough, Bruce Lee wrote some great philosophy, and *Striking Thoughts* is a good summary of some of his philosophy.

*The Prophet* by Kahlil Gibran

This book reads like a modern-day poetic religious tome. It's up there with the Bhagavad Gita, the *Tao Te Ching*, the Bible, and the Qur'an. It is written in the style where it has a feel of religiosity and truth, but it was very approachable, beautiful, nondenominational, and nonsectarian. I loved this book.

He has a gift for poetically describing what children are like, what lovers are like, what marriage should be like, how you should treat your enemies and your friends, how you should work with money, what can you think of every time you have to kill something to eat it. I felt it, like the great religious books, gave a very deep, very philosophical, but very true answer to how to approach the major problems in life. I recommend *The Prophet* to anybody, whether you're religious or not. Whether you are Christian, Hindu, Jewish, or atheist. I think it's a beautiful book, and it's worth reading. [7]

## SCIENCE FICTION

I started with comic books and sci-fi. Then I was into history and news. Then into psychology, popular science, technology.



Open the camera on your phone and hover over this image.

### *Ficciones* by Jorge Luis Borges

I love Jorge Luis Borges, an Argentine author. His short story collection *Ficciones*, or *Labyrinths*, is amazing. Borges is probably still the most powerful author I have read who wasn't just outright writing philosophy. There was philosophy in there with the sci-fi. [1]



Open the camera on your phone and hover over this image.

### *Stories of Your Life and Others* by Ted Chiang

My current favorite sci-fi short story: probably “Understand” by Ted Chiang. It’s in a collection called *Stories of Your Life and Others*. “Story of Your Life” was made into a movie called *Arrival*. [1]

### *Exhalation: Stories* by Ted Chiang

This contemplates the marvel of thermodynamics from the best sci-fi short story writer of our age.

### *The Lifecycle of Software Objects* by Ted Chiang

Another masterpiece of sci-fi by Ted Chiang.



Open the camera on your phone and hover over this image.

*Snow Crash* by Neal Stephenson

*Snow Crash* is an amazing, amazing book. There's nothing quite similar to *Snow Crash*. *Snow Crash* is in a league of its own. Stephenson also wrote *The Diamond Age*.

**“The Last Question,” a short story by Isaac Asimov**

I quote “The Last Question” all the time. I loved it as a kid.

**What are the books you’re rereading now?**

That’s a good question. I’ll pull up my Kindle app as we talk. Usually, I’m always rereading some books in science.

I’m reading a book on René Girard’s mimetic theory. It’s more of an overview book, because I couldn’t make it through his actual writings. I’m reading *Tools of Titans*, Tim Ferriss’s book of what he learned from a lot of great performers.

I’m reading a book, *Thermoinfocomplexity*. It’s actually by a friend of mine, Behzad Mohit. I just finished reading *Pre-Suasion: A Revolutionary Way to Influence and Persuade*, or I should say I just finished skimming *Pre-Suasion* by Robert Cialdini. I don’t think I needed to read the entire book to get the point, but it was still good to read what I did. It’s a great little history book. I’m currently reading *The Story of Philosophy: The Lives and Opinions of the Great Philosophers*, also by Will Durant.

I have a young kid now, so I’ve got a lot of child-rearing books

I use more as reference material than anything else. I recently read some Emerson and some Chesterfield. I have a Leo Tolstoy book here.

Alan Watts. Scott Adams. I reread *God's Debris* recently. *Tao Te Ching*, a friend of mine is rereading it, so I picked it up again. There's tons. I mean, I could go on and on. There's Nietzsche's book here. There's *The Undercover Economist* [Tim Harford]. The Richard Bach book [*Illusions: The Adventures of a Reluctant Messiah*]. There are some Jed McKenna books.

A little Dale Carnegie in here. *The Three-Body Problem* [Cixin Liu]. *Man's Search for Meaning* [Viktor E. Frankl]. There's lots. *Sex at Dawn* [Christopher Ryan]. There's a lot of books out there.

By the way, when I tell people what I'm reading, I skip two-thirds of my books. The reason I skip two-thirds is because they're embarrassing. They don't sound like good books to read. They'll sound trivial or silly. Who cares? I don't have to tell everybody everything I read. I read all kinds of stuff other people consider junk or even reprehensible. I read all kinds of stuff I disagree with because they're mind-bending. [4]

I always spent money on books. I never viewed that as an expense. That's an investment to me. [4]

## BLOGS

(Since there are so many links in this section, you may prefer a digital copy. Go to [Navalmanack.com](http://Navalmanack.com) to get a digital version of this chapter for your convenience.)

Some amazing blogs out there:

@KevinSimler—*Melting Asphalt*, <https://meltingasphalt.com/>

@farnamstreet—*Farnam Street, A Signal in a World Full of Noise*, <https://fs.blog/>

@benthompson—*Stratchery*, <https://stratechery.com/>

@baconmeteor—*Idle Words*, <https://idlewords.com/> [4]

**“The Munger Operating System: How to Live a Life That Really Works” by @FarnamStreet**

Rules to live and prosper by.

**“The Day You Became a Better Writer” by Scott Adams**

Even though I am a very good writer and I’ve been writing a lot since I was young, I still open up that blog post and put it in the background anytime I’m writing anything important. It’s that good. I use it as my basic template for how to write well. Think about the title, “The Day You Became a Better Writer.” It’s such a powerful title. He teaches you in one small blog post the importance of surprise, the importance of headlines, the importance of being brief and directed, not using some adjectives and adverbs, using active not the passive voice, etc. This one blog post right there will change your writing style forever if you put your ego down and absorb it properly. [6]

Want to become smarter in ten minutes? Absorb this: “Crony Beliefs” by Kevin Simler.

Best post I've read on "Career Decisions" (in Silicon Valley/tech) by @eladgil

Harari's *Sapiens* in lecture/course form on YouTube.

Every business school should have a course on Aggregation Theory. Or learn it from the master himself, @benthompson, the best analyst in technology.

Great read. "Quantum physics is not 'weird.' You are weird."— "Think Like Reality" [Eliezer Yudkowsky]

Must-read. "Lazy Leadership" by @Awilkinson

No-holds-barred wisdom from a self-made man. Everything on @EdLatimore's site is worth reading for overachievers: <https://edlatimore.com/>

If you eat, invest, and think according to what the "news" advocates, you'll end up nutritionally, financially, and morally bankrupt.

## OTHER RECOMMENDATIONS

Twitter accounts like:

@AmuseChimp (my all-time favorite Twitter account)

@mmay3r

@nntaleb

Art De Vany (on Facebook)

Genius is here, just unevenly distributed. [4]

Must-read. (Twitter thread on “intellectual compounding” by @zaoyang). [11]

There are actually some really good graphic novels out there. If you’re open to the cartoony element of it, *Transmetropolitan* [Warren Ellis], *The Boys* [Garth Ennis], *Planetary* [Warren Ellis], and *The Sandman* [Neil Gaiman]...some of these are, I think, among the finest works of art of our age. I also grew up as a boy reading comics, so I may be very biased toward those. [1]

*Rick and Morty* (TV show + comic book)

*Rick and Morty* is the best show on television (IMHO, of course). Just watch the first episode—that’s all it takes. It’s *Back to the Future* meets *The Hitchhiker’s Guide to the Galaxy*.

The *Rick and Morty* comic [by Zac Gorman] is just as clever as the show.

“**You and Your Research**” by Richard Hamming

A beautiful essay, I highly recommend reading it. It’s ostensibly written for people who are in scientific research, but I think it applies across the board. It’s just an old-timer essay on how to do great work. It reminds me of much of what Richard Feynman used to say, although I think Hamming has put it more eloquently than almost anywhere else I’ve seen. [74]

# I NAVAL'S WRITING

## LIFE FORMULAS I (2008)

These are notes to myself. Your frame of reference, and therefore your calculations, may vary. These are not definitions—these are algorithms for success. Contributions are welcome.

- Happiness = Health + Wealth + Good Relationships
- Health = Exercise + Diet + Sleep
- Exercise = High Intensity Resistance Training + Sports + Rest
- Diet = Natural Foods + Intermittent Fasting + Plants
- Sleep = No alarms + 8–9 hours + Circadian rhythms
- Wealth = Income + Wealth \* (Return on Investment)
- Income = Accountability + Leverage + Specific Knowledge
- Accountability = Personal Branding + Personal Platform + Taking Risk?
- Leverage = Capital + People + Intellectual Property
- Specific Knowledge = Knowing how to do something society cannot yet easily train other people to do
- Return on Investment = “Buy-and-Hold” + Valuation + Margin of Safety [72]

## **NAVAL'S RULES (2016)**

- Be present above all else.
- Desire is suffering. (Buddha)
- Anger is a hot coal you hold in your hand while waiting to throw it at someone else. (Buddha)
- If you can't see yourself working with someone for life, don't work with them for a day.
- Reading (learning) is the ultimate meta-skill and can be traded for anything else.
- All the real benefits in life come from compound interest.
- Earn with your mind, not your time.
- 99 percent of all effort is wasted.
- Total honesty at all times. It's almost always possible to be honest and positive.
- Praise specifically, criticize generally. (Warren Buffett)
- Truth is that which has predictive power.
- Watch every thought. (Ask "Why am I having this thought?")
- All greatness comes from suffering.
- Love is given, not received.
- Enlightenment is the space between your thoughts. (Eckhart Tolle)
- Mathematics is the language of nature.
- Every moment has to be complete in and of itself. [5]

Health, love, and your mission, in that order. Nothing else matters.



# I NEXT ON NAVAL

If you loved this book, there are many ways to dive deeper into Naval. I am publishing “Navalmanack” shorts on Navalmanack.com. These are sections that were edited out of the original (enormous) manuscript of this book. I’ve published them online for those interested in Naval’s more specific insights on:

- Education
- The Story of AngelList
- Investing
- Startups
- Crypto
- Relationships

Naval continues to create and share great insights:

- On Twitter: Twitter.com/Naval
- On his podcast: *Naval*
- On his website: <https://nav.al/>

The most popular of Naval’s material at the time of writing:

- *Naval* podcast episodes compilation: How to Get Rich

- Interview on The Knowledge Project
- Interview on Joe Rogan Podcast

Readwise.io has generously created a collection of excerpts of this book, available through Readwise.io/naval. You will receive a weekly email with key excerpts from this book to keep the concepts top-of-mind long after you've finished reading.

If you love the illustrations by Jack Butcher, you can find more of his illustrations of Naval's ideas on Navalmanack.com and more of his work at VisualizeValue.com.

# I APPRECIATION

There is so much to be grateful for, and so many people to be grateful to. I am overwhelmed with happiness when I consider all of the people who contributed pieces of themselves to create this book. I feel a rising, inflating warmth of gratitude for all of you.

Here is my written Oscars speech of thanks and appreciation:

I'm extremely grateful to Naval for trusting a stranger from the internet to create a book out of his words. This all started with a half-assed tweet, and became something great because of your trust and support. I appreciate your responsiveness, generosity, and trust.

I am grateful to Babak Nivi for the most succinct and precise writing advice I've ever received. You have been generous with your time to make this book better, and I really appreciate it.

I am grateful to Tim Ferriss for bending your iron rule and writing the foreword for this book. Your presence in this project means a lot to me and will certainly help many more people find their way to Naval's wisdom.

The building blocks of this book are excerpts from excellent interviews of creators like Shane Parrish, Joe Rogan, Sarah Lacy, and Tim Ferriss. I massively appreciate all of the effort that goes into your interviews. Creating this book gave me and others the opportunity to learn deeply from your work.

I am grateful to Jack Butcher for reaching out and offering to lend his enormous talents to creating the illustrations for this book. His work at Visualize Value has always struck me as simple genius, and we're all lucky to have his efforts in these pages.

I am grateful to my parents for every gift, effort, and sacrifice that has put me in a position to create this book. You built the foundation of everything I ever do, and I'll never forget that. The family practice of "spitting your doubts" is alive and well in this project.

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I am grateful to the authors and creators who inspired this book. My drive to create and share this book came directly out of a deep appreciation for the life-changing impact of similar books, a few I'd like to name specifically:

- *Poor Charlie's Almanack* edited by Peter Kaufman (of Charlie Munger's work)
- *Zero to One* by Blake Masters (of Peter Thiel's work)
- *Seeking Wisdom* (and others) by Peter Bevelin (of Buffett and Munger's work)
- *Berkshire Hathaway Letters to Shareholders* edited by Max Olson (of Buffett's work)
- *Principles* by Ray Dalio (and team)

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Eric is on a quest to create—and eat—the perfect sandwich. He lives in Kansas City with Jeannine, the most wonderful woman in the world. Follow him on Twitter @ericjorgenson, or check out his new projects on ejorgenson.com.



# ZERO TO ONE

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NOTES ON STARTUPS, OR

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HOW TO BUILD THE FUTURE

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Peter Thiel

with BLAKE MASTERS

# ZERO *to* ONE

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## *Preface*

# ZERO TO ONE

**E**VERY MOMENT IN BUSINESS happens only once. The next Bill Gates will not build an operating system. The next Larry Page or Sergey Brin won't make a search engine. And the next Mark Zuckerberg won't create a social network. If you are copying these guys, you aren't learning from them.

Of course, it's easier to copy a model than to make something new. Doing what we already know how to do takes the world from 1 to *n*, adding more of something familiar. But every time we create something new, we go from 0 to 1. The act of creation is singular, as is the moment of creation, and the result is something fresh and strange.

Unless they invest in the difficult task of creating new things, American companies will fail in the future no matter how big their profits remain today. What happens when we've gained everything to be had from fine-tuning the old lines of business that we've inherited? Unlikely as it sounds, the answer threatens to be far worse than the crisis of 2008. Today's "best practices" lead to dead ends; the best paths are new and untried.

In a world of gigantic administrative bureaucracies both public and private, searching for a new path might seem like hoping for a miracle. Actually, if American business is going to succeed, we are going to need hundreds, or even thousands, of miracles. This would be depressing but for one crucial fact: humans are distinguished from other species by our ability to work miracles. We call these miracles *technology*.

Technology is miraculous because it allows us to do *more with less*, ratcheting up our fundamental capabilities to a higher level. Other animals are instinctively driven to build things like dams or honeycombs, but we are the only ones that can invent new things and better ways of making them. Humans don't decide what to build by making choices from some cosmic catalog of options given in advance; instead, by creating new technologies, we rewrite the plan of the world. These are the kind of elementary truths we teach to second graders, but they are easy to forget in a world where so much of what we do is repeat what has been done before.

*Zero to One* is about how to build companies that create new things. It draws on everything I've learned directly as a co-founder of PayPal and Palantir and then an investor in hundreds of startups, including Facebook and SpaceX. But while I have noticed many patterns, and I relate them here, this book offers no formula for success. The paradox of teaching entrepreneurship is that such a formula necessarily cannot exist; because every innovation is new and unique, no authority can prescribe in concrete terms how to be innovative. Indeed, the single most powerful pattern I have noticed is that successful people find value in unexpected places, and they do this by thinking about business from first principles instead of formulas.

This book stems from a course about startups that I taught at Stanford in 2012. College students can become extremely skilled at a few specialties, but many never learn what to do with those skills in the wider world. My primary goal in teaching the class was to help my students see beyond the tracks laid down by academic specialties to the broader future that is theirs to create. One of those students,

Blake Masters, took detailed class notes, which circulated far beyond the campus, and in *Zero to One* I have worked with him to revise the notes for a wider audience. There's no reason why the future should happen only at Stanford, or in college, or in Silicon Valley.



# THE CHALLENGE OF THE FUTURE

WHENEVER I INTERVIEW someone for a job, I like to ask this question: “What important truth do very few people agree with you on?”

This question sounds easy because it’s straightforward. Actually, it’s very hard to answer. It’s intellectually difficult because the knowledge that everyone is taught in school is by definition agreed upon. And it’s psychologically difficult because anyone trying to answer must say something she knows to be unpopular. Brilliant thinking is rare, but courage is in even shorter supply than genius.

Most commonly, I hear answers like the following:

“Our educational system is broken and urgently needs to be fixed.”

“America is exceptional.”

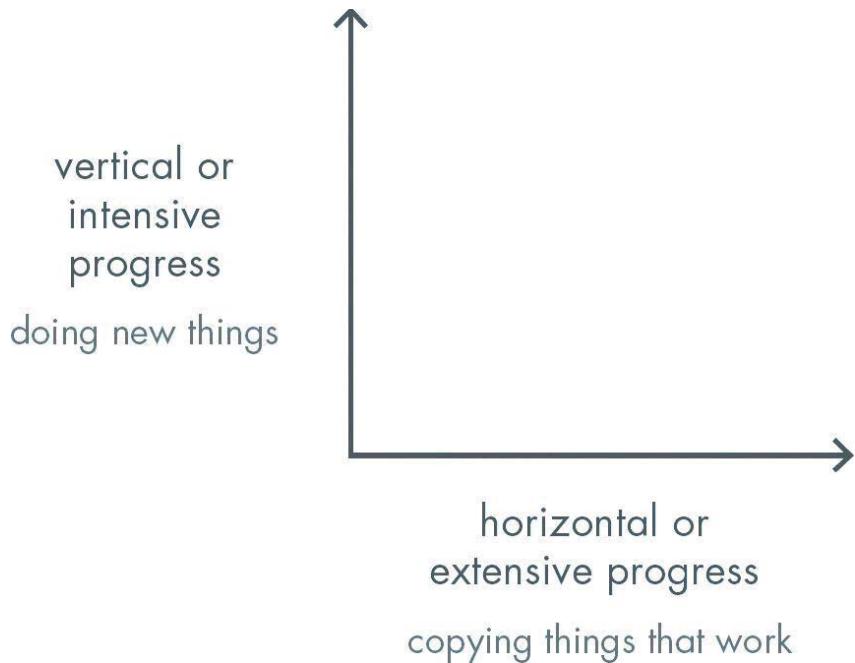
“There is no God.”

Those are bad answers. The first and the second statements might be true, but many people already agree with them. The third statement simply takes one side in a familiar debate. A good answer takes the following form: “Most people believe in  $x$ , but the truth is the opposite of  $x$ .” I’ll give my own answer later in this chapter.

What does this contrarian question have to do with the future? In the most minimal sense, the future is simply the set of all moments yet to come. But what makes the future distinctive and important isn’t that it hasn’t happened yet, but rather that it will be a time when the world looks different from today. In this sense, if nothing about our society changes for the next 100 years, then the future is over 100 years away. If things change radically in the next decade, then the future is nearly at hand. No one can predict the future exactly, but we know two things: it’s going to be different, and it must be rooted in today’s world. Most answers to the contrarian question are different ways of seeing the present; good answers are as close as we can come to looking into the future.

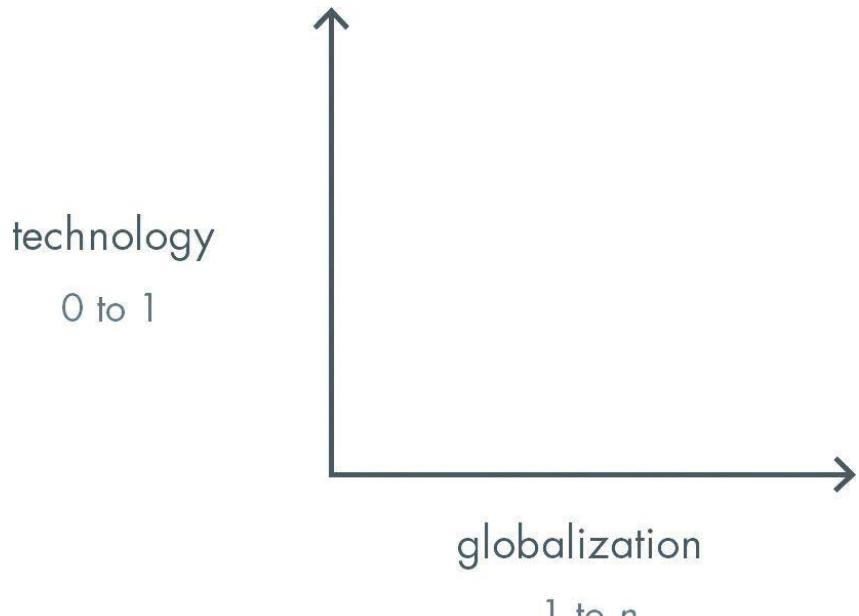
## ZERO TO ONE: THE FUTURE OF PROGRESS

When we think about the future, we hope for a future of progress. That progress can take one of two forms. Horizontal or extensive progress means copying things that work—going from 1 to  $n$ . Horizontal progress is easy to imagine because we already know what it looks like. Vertical or intensive progress means doing new things—going from 0 to 1. Vertical progress is harder to imagine because it requires doing something nobody else has ever done. If you take one typewriter and build 100, you have made horizontal progress. If you have a typewriter and build a word processor, you have made vertical progress.



At the macro level, the single word for horizontal progress is *globalization*—taking things that work somewhere and making them work everywhere. China is the paradigmatic example of globalization; its 20-year plan is to become like the United States is today. The Chinese have been straightforwardly copying everything that has worked in the developed world: 19th-century railroads, 20th-century air conditioning, and even entire cities. They might skip a few steps along the way—going straight to wireless without installing landlines, for instance—but they’re copying all the same.

The single word for vertical, 0 to 1 progress is *technology*. The rapid progress of information technology in recent decades has made Silicon Valley the capital of “technology” in general. But there is no reason why technology should be limited to computers. Properly understood, any new and better way of doing things is technology.



Because globalization and technology are different modes of progress, it's possible to have both, either, or neither at the same time. For example, 1815 to 1914 was a period of both rapid technological development and rapid globalization. Between the First World War and Kissinger's trip to reopen relations with China in 1971, there was rapid technological development but not much globalization. Since 1971, we have seen rapid globalization along with limited technological development, mostly confined to IT.

This age of globalization has made it easy to imagine that the decades ahead will bring more convergence and more sameness. Even our everyday language suggests we believe in a kind of technological end of history: the division of the world into the so-called developed and developing nations implies that the “developed” world has already achieved the achievable, and that poorer nations just need to catch up.

But I don't think that's true. My own answer to the contrarian question is that most people think the future of the world will be defined by globalization, but the truth is that technology matters more. Without technological change, if China doubles its energy production over the next two decades, it will also double its air pollution. If every one of India's hundreds of millions of households were to live the way Americans already do—using only today's tools—the result would be environmentally catastrophic. Spreading old ways to create wealth around the world will result in devastation, not riches. In a world of scarce resources, globalization without new technology is unsustainable.

New technology has never been an automatic feature of history. Our ancestors lived in static, zero-sum societies where success meant seizing things from others. They created new sources of wealth only rarely, and in the long run they could never create enough to save the average person from an extremely hard life. Then, after 10,000 years of fitful advance from primitive agriculture to medieval windmills and 16th-century astrolabes, the modern world suddenly experienced relentless technological progress from the advent of the steam engine in the 1760s all the way up to about 1970. As a result, we have inherited a richer society than any previous generation would have been able to imagine.

Any generation excepting our parents' and grandparents', that is: in the late 1960s, they expected

this progress to continue. They looked forward to a four-day workweek, energy too cheap to meter, and vacations on the moon. But it didn't happen. The smartphones that distract us from our surroundings also distract us from the fact that our surroundings are strangely old: only computers and communications have improved dramatically since midcentury. That doesn't mean our parents were wrong to imagine a better future—they were only wrong to expect it as something automatic. Today our challenge is to both imagine and create the new technologies that can make the 21st century more peaceful and prosperous than the 20th.

## STARTUP THINKING

New technology tends to come from new ventures—startups. From the Founding Fathers in politics to the Royal Society in science to Fairchild Semiconductor’s “traitorous eight” in business, small groups of people bound together by a sense of mission have changed the world for the better. The easiest explanation for this is negative: it’s hard to develop new things in big organizations, and it’s even harder to do it by yourself. Bureaucratic hierarchies move slowly, and entrenched interests shy away from risk. In the most dysfunctional organizations, signaling that work is being done becomes a better strategy for career advancement than actually doing work (if this describes your company, you should quit now). At the other extreme, a lone genius might create a classic work of art or literature, but he could never create an entire industry. Startups operate on the principle that you need to work with other people to get stuff done, but you also need to stay small enough so that you actually can.

Positively defined, a startup is the largest group of people you can convince of a plan to build a different future. A new company’s most important strength is new thinking: even more important than nimbleness, small size affords space to think. This book is about the questions you must ask and answer to succeed in the business of doing new things: what follows is not a manual or a record of knowledge but an exercise in thinking. Because that is what a startup has to do: question received ideas and rethink business from scratch.



## PARTY LIKE IT'S 1999

**O**UR CONTRARIAN QUESTION—*What important truth do very few people agree with you on?*—is difficult to answer directly. It may be easier to start with a preliminary: what does everybody agree on? “Madness is rare in individuals—but in groups, parties, nations, and ages it is the rule,” Nietzsche wrote (before he went mad). If you can identify a delusional popular belief, you can find what lies hidden behind it: the contrarian truth.

Consider an elementary proposition: companies exist to make money, not to lose it. This should be obvious to any thinking person. But it wasn’t so obvious to many in the late 1990s, when no loss was too big to be described as an investment in an even bigger, brighter future. The conventional wisdom of the “New Economy” accepted page views as a more authoritative, forward-looking financial metric than something as pedestrian as profit.

Conventional beliefs only ever come to appear arbitrary and wrong in retrospect; whenever one collapses, we call the old belief a *bubble*. But the distortions caused by bubbles don’t disappear when they pop. The internet craze of the ’90s was the biggest bubble since the crash of 1929, and the lessons learned afterward define and distort almost all thinking about technology today. The first step to thinking clearly is to question what we think we know about the past.

## A QUICK HISTORY OF THE '90S

The 1990s have a good image. We tend to remember them as a prosperous, optimistic decade that happened to end with the internet boom and bust. But many of those years were not as cheerful as our nostalgia holds. We've long since forgotten the global context for the 18 months of dot-com mania at decade's end.

The '90s started with a burst of euphoria when the Berlin Wall came down in November '89. It was short-lived. By mid-1990, the United States was in recession. Technically the downturn ended in March '91, but recovery was slow and unemployment continued to rise until July '92. Manufacturing never fully rebounded. The shift to a service economy was protracted and painful.

1992 through the end of 1994 was a time of general malaise. Images of dead American soldiers in Mogadishu looped on cable news. Anxiety about globalization and U.S. competitiveness intensified as jobs flowed to Mexico. This pessimistic undercurrent drove then-president Bush 41 out of office and won Ross Perot nearly 20% of the popular vote in '92—the best showing for a third-party candidate since Theodore Roosevelt in 1912. And whatever the cultural fascination with Nirvana, grunge, and heroin reflected, it wasn't hope or confidence.

Silicon Valley felt sluggish, too. Japan seemed to be winning the semiconductor war. The internet had yet to take off, partly because its commercial use was restricted until late 1992 and partly due to the lack of user-friendly web browsers. It's telling that when I arrived at Stanford in 1985, economics, not computer science, was the most popular major. To most people on campus, the tech sector seemed idiosyncratic or even provincial.

The internet changed all this. The Mosaic browser was officially released in November 1993, giving regular people a way to get online. Mosaic became Netscape, which released its Navigator browser in late 1994. Navigator's adoption grew so quickly—from about 20% of the browser market in January 1995 to almost 80% less than 12 months later—that Netscape was able to IPO in August '95 even though it wasn't yet profitable. Within five months, Netscape stock had shot up from \$28 to \$174 per share. Other tech companies were booming, too. Yahoo! went public in April '96 with an \$848 million valuation. Amazon followed suit in May '97 at \$438 million. By spring of '98, each company's stock had more than quadrupled. Skeptics questioned earnings and revenue multiples higher than those for any non-internet company. It was easy to conclude that the market had gone crazy.

This conclusion was understandable but misplaced. In December '96—more than three years before the bubble actually burst—Fed chairman Alan Greenspan warned that “irrational exuberance” might have “unduly escalated asset values.” Tech investors were exuberant, but it's not clear that they were so irrational. It is too easy to forget that things weren't going very well in the rest of the world at the time.

The East Asian financial crises hit in July 1997. Crony capitalism and massive foreign debt brought the Thai, Indonesian, and South Korean economies to their knees. The ruble crisis followed in August '98 when Russia, hamstrung by chronic fiscal deficits, devalued its currency and defaulted on its debt. American investors grew nervous about a nation with 10,000 nukes and no money; the Dow Jones Industrial Average plunged more than 10% in a matter of days.

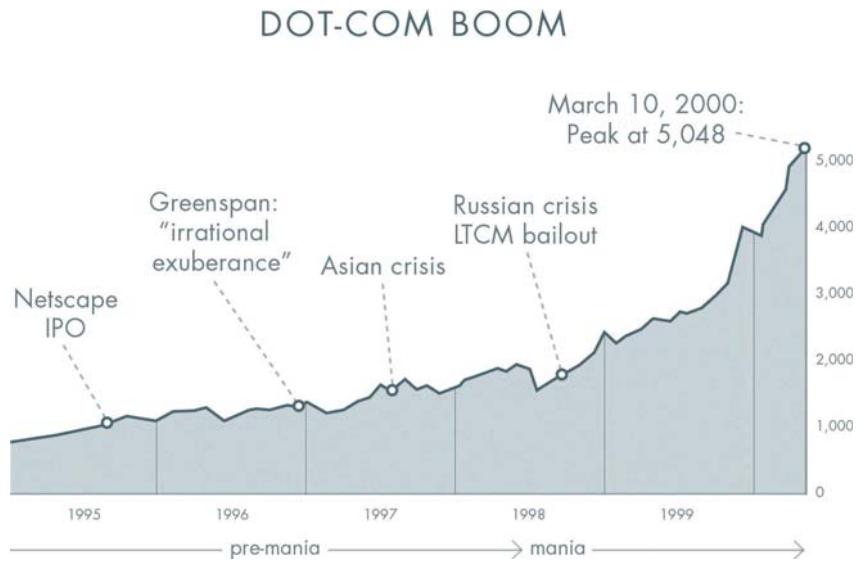
People were right to worry. The ruble crisis set off a chain reaction that brought down Long-Term Capital Management, a highly leveraged U.S. hedge fund. LTCM managed to lose \$4.6 billion in the latter half of 1998, and still had over \$100 billion in liabilities when the Fed intervened with a massive bailout and slashed interest rates in order to prevent systemic disaster. Europe wasn't doing

that much better. The euro launched in January 1999 to great skepticism and apathy. It rose to \$1.19 on its first day of trading but sank to \$0.83 within two years. In mid-2000, G7 central bankers had to prop it up with a multibillion-dollar intervention.

So the backdrop for the short-lived dot-com mania that started in September 1998 was a world in which nothing else seemed to be working. The Old Economy couldn't handle the challenges of globalization. Something needed to work—and work in a big way—if the future was going to be better at all. By indirect proof, the New Economy of the internet was the only way forward.

## MANIA: SEPTEMBER 1998–MARCH 2000

Dot-com mania was intense but short—18 months of insanity from September 1998 to March 2000. It was a Silicon Valley gold rush: there was money everywhere, and no shortage of exuberant, often sketchy people to chase it. Every week, dozens of new startups competed to throw the most lavish launch party. (Landing parties were much more rare.) Paper millionaires would rack up thousand-dollar dinner bills and try to pay with shares of their startup’s stock—sometimes it even worked. Legions of people decamped from their well-paying jobs to found or join startups. One 40-something grad student that I knew was running six different companies in 1999. (Usually, it’s considered weird to be a 40-year-old graduate student. Usually, it’s considered insane to start a half-dozen companies at once. But in the late ’90s, people could believe that was a winning combination.) Everybody should have known that the mania was unsustainable; the most “successful” companies seemed to embrace a sort of anti-business model where they *lost* money as they grew. But it’s hard to blame people for dancing when the music was playing; irrationality was rational given that appending “.com” to your name could double your value overnight.



## PAYPAL MANIA

When I was running PayPal in late 1999, I was scared out of my wits—not because I didn’t believe in our company, but because it seemed like everyone else in the Valley was ready to believe anything at all. Everywhere I looked, people were starting and flipping companies with alarming casualness. One acquaintance told me how he had planned an IPO from his living room before he’d even incorporated his company—and he didn’t think that was weird. In this kind of environment, acting sanely began to seem eccentric.

At least PayPal had a suitably grand mission—the kind that post-bubble skeptics would later describe as grandiose: we wanted to create a new internet currency to replace the U.S. dollar. Our first product let people beam money from one PalmPilot to another. However, nobody had any use for that product except the journalists who voted it one of the 10 worst business ideas of 1999. PalmPilots were still too exotic then, but email was already commonplace, so we decided to create a way to send and receive payments over email.

By the fall of ’99, our email payment product worked well—anyone could log in to our website and easily transfer money. But we didn’t have enough customers, growth was slow, and expenses mounted. For PayPal to work, we needed to attract a critical mass of at least a million users. Advertising was too ineffective to justify the cost. Prospective deals with big banks kept falling through. So we decided to pay people to sign up.

We gave new customers \$10 for joining, and we gave them \$10 more every time they referred a friend. This got us hundreds of thousands of new customers and an exponential growth rate. Of course, this customer acquisition strategy was unsustainable on its own—when you pay people to be your customers, exponential growth means an exponentially growing cost structure. Crazy costs were typical at that time in the Valley. But we thought our huge costs were sane: given a large user base, PayPal had a clear path to profitability by taking a small fee on customers’ transactions.

We knew we’d need more funding to reach that goal. We also knew that the boom was going to end. Since we didn’t expect investors’ faith in our mission to survive the coming crash, we moved fast to raise funds while we could. On February 16, 2000, the *Wall Street Journal* ran a story lauding our viral growth and suggesting that PayPal was worth \$500 million. When we raised \$100 million the next month, our lead investor took the *Journal’s* back-of-the-envelope valuation as authoritative. (Other investors were in even more of a hurry. A South Korean firm wired us \$5 million without first negotiating a deal or signing any documents. When I tried to return the money, they wouldn’t tell me where to send it.) That March 2000 financing round bought us the time we needed to make PayPal a success. Just as we closed the deal, the bubble popped.

## LESSONS LEARNED

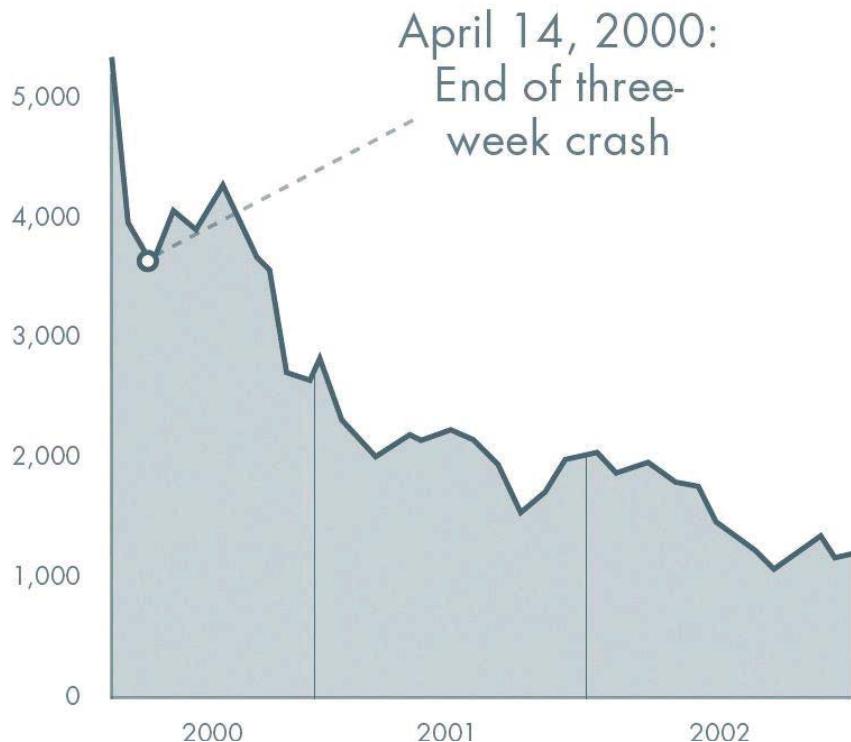
*'Cause they say 2,000 zero zero party over, oops! Out of time!  
So tonight I'm gonna party like it's 1999!*

—PRINCE

The NASDAQ reached 5,048 at its peak in the middle of March 2000 and then crashed to 3,321 in the middle of April. By the time it bottomed out at 1,114 in October 2002, the country had long since interpreted the market's collapse as a kind of divine judgment against the technological optimism of the '90s. The era of cornucopian hope was relabeled as an era of crazed greed and declared to be definitely over.

Everyone learned to treat the future as fundamentally indefinite, and to dismiss as an extremist anyone with plans big enough to be measured in years instead of quarters. Globalization replaced technology as the hope for the future. Since the '90s migration "from bricks to clicks" didn't work as hoped, investors went back to bricks (housing) and BRICs (globalization). The result was another bubble, this time in real estate.

## DOT-COM BUST



The entrepreneurs who stuck with Silicon Valley learned four big lessons from the dot-com crash that still guide business thinking today:

## 1. Make incremental advances

Grand visions inflated the bubble, so they should not be indulged. Anyone who claims to be able to do something great is suspect, and anyone who wants to change the world should be more humble. Small, incremental steps are the only safe path forward.

## 2. Stay lean and flexible

All companies must be “lean,” which is code for “unplanned.” You should not know what your business will do; planning is arrogant and inflexible. Instead you should try things out, “iterate,” and treat entrepreneurship as agnostic experimentation.

## 3. Improve on the competition

Don’t try to create a new market prematurely. The only way to know you have a real business is to start with an already existing customer, so you should build your company by improving on recognizable products already offered by successful competitors.

## 4. Focus on product, not sales

If your product requires advertising or salespeople to sell it, it’s not good enough: technology is primarily about product development, not distribution. Bubble-era advertising was obviously wasteful, so the only sustainable growth is viral growth.

These lessons have become dogma in the startup world; those who would ignore them are presumed to invite the justified doom visited upon technology in the great crash of 2000. And yet the opposite principles are probably more correct:

*1. It is better to risk boldness than triviality.*

*2. A bad plan is better than no plan.*

*3. Competitive markets destroy profits.*

*4. Sales matters just as much as product.*

It’s true that there was a bubble in technology. The late ’90s was a time of hubris: people believed in going from 0 to 1. Too few startups were actually getting there, and many never went beyond talking about it. But people understood that we had no choice but to find ways to do more with less. The market high of March 2000 was obviously a peak of insanity; less obvious but more important, it was also a peak of clarity. People looked far into the future, saw how much valuable new technology we would need to get there safely, and judged themselves capable of creating it.

We still need new technology, and we may even need some 1999-style hubris and exuberance to get it. To build the next generation of companies, we must abandon the dogmas created after the crash. That doesn’t mean the opposite ideas are automatically true: you can’t escape the madness of crowds by dogmatically rejecting them. Instead ask yourself: how much of what you know about business is shaped by mistaken reactions to past mistakes? The most contrarian thing of all is not to oppose the crowd but to think for yourself.



# ALL HAPPY COMPANIES ARE DIFFERENT

**T**HE BUSINESS VERSION of our contrarian question is: *what valuable company is nobody building?* This question is harder than it looks, because your company could create a lot of value without becoming very valuable itself. Creating value is not enough—you also need to capture some of the value you create.

This means that even very big businesses can be bad businesses. For example, U.S. airline companies serve millions of passengers and create hundreds of billions of dollars of value each year. But in 2012, when the average airfare each way was \$178, the airlines made only 37 cents per passenger trip. Compare them to Google, which creates less value but captures far more. Google brought in \$50 billion in 2012 (versus \$160 billion for the airlines), but it kept 21% of those revenues as profits—more than 100 times the airline industry’s profit margin that year. Google makes so much money that it’s now worth three times more than every U.S. airline combined.

The airlines compete with each other, but Google stands alone. Economists use two simplified models to explain the difference: perfect competition and monopoly.

“Perfect competition” is considered both the ideal and the default state in Economics 101. So-called perfectly competitive markets achieve equilibrium when producer supply meets consumer demand. Every firm in a competitive market is undifferentiated and sells the same homogeneous products. Since no firm has any market power, they must all sell at whatever price the market determines. If there is money to be made, new firms will enter the market, increase supply, drive prices down, and thereby eliminate the profits that attracted them in the first place. If too many firms enter the market, they’ll suffer losses, some will fold, and prices will rise back to sustainable levels. Under perfect competition, in the long run *no company makes an economic profit*.

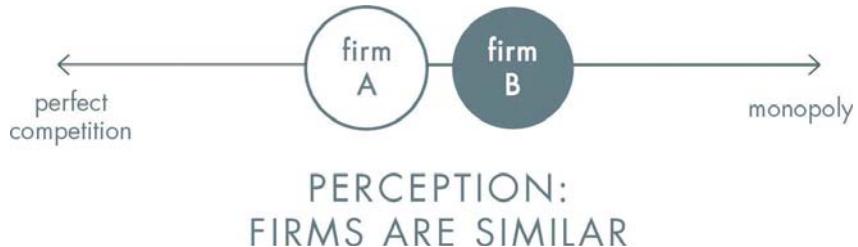
The opposite of perfect competition is monopoly. Whereas a competitive firm must sell at the market price, a monopoly owns its market, so it can set its own prices. Since it has no competition, it produces at the quantity and price combination that maximizes its profits.

To an economist, every monopoly looks the same, whether it deviously eliminates rivals, secures a license from the state, or innovates its way to the top. In this book, we’re not interested in illegal bullies or government favorites: by “monopoly,” we mean the kind of company that’s so good at what it does that no other firm can offer a close substitute. Google is a good example of a company that went from 0 to 1: it hasn’t competed in search since the early 2000s, when it definitively distanced itself from Microsoft and Yahoo!

Americans mythologize competition and credit it with saving us from socialist bread lines. Actually, capitalism and competition are opposites. Capitalism is premised on the accumulation of capital, but under perfect competition all profits get competed away. The lesson for entrepreneurs is clear: *if you want to create and capture lasting value, don’t build an undifferentiated commodity business.*

## LIES PEOPLE TELL

How much of the world is actually monopolistic? How much is truly competitive? It's hard to say, because our common conversation about these matters is so confused. To the outside observer, all businesses can seem reasonably alike, so it's easy to perceive only small differences between them.



But the reality is much more binary than that. There's an enormous difference between perfect competition and monopoly, and most businesses are much closer to one extreme than we commonly realize.



The confusion comes from a universal bias for describing market conditions in self-serving ways: both monopolists and competitors are incentivized to bend the truth.

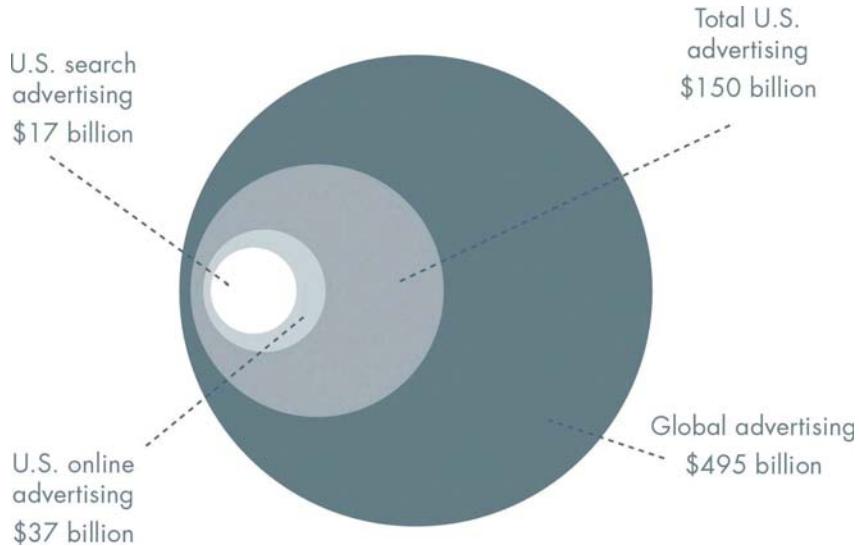
### *Monopoly Lies*

Monopolists lie to protect themselves. They know that bragging about their great monopoly invites being audited, scrutinized, and attacked. Since they very much want their monopoly profits to continue unmolested, they tend to do whatever they can to conceal their monopoly—usually by exaggerating the power of their (nonexistent) competition.

Think about how Google talks about its business. It certainly doesn't *claim* to be a monopoly. But is it one? Well, it depends: a monopoly in *what*? Let's say that Google is primarily a search engine. As of May 2014, it owns about 68% of the search market. (Its closest competitors, Microsoft and Yahoo!, have about 19% and 10%, respectively.) If that doesn't seem dominant enough, consider the fact that the word "google" is now an official entry in the *Oxford English Dictionary*—as a verb. Don't hold your breath waiting for that to happen to Bing.

But suppose we say that Google is primarily an advertising company. That changes things. The U.S. search engine advertising market is \$17 billion annually. Online advertising is \$37 billion annually. The entire U.S. advertising market is \$150 billion. And *global* advertising is a \$495 billion market. So even if Google completely monopolized U.S. search engine advertising, it would own just 3.4% of the global advertising market. From this angle, Google looks like a small player in a competitive

world.



What if we frame Google as a multifaceted technology company instead? This seems reasonable enough; in addition to its search engine, Google makes dozens of other software products, not to mention robotic cars, Android phones, and wearable computers. But 95% of Google's revenue comes from search advertising; its other products generated just \$2.35 billion in 2012, and its consumer tech products a mere fraction of that. Since consumer tech is a \$964 billion market globally, Google owns less than 0.24% of it—a far cry from relevance, let alone monopoly. Framing itself as just another tech company allows Google to escape all sorts of unwanted attention.

### *Competitive Lies*

Non-monopolists tell the opposite lie: “we’re in a league of our own.” Entrepreneurs are always biased to underestimate the scale of competition, but that is the biggest mistake a startup can make. The fatal temptation is to describe your market extremely narrowly so that you dominate it by definition.

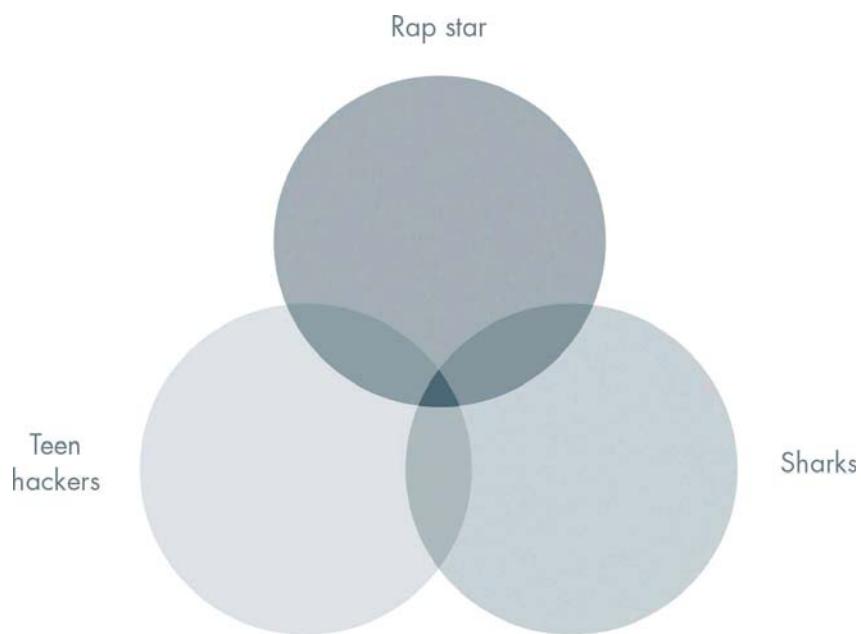
Suppose you want to start a restaurant that serves British food in Palo Alto. “No one else is doing it,” you might reason. “We’ll own the entire market.” But that’s only true if the relevant market is the market for British food specifically. What if the actual market is the Palo Alto restaurant market in general? And what if all the restaurants in nearby towns are part of the relevant market as well?

These are hard questions, but the bigger problem is that you have an incentive not to ask them at all. When you hear that most new restaurants fail within one or two years, your instinct will be to come up with a story about how yours is different. You’ll spend time trying to convince people that you are exceptional instead of seriously considering whether that’s true. It would be better to pause and consider whether there are people in Palo Alto who would rather eat British food above all else. It’s very possible they don’t exist.

In 2001, my co-workers at PayPal and I would often get lunch on Castro Street in Mountain View. We had our pick of restaurants, starting with obvious categories like Indian, sushi, and burgers. There were more options once we settled on a type: North Indian or South Indian, cheaper or fancier, and so on. In contrast to the competitive local restaurant market, PayPal was at that time the only email-

based payments company in the world. We employed fewer people than the restaurants on Castro Street did, but our business was much more valuable than all of those restaurants combined. Starting a new South Indian restaurant is a really hard way to make money. If you lose sight of competitive reality and focus on trivial differentiating factors—maybe you think your naan is superior because of your great-grandmother's recipe—your business is unlikely to survive.

Creative industries work this way, too. No screenwriter wants to admit that her new movie script simply rehashes what has already been done before. Rather, the pitch is: "This film will combine various exciting elements in entirely new ways." It could even be true. Suppose her idea is to have Jay-Z star in a cross between *Hackers* and *Jaws*: rap star joins elite group of hackers to catch the shark that killed his friend. *That* has definitely never been done before. But, like the lack of British restaurants in Palo Alto, maybe that's a good thing.



Non-monopolists exaggerate their distinction by defining their market as the *intersection* of various smaller markets:

British food  $\cap$  restaurant  $\cap$  Palo Alto

Rap star  $\cap$  hackers  $\cap$  sharks

Monopolists, by contrast, disguise their monopoly by framing their market as the *union* of several large markets:

search engine  $\cup$  mobile phones  $\cup$  wearable computers  $\cup$  self-driving cars

What does a monopolist's union story look like in practice? Consider a statement from Google chairman Eric Schmidt's testimony at a 2011 congressional hearing:

We face an extremely competitive landscape in which consumers have a multitude of options to

access information.

Or, translated from PR-speak to plain English:

Google is a small fish in a big pond. We could be swallowed whole at any time. We are not the monopoly that the government is looking for.

## RUTHLESS PEOPLE

The problem with a competitive business goes beyond lack of profits. Imagine you're running one of those restaurants in Mountain View. You're not that different from dozens of your competitors, so you've got to fight hard to survive. If you offer affordable food with low margins, you can probably pay employees only minimum wage. And you'll need to squeeze out every efficiency: that's why small restaurants put Grandma to work at the register and make the kids wash dishes in the back. Restaurants aren't much better even at the very highest rungs, where reviews and ratings like Michelin's star system enforce a culture of intense competition that can drive chefs crazy. (French chef and winner of three Michelin stars Bernard Loiseau was quoted as saying, "If I lose a star, I will commit suicide." Michelin maintained his rating, but Loiseau killed himself anyway in 2003 when a competing French dining guide downgraded his restaurant.) The competitive ecosystem pushes people toward ruthlessness or death.

A monopoly like Google is different. Since it doesn't have to worry about competing with anyone, it has wider latitude to care about its workers, its products, and its impact on the wider world. Google's motto—"Don't be evil"—is in part a branding ploy, but it's also characteristic of a kind of business that's successful enough to take ethics seriously without jeopardizing its own existence. In business, *money is either an important thing or it is everything*. Monopolists can afford to think about things other than making money; non-monopolists can't. In perfect competition, a business is so focused on today's margins that it can't possibly plan for a long-term future. Only one thing can allow a business to transcend the daily brute struggle for survival: monopoly profits.

## MONOPOLY CAPITALISM

So, a monopoly is good for everyone on the inside, but what about everyone on the outside? Do outsized profits come at the expense of the rest of society? Actually, yes: profits come out of customers' wallets, and monopolies deserve their bad reputation—but *only in a world where nothing changes*.

In a static world, a monopolist is just a rent collector. If you corner the market for something, you can jack up the price; others will have no choice but to buy from you. Think of the famous board game: deeds are shuffled around from player to player, but the board never changes. There's no way to win by inventing a better kind of real estate development. The relative values of the properties are fixed for all time, so all you can do is try to buy them up.

But the world we live in is dynamic: it's possible to invent new and better things. Creative monopolists give customers *more* choices by adding entirely new categories of abundance to the world. Creative monopolies aren't just good for the rest of society; they're powerful engines for making it better.

Even the government knows this: that's why one of its departments works hard to create monopolies (by granting patents to new inventions) even though another part hunts them down (by prosecuting antitrust cases). It's possible to question whether anyone should really be awarded a *legally enforceable* monopoly simply for having been the first to think of something like a mobile software design. But it's clear that something like Apple's monopoly profits from designing, producing, and marketing the iPhone were the reward for creating greater abundance, not artificial scarcity: customers were happy to finally have the choice of paying high prices to get a smartphone that actually works.

The dynamism of new monopolies itself explains why old monopolies don't strangle innovation. With Apple's iOS at the forefront, the rise of mobile computing has dramatically reduced Microsoft's decades-long operating system dominance. Before that, IBM's hardware monopoly of the '60s and '70s was overtaken by Microsoft's software monopoly. AT&T had a monopoly on telephone service for most of the 20th century, but now anyone can get a cheap cell phone plan from any number of providers. If the tendency of monopoly businesses were to hold back progress, they would be dangerous and we'd be right to oppose them. But the history of progress is a history of better monopoly businesses replacing incumbents.

Monopolies drive progress because the promise of years or even decades of monopoly profits provides a powerful incentive to innovate. Then monopolies can keep innovating because profits enable them to make the long-term plans and to finance the ambitious research projects that firms locked in competition can't dream of.

So why are economists obsessed with competition as an ideal state? It's a relic of history. Economists copied their mathematics from the work of 19th-century physicists: they see individuals and businesses as interchangeable atoms, not as unique creators. Their theories describe an equilibrium state of perfect competition because that's what's easy to model, not because it represents the best of business. But it's worth recalling that the long-run equilibrium predicted by 19th-century physics was a state in which all energy is evenly distributed and everything comes to rest—also known as the heat death of the universe. Whatever your views on thermodynamics, it's a powerful metaphor: in business, equilibrium means stasis, and stasis means death. If your industry is in a competitive equilibrium, the death of your business won't matter to the world; some other undifferentiated competitor will always be ready to take your place.

Perfect equilibrium may describe the void that is most of the universe. It may even characterize many businesses. But every new creation takes place far from equilibrium. In the real world outside economic theory, every business is successful exactly to the extent that it does something others cannot. Monopoly is therefore not a pathology or an exception. *Monopoly is the condition of every successful business.*

Tolstoy opens *Anna Karenina* by observing: “All happy families are alike; each unhappy family is unhappy in its own way.” Business is the opposite. All happy companies are different: each one earns a monopoly by solving a unique problem. All failed companies are the same: they failed to escape competition.



# THE IDEOLOGY OF COMPETITION

CREATIVE MONOPOLY means new products that benefit everybody and sustainable profits for the creator. Competition means no profits for anybody, no meaningful differentiation, and a struggle for survival. So why do people believe that competition is healthy? The answer is that competition is not just an economic concept or a simple inconvenience that individuals and companies must deal with in the marketplace. More than anything else, competition is an ideology—*the ideology*—that pervades our society and distorts our thinking. We preach competition, internalize its necessity, and enact its commandments; and as a result, we trap ourselves within it—even though the more we compete, the less we gain.

This is a simple truth, but we've all been trained to ignore it. Our educational system both drives and reflects our obsession with competition. Grades themselves allow precise measurement of each student's competitiveness; pupils with the highest marks receive status and credentials. We teach every young person the same subjects in mostly the same ways, irrespective of individual talents and preferences. Students who don't learn best by sitting still at a desk are made to feel somehow inferior, while children who excel on conventional measures like tests and assignments end up defining their identities in terms of this weirdly contrived academic parallel reality.

And it gets worse as students ascend to higher levels of the tournament. Elite students climb confidently until they reach a level of competition sufficiently intense to beat their dreams out of them. Higher education is the place where people who had big plans in high school get stuck in fierce rivalries with equally smart peers over conventional careers like management consulting and investment banking. For the privilege of being turned into conformists, students (or their families) pay hundreds of thousands of dollars in skyrocketing tuition that continues to outpace inflation. Why are we doing this to ourselves?

I wish I had asked myself when I was younger. My path was so tracked that in my 8th-grade yearbook, one of my friends predicted—accurately—that four years later I would enter Stanford as a sophomore. And after a conventionally successful undergraduate career, I enrolled at Stanford Law School, where I competed even harder for the standard badges of success.

The highest prize in a law student's world is unambiguous: out of tens of thousands of graduates each year, only a few dozen get a Supreme Court clerkship. After clerking on a federal appeals court for a year, I was invited to interview for clerkships with Justices Kennedy and Scalia. My meetings with the Justices went well. I was so close to winning this last competition. If only I got the clerkship, I thought, I would be set for life. But I didn't. At the time, I was devastated.

In 2004, after I had built and sold PayPal, I ran into an old friend from law school who had helped me prepare my failed clerkship applications. We hadn't spoken in nearly a decade. His first question wasn't "How are you doing?" or "Can you believe it's been so long?" Instead, he grinned and asked: "So, Peter, aren't you glad you didn't get that clerkship?" With the benefit of hindsight, we both knew that winning that ultimate competition would have changed my life for the worse. Had I actually clerked on the Supreme Court, I probably would have spent my entire career taking depositions or drafting other people's business deals instead of creating anything new. It's hard to say how much would be different, but the opportunity costs were enormous. All Rhodes Scholars had a great future in their past.



## WAR AND PEACE

Professors downplay the cutthroat culture of academia, but managers never tire of comparing business to war. MBA students carry around copies of Clausewitz and Sun Tzu. War metaphors invade our everyday business language: we use *headhunters* to build up a sales *force* that will enable us to take a *captive market* and *make a killing*. But really it's competition, not business, that is like war: allegedly necessary, supposedly valiant, but ultimately destructive.

Why do people compete with each other? Marx and Shakespeare provide two models for understanding almost every kind of conflict.

According to Marx, people fight because they are different. The proletariat fights the bourgeoisie because they have completely different ideas and goals (generated, for Marx, by their very different material circumstances). The greater the differences, the greater the conflict.

To Shakespeare, by contrast, all combatants look more or less alike. It's not at all clear why they should be fighting, since they have nothing to fight about. Consider the opening line from *Romeo and Juliet*: "Two households, both alike in dignity." The two houses are alike, yet they hate each other. They grow even more similar as the feud escalates. Eventually, they lose sight of why they started fighting in the first place.

In the world of business, at least, Shakespeare proves the superior guide. Inside a firm, people become obsessed with their competitors for career advancement. Then the firms themselves become obsessed with their competitors in the marketplace. Amid all the human drama, people lose sight of what matters and focus on their rivals instead.

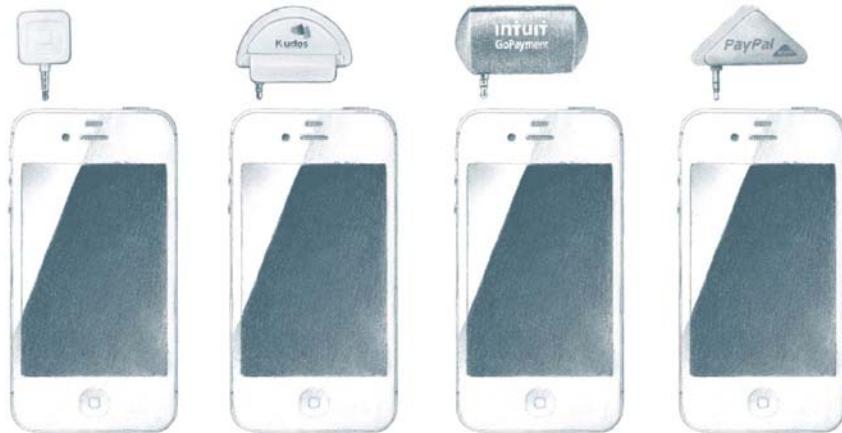
Let's test the Shakespearean model in the real world. Imagine a production called *Gates and Schmidt*, based on *Romeo and Juliet*. Montague is Microsoft. Capulet is Google. Two great families, run by alpha nerds, sure to clash on account of their sameness.

As with all good tragedy, the conflict seems inevitable only in retrospect. In fact it was entirely avoidable. These families came from very different places. The House of Montague built operating systems and office applications. The House of Capulet wrote a search engine. What was there to fight about?

Lots, apparently. As a startup, each clan had been content to leave the other alone and prosper independently. But as they grew, they began to focus on each other. Montagues obsessed about Capulets obsessed about Montagues. The result? Windows vs. Chrome OS, Bing vs. Google Search, Explorer vs. Chrome, Office vs. Docs, and Surface vs. Nexus.

Just as war cost the Montagues and Capulets their children, it cost Microsoft and Google their dominance: Apple came along and overtook them all. In January 2013, Apple's market capitalization was \$500 billion, while Google and Microsoft combined were worth \$467 billion. Just three years before, Microsoft and Google were *each* more valuable than Apple. War is costly business.

Rivalry causes us to overemphasize old opportunities and slavishly copy what has worked in the past. Consider the recent proliferation of mobile credit card readers. In October 2010, a startup called Square released a small, white, square-shaped product that let anyone with an iPhone swipe and accept credit cards. It was the first good payment processing solution for mobile handsets. Imitators promptly sprang into action. A Canadian company called NetSecure launched its own card reader in a half-moon shape. Intuit brought a cylindrical reader to the geometric battle. In March 2012, eBay's PayPal unit launched its own copycat card reader. It was shaped like a triangle—a clear jab at Square, as three sides are simpler than four. One gets the sense that this Shakespearean saga won't end until the apes run out of shapes.



The hazards of imitative competition may partially explain why individuals with an Asperger's-like social ineptitude seem to be at an advantage in Silicon Valley today. If you're less sensitive to social cues, you're less likely to do the same things as everyone else around you. If you're interested in making things or programming computers, you'll be less afraid to pursue those activities single-mindedly and thereby become incredibly good at them. Then when you apply your skills, you're a little less likely than others to give up your own convictions: this can save you from getting caught up in crowds competing for obvious prizes.

Competition can make people hallucinate opportunities where none exist. The crazy '90s version of this was the fierce battle for the online pet store market. It was Pets.com vs. PetStore.com vs. Petopia.com vs. what seemed like dozens of others. Each company was obsessed with defeating its rivals, precisely because there were no substantive differences to focus on. Amid all the tactical questions—Who could price chewy dog toys most aggressively? Who could create the best Super Bowl ads?—these companies totally lost sight of the wider question of whether the online pet supply market was the right space to be in. Winning is better than losing, but everybody loses when the war isn't one worth fighting. When Pets.com folded after the dot-com crash, \$300 million of investment capital disappeared with it.

Other times, rivalry is just weird and distracting. Consider the Shakespearean conflict between Larry Ellison, co-founder and CEO of Oracle, and Tom Siebel, a top salesman at Oracle and Ellison's protégé before he went on to found Siebel Systems in 1993. Ellison was livid at what he thought was Siebel's betrayal. Siebel hated being in the shadow of his former boss. The two men were basically identical—hard-charging Chicagoans who loved to sell and hated to lose—so their hatred ran deep. Ellison and Siebel spent the second half of the '90s trying to sabotage each other. At one point, Ellison sent truckloads of ice cream sandwiches to Siebel's headquarters to try to convince Siebel employees to jump ship. The copy on the wrappers? "Summer is near. Oracle is here. To brighten your day and your career."

Strangely, Oracle intentionally accumulated enemies. Ellison's theory was that it's always good to have an enemy, so long as it was large enough to *appear* threatening (and thus motivational to employees) but not so large as to actually threaten the company. So Ellison was probably thrilled when in 1996 a small database company called Informix put up a billboard near Oracle's Redwood Shores headquarters that read: CAUTION: DINOSAUR CROSSING. Another Informix billboard on northbound Highway 101 read: YOU'VE JUST PASSED REDWOOD SHORES. SO DID WE.

Oracle shot back with a billboard that implied that Informix's software was slower than snails.

Then Informix CEO Phil White decided to make things personal. When White learned that Larry Ellison enjoyed Japanese samurai culture, he commissioned a new billboard depicting the Oracle logo along with a broken samurai sword. The ad wasn't even really aimed at Oracle as an entity, let alone the consuming public; it was a personal attack on Ellison. But perhaps White spent a little too much time worrying about the competition: while he was busy creating billboards, Informix imploded in a massive accounting scandal and White soon found himself in federal prison for securities fraud.

If you can't beat a rival, it may be better to merge. I started Confinity with my co-founder Max Levchin in 1998. When we released the PayPal product in late 1999, Elon Musk's X.com was right on our heels: our companies' offices were four blocks apart on University Avenue in Palo Alto, and X's product mirrored ours feature-for-feature. By late 1999, we were in all-out war. Many of us at PayPal logged 100-hour workweeks. No doubt that was counterproductive, but the focus wasn't on objective productivity; the focus was defeating X.com. One of our engineers actually designed a bomb for this purpose; when he presented the schematic at a team meeting, calmer heads prevailed and the proposal was attributed to extreme sleep deprivation.

But in February 2000, Elon and I were more scared about the rapidly inflating tech bubble than we were about each other: a financial crash would ruin us both before we could finish our fight. So in early March we met on neutral ground—a café almost exactly equidistant to our offices—and negotiated a 50-50 merger. De-escalating the rivalry post-merger wasn't easy, but as far as problems go, it was a good one to have. As a unified team, we were able to ride out the dot-com crash and then build a successful business.

Sometimes you do have to fight. Where that's true, you should fight and win. There is no middle ground: either don't throw any punches, or strike hard and end it quickly.

This advice can be hard to follow because pride and honor can get in the way. Hence Hamlet:

*Exposing what is mortal and unsure  
To all that fortune, death, and danger dare,  
Even for an eggshell. Rightly to be great  
Is not to stir without great argument,  
But greatly to find quarrel in a straw  
When honor's at the stake.*

For Hamlet, greatness means willingness to fight for reasons as thin as an eggshell: *anyone* would fight for things that matter; true heroes take their personal honor so seriously they will fight for things that *don't* matter. This twisted logic is part of human nature, but it's disastrous in business. If you can recognize competition as a destructive force instead of a sign of value, you're already more sane than most. The next chapter is about how to use a clear head to build a monopoly business.



## LAST MOVER ADVANTAGE

**E**SCAPING COMPETITION will give you a monopoly, but even a monopoly is only a great business if it can endure in the future. Compare the value of the New York Times Company with Twitter. Each employs a few thousand people, and each gives millions of people a way to get news. But when Twitter went public in 2013, it was valued at \$24 billion—*more than 12 times* the Times’s market capitalization—even though the Times earned \$133 million in 2012 while Twitter *lost* money. What explains the huge premium for Twitter?

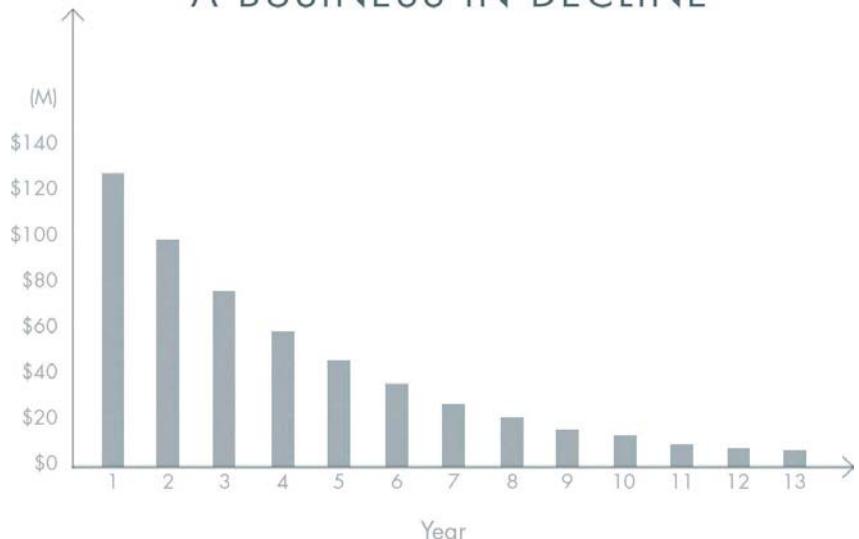
The answer is cash flow. This sounds bizarre at first, since the Times was profitable while Twitter wasn’t. But a great business is defined by its ability to generate cash flows *in the future*. Investors expect Twitter will be able to capture monopoly profits over the next decade, while newspapers’ monopoly days are over.

Simply stated, the value of a business today is the sum of all the money it will make in the future. (To properly value a business, you also have to discount those future cash flows to their present worth, since a given amount of money today is worth more than the same amount in the future.)

Comparing discounted cash flows shows the difference between low-growth businesses and high-growth startups at its starker. Most of the value of low-growth businesses is in the near term. An Old Economy business (like a newspaper) might hold its value if it can maintain its current cash flows for five or six years. However, any firm with close substitutes will see its profits competed away. Nightclubs or restaurants are extreme examples: successful ones might collect healthy amounts today, but their cash flows will probably dwindle over the next few years when customers move on to newer and trendier alternatives.

Technology companies follow the opposite trajectory. They often *lose* money for the first few years: it takes time to build valuable things, and that means delayed revenue. Most of a tech company’s value will come at least 10 to 15 years in the future.

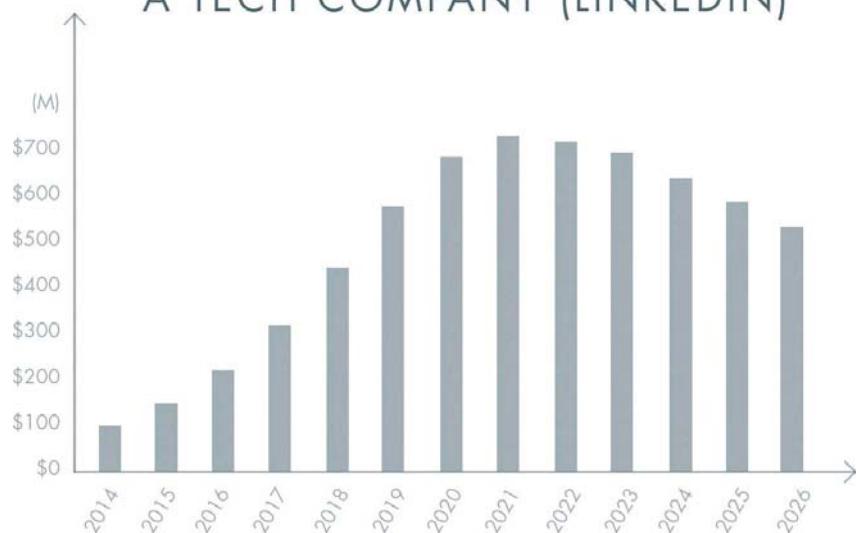
## PRESENT VALUE CASH FLOWS OF A BUSINESS IN DECLINE



In March 2001, PayPal had yet to make a profit but our revenues were growing 100% year-over-year. When I projected our future cash flows, I found that 75% of the company's present value would come from profits generated in 2011 and beyond—hard to believe for a company that had been in business for only 27 months. But even that turned out to be an underestimation. Today, PayPal continues to grow at about 15% annually, and the discount rate is lower than a decade ago. It now appears that most of the company's value will come from 2020 and beyond.

LinkedIn is another good example of a company whose value exists in the far future. As of early 2014, its market capitalization was \$24.5 billion—very high for a company with less than \$1 billion in revenue and only \$21.6 million in net income for 2012. You might look at these numbers and conclude that investors have gone insane. But this valuation makes sense when you consider LinkedIn's projected future cash flows.

## PRESENT VALUE CASH FLOWS OF A TECH COMPANY (LINKEDIN)



The overwhelming importance of future profits is counterintuitive even in Silicon Valley. For a company to be valuable it must grow *and endure*, but many entrepreneurs focus only on short-term growth. They have an excuse: growth is easy to measure, but durability isn't. Those who succumb to measurement mania obsess about weekly active user statistics, monthly revenue targets, and quarterly earnings reports. However, you can hit those numbers and still overlook deeper, harder-to-measure problems that threaten the durability of your business.

For example, rapid short-term growth at both Zynga and Groupon distracted managers and investors from long-term challenges. Zynga scored early wins with games like Farmville and claimed to have a “psychometric engine” to rigorously gauge the appeal of new releases. But they ended up with the same problem as every Hollywood studio: how can you reliably produce a constant stream of popular entertainment for a fickle audience? (Nobody knows.) Groupon posted fast growth as hundreds of thousands of local businesses tried their product. But persuading those businesses to become repeat customers was harder than they thought.

If you focus on near-term growth above all else, you miss the most important question you should be asking: *will this business still be around a decade from now?* Numbers alone won't tell you the answer; instead you must think critically about the qualitative characteristics of your business.

## CHARACTERISTICS OF MONOPOLY

What does a company with large cash flows far into the future look like? Every monopoly is unique, but they usually share some combination of the following characteristics: proprietary technology, network effects, economies of scale, and branding.

This isn't a list of boxes to check as you build your business—there's no shortcut to monopoly. However, analyzing your business according to these characteristics can help you think about how to make it durable.

### *1. Proprietary Technology*

Proprietary technology is the most substantive advantage a company can have because it makes your product difficult or impossible to replicate. Google's search algorithms, for example, return results better than anyone else's. Proprietary technologies for extremely short page load times and highly accurate query autocompletion add to the core search product's robustness and defensibility. It would be very hard for anyone to do to Google what Google did to all the other search engine companies in the early 2000s.

As a good rule of thumb, proprietary technology must be at least 10 times better than its closest substitute in some important dimension to lead to a real monopolistic advantage. Anything less than an order of magnitude better will probably be perceived as a marginal improvement and will be hard to sell, especially in an already crowded market.

The clearest way to make a 10x improvement is to invent something completely new. If you build something valuable where there was nothing before, the increase in value is theoretically infinite. A drug to safely eliminate the need for sleep, or a cure for baldness, for example, would certainly support a monopoly business.

Or you can radically improve an existing solution: once you're 10x better, you escape competition. PayPal, for instance, made buying and selling on eBay at least 10 times better. Instead of mailing a check that would take 7 to 10 days to arrive, PayPal let buyers pay as soon as an auction ended. Sellers received their proceeds right away, and unlike with a check, they knew the funds were good.

Amazon made its first 10x improvement in a particularly visible way: they offered at least 10 times as many books as any other bookstore. When it launched in 1995, Amazon could claim to be "Earth's largest bookstore" because, unlike a retail bookstore that might stock 100,000 books, Amazon didn't need to physically store any inventory—it simply requested the title from its supplier whenever a customer made an order. This quantum improvement was so effective that a very unhappy Barnes & Noble filed a lawsuit three days before Amazon's IPO, claiming that Amazon was unfairly calling itself a "bookstore" when really it was a "book broker."

You can also make a 10x improvement through superior integrated design. Before 2010, tablet computing was so poor that for all practical purposes the market didn't even exist. "Microsoft Windows XP Tablet PC Edition" products first shipped in 2002, and Nokia released its own "Internet Tablet" in 2005, but they were a pain to use. Then Apple released the iPad. Design improvements are hard to measure, but it seems clear that Apple improved on anything that had come before by at least an order of magnitude: tablets went from unusable to useful.

## *2. Network Effects*

Network effects make a product more useful as more people use it. For example, if all your friends are on Facebook, it makes sense for you to join Facebook, too. Unilaterally choosing a different social network would only make you an eccentric.

Network effects can be powerful, but you'll never reap them unless your product is valuable to its very first users when the network is necessarily small. For example, in 1960 a quixotic company called Xanadu set out to build a two-way communication network between all computers—a sort of early, synchronous version of the World Wide Web. After more than three decades of futile effort, Xanadu folded just as the web was becoming commonplace. Their technology probably would have worked at scale, but it could have worked *only* at scale: it required every computer to join the network at the same time, and that was never going to happen.

Paradoxically, then, network effects businesses must start with especially small markets. Facebook started with just Harvard students—Mark Zuckerberg's first product was designed to get all his classmates signed up, not to attract all people of Earth. This is why successful network businesses rarely get started by MBA types: the initial markets are so small that they often don't even appear to be business opportunities at all.

## *3. Economies of Scale*

A monopoly business gets stronger as it gets bigger: the fixed costs of creating a product (engineering, management, office space) can be spread out over ever greater quantities of sales. Software startups can enjoy especially dramatic economies of scale because the marginal cost of producing another copy of the product is close to zero.

Many businesses gain only limited advantages as they grow to large scale. Service businesses especially are difficult to make monopolies. If you own a yoga studio, for example, you'll only be able to serve a certain number of customers. You can hire more instructors and expand to more locations, but your margins will remain fairly low and you'll never reach a point where a core group of talented people can provide something of value to millions of separate clients, as software engineers are able to do.

A good startup should have the potential for great scale built into its first design. Twitter already has more than 250 million users today. It doesn't need to add too many customized features in order to acquire more, and there's no inherent reason why it should ever stop growing.

## *4. Branding*

A company has a monopoly on its own brand by definition, so creating a strong brand is a powerful way to claim a monopoly. Today's strongest tech brand is Apple: the attractive looks and carefully chosen materials of products like the iPhone and MacBook, the Apple Stores' sleek minimalist design and close control over the consumer experience, the omnipresent advertising campaigns, the price positioning as a maker of premium goods, and the lingering nimbus of Steve Jobs's personal charisma all contribute to a perception that Apple offers products so good as to constitute a category of their own.

Many have tried to learn from Apple's success: paid advertising, branded stores, luxurious

materials, playful keynote speeches, high prices, and even minimalist design are all susceptible to imitation. But these techniques for polishing the surface don't work without a strong underlying substance. Apple has a complex suite of proprietary technologies, both in hardware (like superior touchscreen materials) and software (like touchscreen interfaces purpose-designed for specific materials). It manufactures products at a scale large enough to dominate pricing for the materials it buys. And it enjoys strong network effects from its content ecosystem: thousands of developers write software for Apple devices because that's where hundreds of millions of users are, and those users stay on the platform because it's where the apps are. These other monopolistic advantages are less obvious than Apple's sparkling brand, but they are the fundamentals that let the branding effectively reinforce Apple's monopoly.

Beginning with brand rather than substance is dangerous. Ever since Marissa Mayer became CEO of Yahoo! in mid-2012, she has worked to revive the once-popular internet giant by making it cool again. In a single tweet, Yahoo! summarized Mayer's plan as a chain reaction of "people then products then traffic then revenue." The people are supposed to come for the coolness: Yahoo! demonstrated design awareness by overhauling its logo, it asserted youthful relevance by acquiring hot startups like Tumblr, and it has gained media attention for Mayer's own star power. But the big question is what products Yahoo! will actually create. When Steve Jobs returned to Apple, he didn't just make Apple a cool place to work; he slashed product lines to focus on the handful of opportunities for 10x improvements. No technology company can be built on branding alone.

## BUILDING A MONOPOLY

Brand, scale, network effects, and technology in some combination define a monopoly; but to get them to work, you need to choose your market carefully and expand deliberately.

### *Start Small and Monopolize*

Every startup is small at the start. Every monopoly dominates a large share of its market. *Therefore, every startup should start with a very small market.* Always err on the side of starting too small. The reason is simple: it's easier to dominate a small market than a large one. If you think your initial market might be too big, it almost certainly is.

Small doesn't mean nonexistent. We made this mistake early on at PayPal. Our first product let people beam money to each other via PalmPilots. It was interesting technology and no one else was doing it. However, the world's millions of PalmPilot users weren't concentrated in a particular place, they had little in common, and they used their devices only episodically. Nobody needed our product, so we had no customers.

With that lesson learned, we set our sights on eBay auctions, where we found our first success. In late 1999, eBay had a few thousand high-volume "PowerSellers," and after only three months of dedicated effort, we were serving 25% of them. It was much easier to reach a few thousand people who really needed our product than to try to compete for the attention of millions of scattered individuals.

The perfect target market for a startup is a small group of particular people concentrated together and served by few or no competitors. Any big market is a bad choice, and a big market already served by competing companies is even worse. This is why it's always a red flag when entrepreneurs talk about getting 1% of a \$100 billion market. In practice, a large market will either lack a good starting point or it will be open to competition, so it's hard to ever reach that 1%. And even if you do succeed in gaining a small foothold, you'll have to be satisfied with keeping the lights on: cutthroat competition means your profits will be zero.

### *Scaling Up*

Once you create and dominate a niche market, then you should gradually expand into related and slightly broader markets. Amazon shows how it can be done. Jeff Bezos's founding vision was to dominate all of online retail, but he very deliberately started with books. There were millions of books to catalog, but they all had roughly the same shape, they were easy to ship, and some of the most rarely sold books—those least profitable for any retail store to keep in stock—also drew the most enthusiastic customers. Amazon became the dominant solution for anyone located far from a bookstore or seeking something unusual. Amazon then had two options: expand the number of people who read books, or expand to adjacent markets. They chose the latter, starting with the most similar markets: CDs, videos, and software. Amazon continued to add categories gradually until it had become the world's general store. The name itself brilliantly encapsulated the company's scaling strategy. The biodiversity of the Amazon rain forest reflected Amazon's first goal of cataloging every book in the world, and now it stands for every kind of thing in the world, period.

eBay also started by dominating small niche markets. When it launched its auction marketplace in

1995, it didn't need the whole world to adopt it at once; the product worked well for intense interest groups, like Beanie Baby obsessives. Once it monopolized the Beanie Baby trade, eBay didn't jump straight to listing sports cars or industrial surplus: it continued to cater to small-time hobbyists until it became the most reliable marketplace for people trading online no matter what the item.

Sometimes there are hidden obstacles to scaling—a lesson that eBay has learned in recent years. Like all marketplaces, the auction marketplace lent itself to natural monopoly because buyers go where the sellers are and vice versa. But eBay found that the auction model works best for individually distinctive products like coins and stamps. It works less well for commodity products: people don't want to bid on pencils or Kleenex, so it's more convenient just to buy them from Amazon. eBay is still a valuable monopoly; it's just smaller than people in 2004 expected it to be.

Sequencing markets correctly is underrated, and it takes discipline to expand gradually. The most successful companies make the core progression—to first dominate a specific niche and then scale to adjacent markets—a part of their founding narrative.

### *Don't Disrupt*

Silicon Valley has become obsessed with “disruption.” Originally, “disruption” was a term of art to describe how a firm can use new technology to introduce a low-end product at low prices, improve the product over time, and eventually overtake even the premium products offered by incumbent companies using older technology. This is roughly what happened when the advent of PCs disrupted the market for mainframe computers: at first PCs seemed irrelevant, then they became dominant. Today mobile devices may be doing the same thing to PCs.

However, disruption has recently transmogrified into a self-congratulatory buzzword for anything posing as trendy and new. This seemingly trivial fad matters because it distorts an entrepreneur's self-understanding in an inherently competitive way. The concept was coined to describe threats to incumbent companies, so startups' obsession with disruption means they see themselves through older firms' eyes. If you think of yourself as an insurgent battling dark forces, it's easy to become unduly fixated on the obstacles in your path. But if you truly want to make something new, the act of creation is far more important than the old industries that might not like what you create. Indeed, if your company can be summed up by its opposition to already existing firms, it can't be completely new and it's probably not going to become a monopoly.

Disruption also attracts attention: disruptors are people who look for trouble and find it. Disruptive kids get sent to the principal's office. Disruptive companies often pick fights they can't win. Think of Napster: the name itself meant trouble. What kinds of things can one “nap”? Music ... Kids ... and perhaps not much else. Shawn Fanning and Sean Parker, Napster's then-teenage founders, credibly threatened to disrupt the powerful music recording industry in 1999. The next year, they made the cover of *Time* magazine. A year and a half after that, they ended up in bankruptcy court.

PayPal could be seen as disruptive, but we didn't try to directly challenge any large competitor. It's true that we took some business away from Visa when we popularized internet payments: you might use PayPal to buy something online instead of using your Visa card to buy it in a store. But since we expanded the market for payments overall, we gave Visa far more business than we took. The overall dynamic was net positive, unlike Napster's negative-sum struggle with the U.S. recording industry. As you craft a plan to expand to adjacent markets, don't disrupt: avoid competition as much as possible.

## THE LAST WILL BE FIRST

You've probably heard about "first mover advantage": if you're the first entrant into a market, you can capture significant market share while competitors scramble to get started. But moving first is a tactic, not a goal. What really matters is generating cash flows in the future, so being the first mover doesn't do you any good if someone else comes along and unseats you. It's much better to be the *last* mover—that is, to make the last great development in a specific market and enjoy years or even decades of monopoly profits. The way to do that is to dominate a small niche and scale up from there, toward your ambitious long-term vision. In this one particular at least, business is like chess. Grandmaster José Raúl Capablanca put it well: to succeed, "you must study the endgame before everything else."



# YOU ARE NOT A LOTTERY TICKET

**T**HE MOST CONTENTIOUS question in business is whether success comes from luck or skill.

What do successful people say? Malcolm Gladwell, a successful author who writes about successful people, declares in *Outliers* that success results from a “patchwork of lucky breaks and arbitrary advantages.” Warren Buffett famously considers himself a “member of the lucky sperm club” and a winner of the “ovarian lottery.” Jeff Bezos attributes Amazon’s success to an “incredible planetary alignment” and jokes that it was “half luck, half good timing, and the rest brains.” Bill Gates even goes so far as to claim that he “was lucky to be born with certain skills,” though it’s not clear whether that’s actually possible.

Perhaps these guys are being strategically humble. However, the phenomenon of serial entrepreneurship would seem to call into question our tendency to explain success as the product of chance. Hundreds of people have started multiple multimillion-dollar businesses. A few, like Steve Jobs, Jack Dorsey, and Elon Musk, have created several *multibillion-dollar* companies. If success were mostly a matter of luck, these kinds of serial entrepreneurs probably wouldn’t exist.

In January 2013, Jack Dorsey, founder of Twitter and Square, tweeted to his 2 million followers: “Success is never accidental.”

Most of the replies were unambiguously negative. Referencing the tweet in *The Atlantic*, reporter Alexis Madrigal wrote that his instinct was to reply: “‘Success is never accidental,’ said all multimillionaire white men.” It’s true that already successful people have an easier time doing new things, whether due to their networks, wealth, or experience. But perhaps we’ve become too quick to dismiss anyone who claims to have succeeded according to plan.

Is there a way to settle this debate objectively? Unfortunately not, because companies are not experiments. To get a scientific answer about Facebook, for example, we’d have to rewind to 2004, create 1,000 copies of the world, and start Facebook in each copy to see how many times it would succeed. But that experiment is impossible. Every company starts in unique circumstances, and every company starts only once. Statistics doesn’t work when the sample size is one.

From the Renaissance and the Enlightenment to the mid-20th century, luck was something to be mastered, dominated, and controlled; everyone agreed that you should do what you could, not focus on what you couldn’t. Ralph Waldo Emerson captured this ethos when he wrote: “Shallow men believe in luck, believe in circumstances.... Strong men believe in cause and effect.” In 1912, after he became the first explorer to reach the South Pole, Roald Amundsen wrote: “Victory awaits him who has everything in order—luck, people call it.” No one pretended that misfortune didn’t exist, but prior generations believed in making their own luck by working hard.

If you believe your life is mainly a matter of chance, why read this book? Learning about startups is worthless if you’re just reading stories about people who won the lottery. *Slot Machines for Dummies* can purport to tell you which kind of rabbit’s foot to rub or how to tell which machines are “hot,” but it can’t tell you how to win.

Did Bill Gates simply win the intelligence lottery? Was Sheryl Sandberg born with a silver spoon, or did she “lean in”? When we debate historical questions like these, luck is in the past tense. Far more important are questions about the future: is it a matter of chance or design?

## CAN YOU CONTROL YOUR FUTURE?

You can expect the future to take a definite form or you can treat it as hazily uncertain. If you treat the future as something definite, it makes sense to understand it in advance and to work to shape it. But if you expect an indefinite future ruled by randomness, you'll give up on trying to master it.

Indefinite attitudes to the future explain what's most dysfunctional in our world today. Process trumps substance: when people lack concrete plans to carry out, they use formal rules to assemble a portfolio of various options. This describes Americans today. In middle school, we're encouraged to start hoarding "extracurricular activities." In high school, ambitious students compete even harder to appear omnicompetent. By the time a student gets to college, he's spent a decade curating a bewilderingly diverse résumé to prepare for a completely unknowable future. Come what may, he's ready—for nothing in particular.

A definite view, by contrast, favors firm convictions. Instead of pursuing many-sided mediocrity and calling it "well-roundedness," a definite person determines the one best thing to do and then does it. Instead of working tirelessly to make herself indistinguishable, she strives to be great at something substantive—to be a monopoly of one. This is not what young people do today, because everyone around them has long since lost faith in a definite world. No one gets into Stanford by excelling at just one thing, unless that thing happens to involve throwing or catching a leather ball.

	DEFINITE	INDEFINITE
OPTIMISTIC	U.S., 1950s–1960s	U.S., 1982–present
PESSIMISTIC	China, present	Europe, present

You can also expect the future to be either better or worse than the present. Optimists welcome the future; pessimists fear it. Combining these possibilities yields four views:

### *Indefinite Pessimism*

Every culture has a myth of decline from some golden age, and almost all peoples throughout history

have been pessimists. Even today pessimism still dominates huge parts of the world. An *indefinite pessimist* looks out onto a bleak future, but he has no idea what to do about it. This describes Europe since the early 1970s, when the continent succumbed to undirected bureaucratic drift. Today the whole Eurozone is in slow-motion crisis, and nobody is in charge. The European Central Bank doesn't stand for anything but improvisation: the U.S. Treasury prints "In God We Trust" on the dollar; the ECB might as well print "Kick the Can Down the Road" on the euro. Europeans just react to events as they happen and hope things don't get worse. The indefinite pessimist can't know whether the inevitable decline will be fast or slow, catastrophic or gradual. All he can do is wait for it to happen, so he might as well eat, drink, and be merry in the meantime: hence Europe's famous vacation mania.

### *Definite Pessimism*

A *definite pessimist* believes the future can be known, but since it will be bleak, he must prepare for it. Perhaps surprisingly, China is probably the most definitely pessimistic place in the world today. When Americans see the Chinese economy grow ferociously fast (10% per year since 2000), we imagine a confident country mastering its future. But that's because Americans are still optimists, and we project our optimism onto China. From China's viewpoint, economic growth cannot come fast enough. Every other country is afraid that China is going to take over the world; China is the only country afraid that it won't.

China can grow so fast only because its starting base is so low. The easiest way for China to grow is to relentlessly copy what has already worked in the West. And that's exactly what it's doing: executing definite plans by burning ever more coal to build ever more factories and skyscrapers. But with a huge population pushing resource prices higher, there's no way Chinese living standards can ever actually catch up to those of the richest countries, and the Chinese know it.

This is why the Chinese leadership is obsessed with the way in which things threaten to get worse. Every senior Chinese leader experienced famine as a child, so when the Politburo looks to the future, disaster is not an abstraction. The Chinese public, too, knows that winter is coming. Outsiders are fascinated by the great fortunes being made inside China, but they pay less attention to the wealthy Chinese trying hard to get their money out of the country. Poorer Chinese just save everything they can and hope it will be enough. Every class of people in China takes the future deadly seriously.

### *Definite Optimism*

To a *definite optimist*, the future will be better than the present if he plans and works to make it better. From the 17th century through the 1950s and '60s, definite optimists led the Western world. Scientists, engineers, doctors, and businessmen made the world richer, healthier, and more long-lived than previously imaginable. As Karl Marx and Friedrich Engels saw clearly, the 19th-century business class

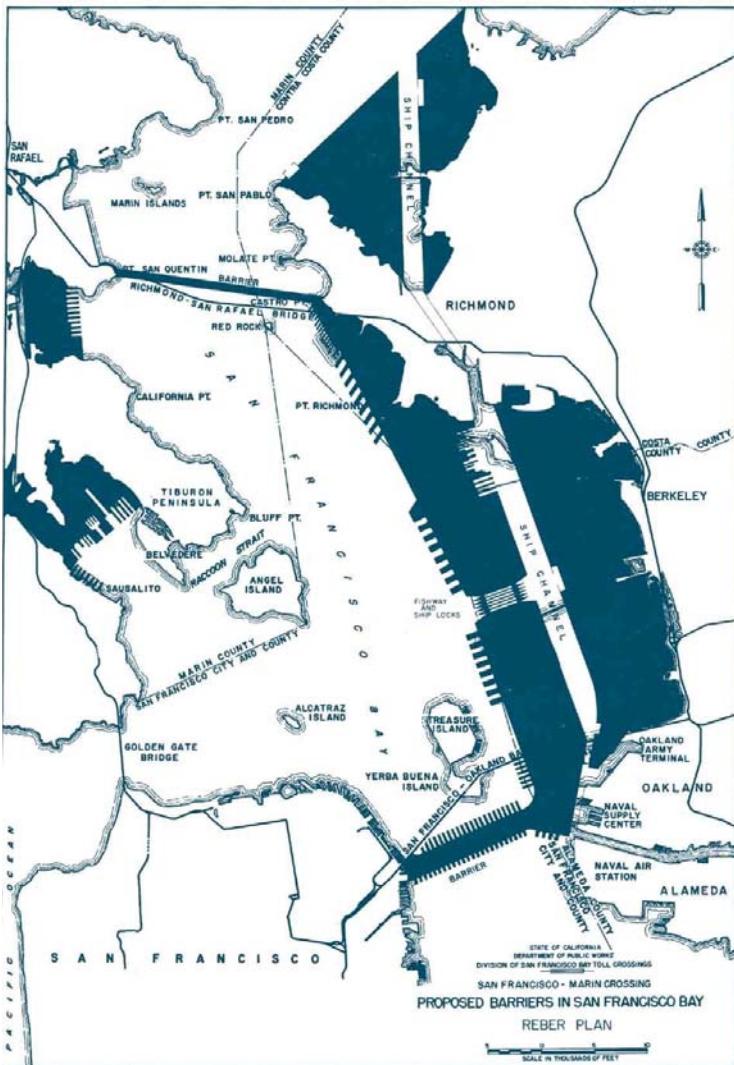
created more massive and more colossal productive forces than all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier

century had even a presentiment that such productive forces slumbered in the lap of social labor?

Each generation's inventors and visionaries surpassed their predecessors. In 1843, the London public was invited to make its first crossing underneath the River Thames by a newly dug tunnel. In 1869, the Suez Canal saved Eurasian shipping traffic from rounding the Cape of Good Hope. In 1914 the Panama Canal cut short the route from Atlantic to Pacific. Even the Great Depression failed to impede relentless progress in the United States, which has always been home to the world's most far-seeing definite optimists. The Empire State Building was started in 1929 and finished in 1931. The Golden Gate Bridge was started in 1933 and completed in 1937. The Manhattan Project was started in 1941 and had already produced the world's first nuclear bomb by 1945. Americans continued to remake the face of the world in peacetime: the Interstate Highway System began construction in 1956, and the first 20,000 miles of road were open for driving by 1965. Definite planning even went beyond the surface of this planet: NASA's Apollo Program began in 1961 and put 12 men on the moon before it finished in 1972.

Bold plans were not reserved just for political leaders or government scientists. In the late 1940s, a Californian named John Reber set out to reinvent the physical geography of the whole San Francisco Bay Area. Reber was a schoolteacher, an amateur theater producer, and a self-taught engineer. Undaunted by his lack of credentials, he publicly proposed to build two huge dams in the Bay, construct massive freshwater lakes for drinking water and irrigation, and reclaim 20,000 acres of land for development. Even though he had no personal authority, people took the Reber Plan seriously. It was endorsed by newspaper editorial boards across California. The U.S. Congress held hearings on its feasibility. The Army Corps of Engineers even constructed a 1.5-acre scale model of the Bay in a cavernous Sausalito warehouse to simulate it. These tests revealed technical shortcomings, so the plan wasn't executed.

But would anybody today take such a vision seriously in the first place? In the 1950s, people welcomed big plans and asked whether they would work. Today a grand plan coming from a schoolteacher would be dismissed as crankery, and a long-range vision coming from anyone more powerful would be derided as hubris. You can still visit the Bay Model in that Sausalito warehouse, but today it's just a tourist attraction: big plans for the future have become archaic curiosities.



In the 1950s, Americans thought big plans for the future were too important to be left to experts.

### *Indefinite Optimism*

After a brief pessimistic phase in the 1970s, indefinite optimism has dominated American thinking ever since 1982, when a long bull market began and finance eclipsed engineering as the way to approach the future. To an *indefinite optimist*, the future will be better, but he doesn't know how exactly, so he won't make any specific plans. He expects to profit from the future but sees no reason to design it concretely.

Instead of working for years to build a new product, indefinite optimists rearrange already-invented ones. Bankers make money by rearranging the capital structures of already existing companies. Lawyers resolve disputes over old things or help other people structure their affairs. And private equity investors and management consultants don't start new businesses; they squeeze extra efficiency from old ones with incessant procedural optimizations. It's no surprise that these fields all attract disproportionate numbers of high-achieving Ivy League optionality chasers; what could be a

more appropriate reward for two decades of résumé-building than a seemingly elite, process-oriented career that promises to “keep options open”?

Recent graduates’ parents often cheer them on the established path. The strange history of the Baby Boom produced a generation of indefinite optimists so used to effortless progress that they feel entitled to it. Whether you were born in 1945 or 1950 or 1955, things got better every year for the first 18 years of your life, *and it had nothing to do with you*. Technological advance seemed to accelerate automatically, so the Boomers grew up with great expectations but few specific plans for how to fulfill them. Then, when technological progress stalled in the 1970s, increasing income inequality came to the rescue of the most elite Boomers. Every year of adulthood continued to get automatically better and better for the rich and successful. The rest of their generation was left behind, but the wealthy Boomers who shape public opinion today see little reason to question their naïve optimism. Since tracked careers worked for them, they can’t imagine that they won’t work for their kids, too.

Malcolm Gladwell says you can’t understand Bill Gates’s success without understanding his fortunate personal context: he grew up in a good family, went to a private school equipped with a computer lab, and counted Paul Allen as a childhood friend. But perhaps you can’t understand Malcolm Gladwell without understanding *his* historical context as a Boomer (born in 1963). When Baby Boomers grow up and write books to explain why one or another individual is successful, they point to the power of a particular individual’s context as determined by chance. But they miss the even bigger social context for their own preferred explanations: a whole generation learned from childhood to overrate the power of chance and underrate the importance of planning. Gladwell at first appears to be making a contrarian critique of the myth of the self-made businessman, but actually his own account encapsulates the conventional view of a generation.

# OUR INDEFINITELY OPTIMISTIC WORLD

## *Indefinite Finance*

While a definitely optimistic future would need engineers to design underwater cities and settlements in space, an indefinitely optimistic future calls for more bankers and lawyers. Finance epitomizes indefinite thinking because it's the only way to make money when you have no idea how to create wealth. If they don't go to law school, bright college graduates head to Wall Street precisely because they have no real plan for their careers. And once they arrive at Goldman, they find that even *inside* finance, everything is indefinite. It's still optimistic—you wouldn't play in the markets if you expected to lose—but the fundamental tenet is that the market is random; you can't know anything specific or substantive; diversification becomes supremely important.

The indefiniteness of finance can be bizarre. Think about what happens when successful entrepreneurs sell their company. What do they do with the money? In a financialized world, it unfolds like this:

- The founders don't know what to do with it, so they give it to a large bank.
- The bankers don't know what to do with it, so they diversify by spreading it across a portfolio of institutional investors.
- Institutional investors don't know what to do with their managed capital, so they diversify by amassing a portfolio of stocks.
- Companies try to increase their share price by generating free cash flows. If they do, they issue dividends or buy back shares and the cycle repeats.

At no point does anyone in the chain know what to do with money in the real economy. But in an indefinite world, people actually *prefer* unlimited optionality; money is more valuable than anything you could possibly do with it. Only in a definite future is money a means to an end, not the end itself.

## *Indefinite Politics*

Politicians have always been officially accountable to the public at election time, but today they are attuned to what the public thinks *at every moment*. Modern polling enables politicians to tailor their image to match preexisting public opinion exactly, so for the most part, they do. Nate Silver's election predictions are remarkably accurate, but even more remarkable is how big a story they become every four years. We are more fascinated today by statistical predictions of what the country will be thinking in a few weeks' time than by visionary predictions of what the country will look like 10 or 20 years from now.

And it's not just the electoral process—the very character of government has become indefinite, too. The government used to be able to coordinate complex solutions to problems like atomic weaponry and lunar exploration. But today, after 40 years of indefinite creep, the government mainly just provides insurance; our solutions to big problems are Medicare, Social Security, and a dizzying array of other transfer payment programs. It's no surprise that entitlement spending has eclipsed discretionary spending every year since 1975. To increase discretionary spending we'd need definite plans to solve specific problems. But according to the indefinite logic of entitlement spending, we can

make things better just by sending out more checks.

### *Indefinite Philosophy*

You can see the shift to an indefinite attitude not just in politics but in the political philosophers whose ideas underpin both left and right.

The philosophy of the ancient world was pessimistic: Plato, Aristotle, Epicurus, and Lucretius all accepted strict limits on human potential. The only question was how best to cope with our tragic fate. Modern philosophers have been mostly optimistic. From Herbert Spencer on the right and Hegel in the center to Marx on the left, the 19th century shared a belief in progress. (Remember Marx and Engels's encomium to the technological triumphs of capitalism from [this page](#).) These thinkers expected material advances to fundamentally change human life for the better: they were definite optimists.

In the late 20th century, indefinite philosophies came to the fore. The two dominant political thinkers, John Rawls and Robert Nozick, are usually seen as stark opposites: on the egalitarian left, Rawls was concerned with questions of fairness and distribution; on the libertarian right, Nozick focused on maximizing individual freedom. They both believed that people could get along with each other peacefully, so unlike the ancients, they were optimistic. But unlike Spencer or Marx, Rawls and Nozick were *indefinite* optimists: they didn't have any specific vision of the future.

	DEFINITE	INDEFINITE
OPTIMISTIC	Hegel, Marx	Nozick, Rawls
PESSIMISTIC	Plato, Aristotle	Epicurus, Lucretius

Their indefiniteness took different forms. Rawls begins *A Theory of Justice* with the famous “veil of ignorance”: fair political reasoning is supposed to be impossible for anyone with knowledge of the world as it concretely exists. Instead of trying to change our actual world of unique people and real technologies, Rawls fantasized about an “inherently stable” society with lots of fairness but little dynamism. Nozick opposed Rawls’s “patterned” concept of justice. To Nozick, any voluntary exchange must be allowed, and no social pattern could be noble enough to justify maintenance by

coercion. He didn't have any more concrete ideas about the good society than Rawls: both of them focused on process. Today, we exaggerate the differences between left-liberal egalitarianism and libertarian individualism because almost everyone shares their common indefinite attitude. In philosophy, politics, and business, too, arguing over process has become a way to endlessly defer making concrete plans for a better future.

### *Indefinite Life*

Our ancestors sought to understand and extend the human lifespan. In the 16th century, conquistadors searched the jungles of Florida for a Fountain of Youth. Francis Bacon wrote that “the prolongation of life” should be considered its own branch of medicine—and the noblest. In the 1660s, Robert Boyle placed life extension (along with “the Recovery of Youth”) atop his famous wish list for the future of science. Whether through geographic exploration or laboratory research, the best minds of the Renaissance thought of death as something to defeat. (Some resisters were killed in action: Bacon caught pneumonia and died in 1626 while experimenting to see if he could extend a chicken’s life by freezing it in the snow.)

We haven’t yet uncovered the secrets of life, but insurers and statisticians in the 19th century successfully revealed a secret about death that still governs our thinking today: they discovered how to reduce it to a mathematical probability. “Life tables” tell us our chances of dying in any given year, something previous generations didn’t know. However, in exchange for better insurance contracts, we seem to have given up the search for secrets about longevity. Systematic knowledge of the current range of human lifespans has made that range seem natural. Today our society is permeated by the twin ideas that death is both inevitable and random.

Meanwhile, probabilistic attitudes have come to shape the agenda of biology itself. In 1928, Scottish scientist Alexander Fleming found that a mysterious antibacterial fungus had grown on a petri dish he’d forgotten to cover in his laboratory: he discovered penicillin by accident. Scientists have sought to harness the power of chance ever since. Modern drug discovery aims to amplify Fleming’s serendipitous circumstances a millionfold: pharmaceutical companies search through combinations of molecular compounds at random, hoping to find a hit.

But it’s not working as well as it used to. Despite dramatic advances over the past two centuries, in recent decades biotechnology hasn’t met the expectations of investors—or patients. Eroom’s law—that’s Moore’s law backward—observes that the number of new drugs approved per billion dollars spent on R&D has halved every nine years since 1950. Since information technology accelerated faster than ever during those same years, the big question for biotech today is whether it will ever see similar progress. Compare biotech startups to their counterparts in computer software:

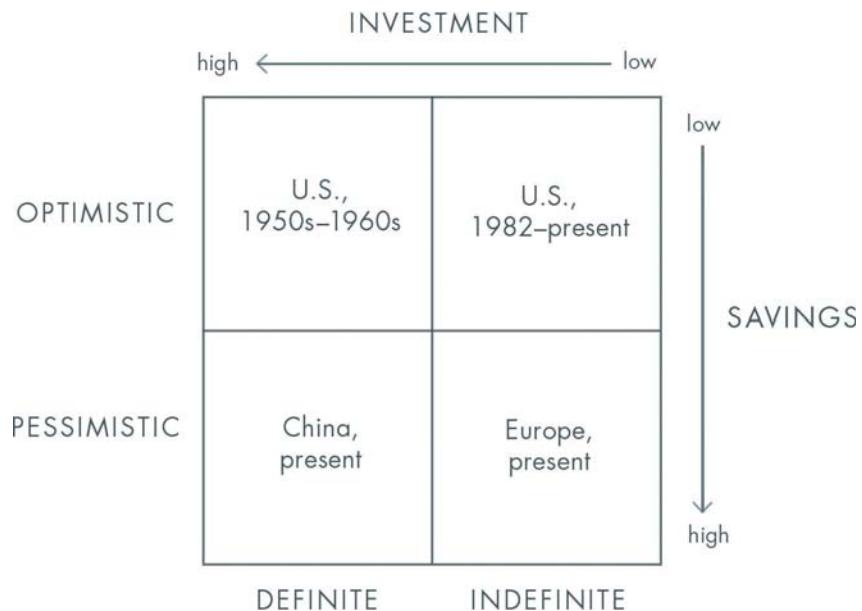
	Biotech Startups	Software Startups
Subject	Uncontrollable organisms	Perfectly determinate code
Environment	Poorly understood, natural	Well understood, artificial
Approach	Indefinite, random	Definite, engineering
Regulation	Heavily regulated	Basically unregulated
Cost	Expensive (> \$1B per drug)	Cheap (a little seed money)
Team	High-salaried, unaligned lab drones	Committed entrepreneurial hackers

Biotech startups are an extreme example of indefinite thinking. Researchers experiment with things that just might work instead of refining definite theories about how the body's systems operate. Biologists say they need to work this way because the underlying biology is hard. According to them, IT startups work because we created computers ourselves and designed them to reliably obey our commands. Biotech is difficult because we didn't design our bodies, and the more we learn about them, the more complex they turn out to be.

But today it's possible to wonder whether the genuine difficulty of biology has become an excuse for biotech startups' indefinite approach to business in general. Most of the people involved expect some things to work eventually, but few want to commit to a specific company with the level of intensity necessary for success. It starts with the professors who often become part-time consultants instead of full-time employees—even for the biotech startups that begin from their own research. Then everyone else imitates the professors' indefinite attitude. It's easy for libertarians to claim that heavy regulation holds biotech back—and it does—but indefinite optimism may pose an even greater challenge for the future of biotech.

## IS INDEFINITE OPTIMISM EVEN POSSIBLE?

What kind of future will our indefinitely optimistic decisions bring about? If American households were saving, at least they could expect to have money to spend later. And if American companies were investing, they could expect to reap the rewards of new wealth in the future. But U.S. households are saving almost nothing. And U.S. companies are letting cash pile up on their balance sheets without investing in new projects because they don't have any concrete plans for the future.



The other three views of the future can work. Definite optimism works when you build the future you envision. Definite pessimism works by building what can be copied without expecting anything new. Indefinite pessimism works because it's self-fulfilling: if you're a slacker with low expectations, they'll probably be met. But indefinite optimism seems inherently unsustainable: how can the future get better if no one plans for it?

Actually, most everybody in the modern world has already heard an answer to this question: progress without planning is what we call "evolution." Darwin himself wrote that life tends to "progress" without anybody intending it. Every living thing is just a random iteration on some other organism, and the best iterations win.

Darwin's theory explains the origin of trilobites and dinosaurs, but can it be extended to domains that are far removed? Just as Newtonian physics can't explain black holes or the Big Bang, it's not clear that Darwinian biology should explain how to build a better society or how to create a new business out of nothing. Yet in recent years Darwinian (or pseudo-Darwinian) metaphors have become common in business. Journalists analogize literal survival in competitive ecosystems to corporate survival in competitive markets. Hence all the headlines like "Digital Darwinism," "Dot-com Darwinism," and "Survival of the Clickiest."

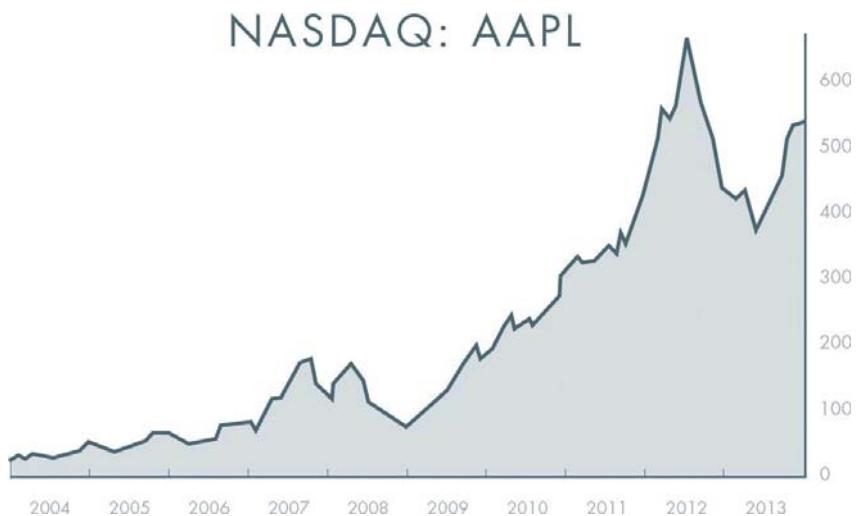
Even in engineering-driven Silicon Valley, the buzzwords of the moment call for building a "lean startup" that can "adapt" and "evolve" to an ever-changing environment. Would-be entrepreneurs are told that nothing can be known in advance: we're supposed to listen to what customers say they want, make nothing more than a "minimum viable product," and iterate our way to success.

But leanness is a methodology, not a goal. Making small changes to things that already exist might lead you to a local maximum, but it won't help you find the global maximum. You could build the best version of an app that lets people order toilet paper from their iPhone. But iteration without a bold plan won't take you from 0 to 1. A company is the strangest place of all for an indefinite optimist: why should you expect your own business to succeed without a plan to make it happen? Darwinism may be a fine theory in other contexts, but in startups, intelligent design works best.

## THE RETURN OF DESIGN

What would it mean to prioritize design over chance? Today, “good design” is an aesthetic imperative, and everybody from slackers to yuppies carefully “curates” their outward appearance. It’s true that every great entrepreneur is first and foremost a designer. Anyone who has held an iDevice or a smoothly machined MacBook has felt the result of Steve Jobs’s obsession with visual and experiential perfection. But the most important lesson to learn from Jobs has nothing to do with aesthetics. The greatest thing Jobs designed was his business. Apple imagined and executed definite multi-year plans to create new products and distribute them effectively. Forget “minimum viable products”—ever since he started Apple in 1976, Jobs saw that you can change the world through careful planning, not by listening to focus group feedback or copying others’ successes.

Long-term planning is often undervalued by our indefinite short-term world. When the first iPod was released in October 2001, industry analysts couldn’t see much more than “a nice feature for Macintosh users” that “doesn’t make any difference” to the rest of the world. Jobs planned the iPod to be the first of a new generation of portable post-PC devices, but that secret was invisible to most people. One look at the company’s stock chart shows the harvest of this multi-year plan:



The power of planning explains the difficulty of valuing private companies. When a big company makes an offer to acquire a successful startup, it almost always offers too much or too little: founders only sell when they have no more concrete visions for the company, in which case the acquirer probably overpaid; definite founders with robust plans don’t sell, which means the offer wasn’t high enough. When Yahoo! offered to buy Facebook for \$1 billion in July 2006, I thought we should at least consider it. But Mark Zuckerberg walked into the board meeting and announced: “Okay, guys, this is just a formality, it shouldn’t take more than 10 minutes. We’re obviously not going to sell here.” Mark saw where he could take the company, and Yahoo! didn’t. A business with a good definite plan will always be underrated in a world where people see the future as random.

## YOU ARE NOT A LOTTERY TICKET

We have to find our way back to a definite future, and the Western world needs nothing short of a cultural revolution to do it.

Where to start? John Rawls will need to be displaced in philosophy departments. Malcolm Gladwell must be persuaded to change his theories. And pollsters have to be driven from politics. But the philosophy professors and the Gladwells of the world are set in their ways, to say nothing of our politicians. It's extremely hard to make changes in those crowded fields, even with brains and good intentions.

A startup is the largest endeavor over which you can have definite mastery. You can have agency not just over your own life, but over a small and important part of the world. It begins by rejecting the unjust tyranny of Chance. You are not a lottery ticket.



## FOLLOW THE MONEY

**M**ONEY MAKES MONEY. “For whoever has will be given more, and they will have an abundance. Whoever does not have, even what they have will be taken from them” (Matthew 25:29). Albert Einstein made the same observation when he stated that compound interest was “the eighth wonder of the world,” “the greatest mathematical discovery of all time,” or even “the most powerful force in the universe.” Whichever version you prefer, you can’t miss his message: never underestimate exponential growth. Actually, there’s no evidence that Einstein ever said any of those things—the quotations are all apocryphal. But this very misattribution reinforces the message: having invested the principal of a lifetime’s brilliance, Einstein continues to earn interest on it from beyond the grave by receiving credit for things he never said.

Most sayings are forgotten. At the other extreme, a select few people like Einstein and Shakespeare are constantly quoted and ventriloquized. We shouldn’t be surprised, since small minorities often achieve disproportionate results. In 1906, economist Vilfredo Pareto discovered what became the “Pareto principle,” or the 80-20 rule, when he noticed that 20% of the people owned 80% of the land in Italy—a phenomenon that he found just as natural as the fact that 20% of the peapods in his garden produced 80% of the peas. This extraordinarily stark pattern, in which a small few radically outstrip all rivals, surrounds us everywhere in the natural and social world. The most destructive earthquakes are many times more powerful than all smaller earthquakes combined. The biggest cities dwarf all mere towns put together. And monopoly businesses capture more value than millions of undifferentiated competitors. Whatever Einstein did or didn’t say, the power law—so named because exponential equations describe severely unequal distributions—is the law of the universe. It defines our surroundings so completely that we usually don’t even see it.

This chapter shows how the power law becomes visible when you follow the money: in venture capital, where investors try to profit from exponential growth in early-stage companies, a few companies attain exponentially greater value than all others. Most businesses never need to deal with venture capital, but everyone needs to know exactly one thing that even venture capitalists struggle to understand: we don’t live in a normal world; we live under a power law.

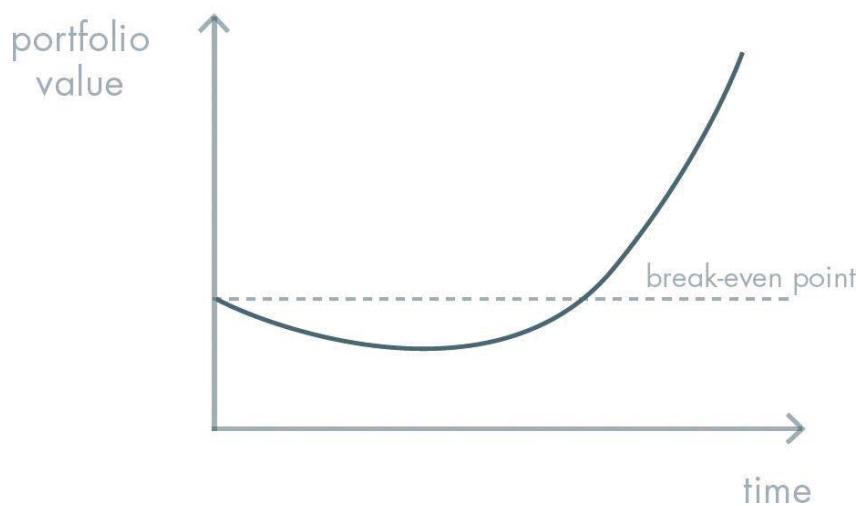
## THE POWER LAW OF VENTURE CAPITAL

Venture capitalists aim to identify, fund, and profit from promising early-stage companies. They raise money from institutions and wealthy people, pool it into a fund, and invest in technology companies that they believe will become more valuable. If they turn out to be right, they take a cut of the returns—usually 20%. A venture fund makes money when the companies in its portfolio become more valuable and either go public or get bought by larger companies. Venture funds usually have a 10-year lifespan since it takes time for successful companies to grow and “exit.”

But most venture-backed companies don’t IPO or get acquired; most fail, usually soon after they start. Due to these early failures, a venture fund typically loses money at first. VCs hope the value of the fund will increase dramatically in a few years’ time, to break-even and beyond, when the successful portfolio companies hit their exponential growth spurts and start to scale.

The big question is when this takeoff will happen. For most funds, the answer is never. Most startups fail, and most funds fail with them. Every VC knows that his task is to find the companies that will succeed. However, even seasoned investors understand this phenomenon only superficially. They know companies are different, but they underestimate the degree of difference.

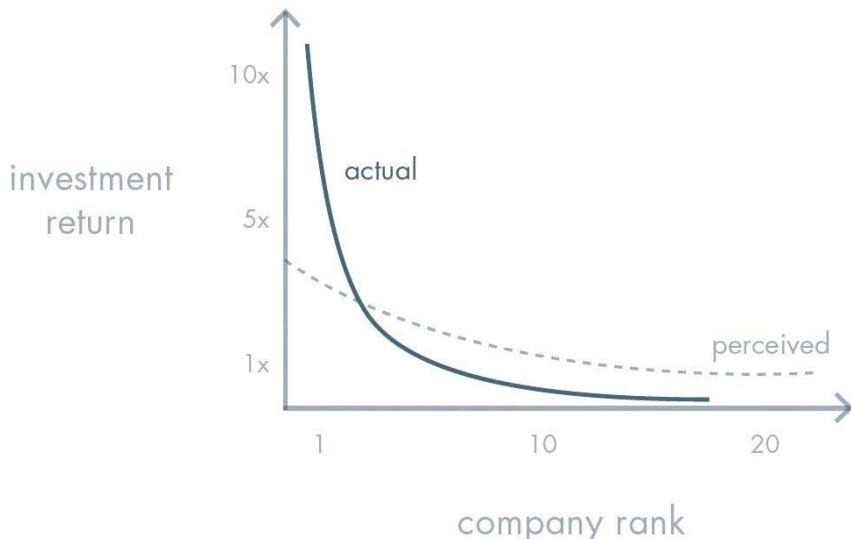
### J-CURVE OF A SUCCESSFUL VENTURE FUND



The error lies in expecting that venture returns will be normally distributed: that is, bad companies will fail, mediocre ones will stay flat, and good ones will return 2x or even 4x. Assuming this bland pattern, investors assemble a diversified portfolio and hope that winners counterbalance losers.

But this “spray and pray” approach usually produces an entire portfolio of flops, with no hits at all. This is because venture returns don’t follow a normal distribution overall. Rather, they follow a power law: a small handful of companies radically outperform all others. If you focus on diversification instead of single-minded pursuit of the very few companies that can become overwhelmingly valuable, you’ll miss those rare companies in the first place.

This graph shows the stark reality versus the perceived relative homogeneity:



Our results at Founders Fund illustrate this skewed pattern: Facebook, the best investment in our 2005 fund, returned more than all the others combined. Palantir, the second-best investment, is set to return more than the sum of every other investment aside from Facebook. This highly uneven pattern is not unusual: we see it in all our other funds as well. *The biggest secret in venture capital is that the best investment in a successful fund equals or outperforms the entire rest of the fund combined.*

This implies two very strange rules for VCs. First, only invest in companies that have the potential to return the value of the entire fund. This is a scary rule, because it eliminates the vast majority of possible investments. (Even quite successful companies usually succeed on a more humble scale.) This leads to rule number two: because rule number one is so restrictive, there can't be any other rules.

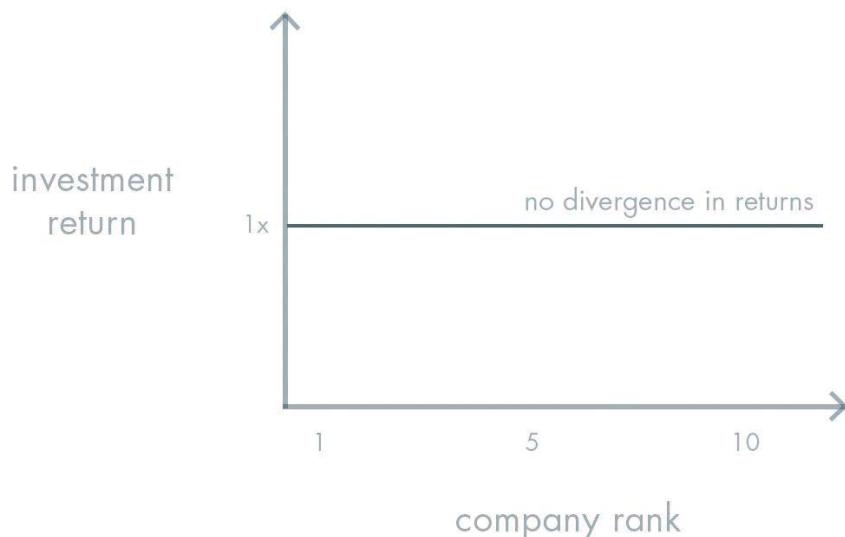
Consider what happens when you break the first rule. Andreessen Horowitz invested \$250,000 in Instagram in 2010. When Facebook bought Instagram just two years later for \$1 billion, Andreessen netted \$78 million—a 312x return in less than two years. That's a phenomenal return, befitting the firm's reputation as one of the Valley's best. But in a weird way it's not nearly enough, because Andreessen Horowitz has a \$1.5 billion fund: if they only wrote \$250,000 checks, they would need to find 19 Instagrams just to break even. This is why investors typically put a lot more money into any company worth funding. (And to be fair, Andreessen would have invested more in Instagram's later rounds had it not been conflicted out by a previous investment.) VCs must find the handful of companies that will successfully go from 0 to 1 and then back them with every resource.

Of course, no one can know with certainty *ex ante* which companies will succeed, so even the best VC firms have a “portfolio.” However, *every single company in a good venture portfolio must have the potential to succeed at vast scale*. At Founders Fund, we focus on five to seven companies in a fund, each of which we think could become a multibillion-dollar business based on its unique fundamentals. Whenever you shift from the substance of a business to the financial question of whether or not it fits into a diversified hedging strategy, venture investing starts to look a lot like buying lottery tickets. And once you think that you're playing the lottery, you've already psychologically prepared yourself to lose.

## WHY PEOPLE DON'T SEE THE POWER LAW

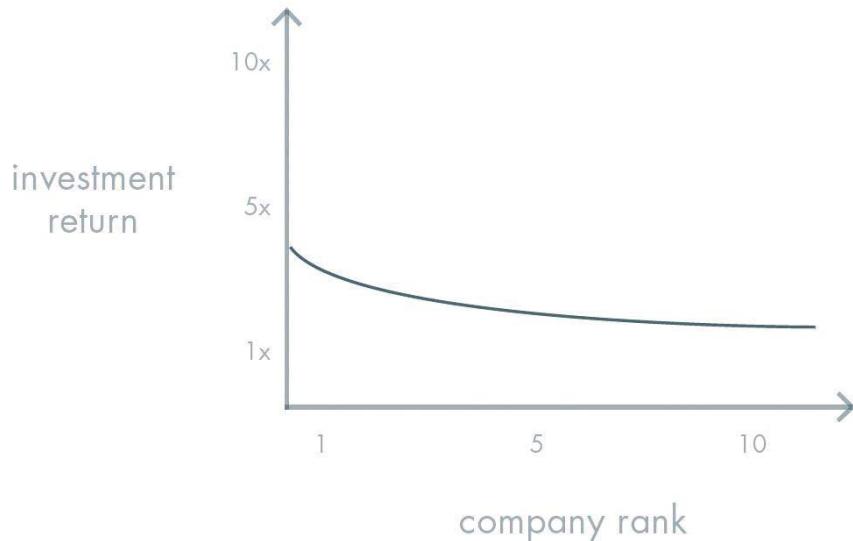
Why would professional VCs, of all people, fail to see the power law? For one thing, it only becomes clear over time, and even technology investors too often live in the present. Imagine a firm invests in 10 companies with the potential to become monopolies—already an unusually disciplined portfolio. Those companies will look very similar in the early stages before exponential growth.

### BEGINNING OF FUND



Over the next few years, some companies will fail while others begin to succeed; valuations will diverge, but the difference between exponential growth and linear growth will be unclear.

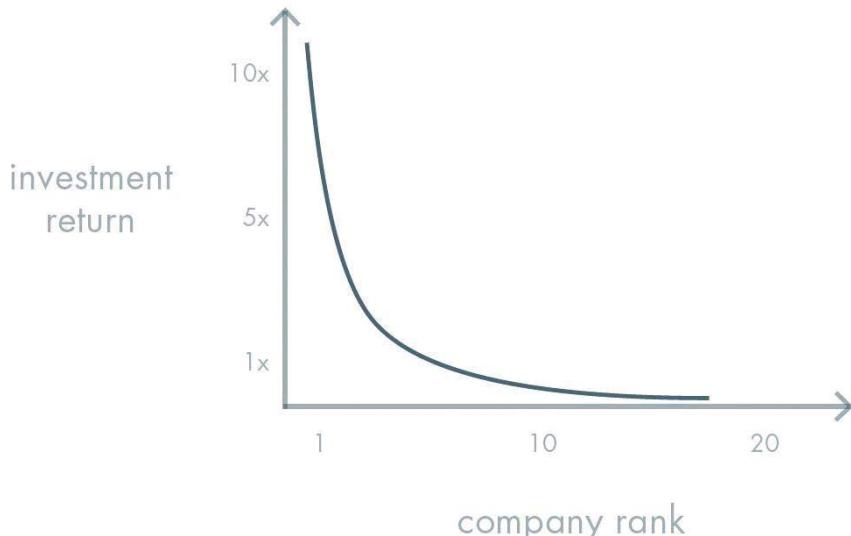
## MID-FUND



After 10 years, however, the portfolio won't be divided between winners and losers; it will be split between one dominant investment and everything else.

But no matter how unambiguous the end result of the power law, it doesn't reflect daily experience. Since investors spend most of their time making new investments and attending to companies in their early stages, most of the companies they work with are by definition average. Most of the differences that investors and entrepreneurs perceive every day are between relative levels of success, not between exponential dominance and failure. And since nobody wants to give up on an investment, VCs usually spend even more time on the most problematic companies than they do on the most obviously successful.

## MATURE FUND



If even investors specializing in exponentially growing startups miss the power law, it's not surprising that most everyone else misses it, too. Power law distributions are so big that they hide in plain sight. For example, when most people outside Silicon Valley think of venture capital, they might picture a small and quirky coterie—like ABC's *Shark Tank*, only without commercials. After all, less than 1% of new businesses started each year in the U.S. receive venture funding, and total VC investment accounts for less than 0.2% of GDP. But the results of those investments disproportionately propel the entire economy. Venture-backed companies create 11% of all private sector jobs. They generate annual revenues equivalent to an astounding 21% of GDP. Indeed, the dozen largest tech companies were all venture-backed. Together those 12 companies are worth more than \$2 trillion, *more than all other tech companies combined*.

## WHAT TO DO WITH THE POWER LAW

The power law is not just important to investors; rather, it's important to everybody because everybody is an investor. An entrepreneur makes a major investment just by spending her time working on a startup. Therefore every entrepreneur must think about whether her company is going to succeed and become valuable. Every individual is unavoidably an investor, too. When you choose a career, you act on your belief that the kind of work you do will be valuable decades from now.

The most common answer to the question of future value is a diversified portfolio: “Don’t put all your eggs in one basket,” everyone has been told. As we said, even the best venture investors have a portfolio, but investors who understand the power law make as few investments as possible. The kind of portfolio thinking embraced by both folk wisdom and financial convention, by contrast, regards diversified betting as a source of strength. The more you dabble, the more you are supposed to have hedged against the uncertainty of the future.

But life is not a portfolio: not for a startup founder, and not for any individual. An entrepreneur cannot “diversify” herself: you cannot run dozens of companies at the same time and then hope that one of them works out well. Less obvious but just as important, an individual cannot diversify his own life by keeping dozens of equally possible careers in ready reserve.

Our schools teach the opposite: institutionalized education traffics in a kind of homogenized, generic knowledge. Everybody who passes through the American school system learns *not* to think in power law terms. Every high school course period lasts 45 minutes whatever the subject. Every student proceeds at a similar pace. At college, model students obsessively hedge their futures by assembling a suite of exotic and minor skills. Every university believes in “excellence,” and hundred-page course catalogs arranged alphabetically according to arbitrary departments of knowledge seem designed to reassure you that “it doesn’t matter what you do, as long as you do it well.” That is completely false. It does matter what you do. You should focus relentlessly on something you’re good at doing, but before that you must think hard about whether it will be valuable in the future.

For the startup world, this means you should not necessarily start your own company, even if you are extraordinarily talented. If anything, too many people are starting their own companies today. People who understand the power law will hesitate more than others when it comes to founding a new venture: they know how tremendously successful they could become by joining the very best company while it’s growing fast. The power law means that differences *between* companies will dwarf the differences in roles *inside* companies. You could have 100% of the equity if you fully fund your own venture, but if it fails you’ll have 100% of nothing. Owning just 0.01% of Google, by contrast, is incredibly valuable (more than \$35 million as of this writing).

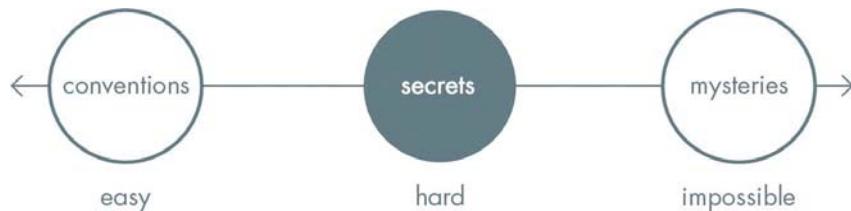
If you do start your own company, you must remember the power law to operate it well. The most important things are singular: One market will probably be better than all others, as we discussed in [Chapter 5](#). One distribution strategy usually dominates all others, too—for that see [Chapter 11](#). Time and decision-making themselves follow a power law, and some moments matter far more than others—see [Chapter 9](#). However, you can’t trust a world that denies the power law to accurately frame your decisions for you, so what’s most important is rarely obvious. It might even be secret. But in a power law world, you can’t afford not to think hard about where your actions will fall on the curve.



# SECRETS

EVERY ONE OF TODAY's most famous and familiar ideas was once unknown and unsuspected. The mathematical relationship between a triangle's sides, for example, was secret for millennia. Pythagoras had to think hard to discover it. If you wanted in on Pythagoras's new discovery, joining his strange vegetarian cult was the best way to learn about it. Today, his geometry has become a convention—a simple truth we teach to grade schoolers. A conventional truth can be important—it's essential to learn elementary mathematics, for example—but it won't give you an edge. It's not a secret.

Remember our contrarian question: *what important truth do very few people agree with you on?* If we already understand as much of the natural world as we ever will—if all of today's conventional ideas are already enlightened, and if everything has already been done—then there are no good answers. Contrarian thinking doesn't make any sense unless the world still has secrets left to give up.



Of course, there are many things we don't yet understand, but some of those things may be impossible to figure out—mysteries rather than secrets. For example, string theory describes the physics of the universe in terms of vibrating one-dimensional objects called “strings.” Is string theory true? You can't really design experiments to test it. Very few people, if any, could ever understand all its implications. But is that just because it's difficult? Or is it an impossible mystery? The difference matters. You can achieve difficult things, but you can't achieve the impossible.

Recall the business version of our contrarian question: *what valuable company is nobody building?* Every correct answer is necessarily a secret: something important and unknown, something hard to do but doable. If there are many secrets left in the world, there are probably many world-changing companies yet to be started. This chapter will help you think about secrets and how to find them.

## WHY AREN'T PEOPLE LOOKING FOR SECRETS?

Most people act as if there were no secrets left to find. An extreme representative of this view is Ted Kaczynski, infamously known as the Unabomber. Kaczynski was a child prodigy who enrolled at Harvard at 16. He went on to get a PhD in math and become a professor at UC Berkeley. But you've only ever heard of him because of the 17-year terror campaign he waged with pipe bombs against professors, technologists, and businesspeople.

In late 1995, the authorities didn't know who or where the Unabomber was. The biggest clue was a 35,000-word manifesto that Kaczynski had written and anonymously mailed to the press. The FBI asked some prominent newspapers to publish it, hoping for a break in the case. It worked: Kaczynski's brother recognized his writing style and turned him in.

You might expect that writing style to have shown obvious signs of insanity, but the manifesto is eerily cogent. Kaczynski claimed that in order to be happy, every individual "needs to have goals whose attainment requires effort, and needs to succeed in attaining at least some of his goals." He divided human goals into three groups:

1. Goals that can be satisfied with minimal effort;
2. Goals that can be satisfied with serious effort; and
3. Goals that cannot be satisfied, no matter how much effort one makes.

This is the classic trichotomy of the easy, the hard, and the impossible. Kaczynski argued that modern people are depressed because all the world's hard problems have already been solved. What's left to do is either easy or impossible, and pursuing those tasks is deeply unsatisfying. What you can do, even a child can do; what you can't do, even Einstein couldn't have done. So Kaczynski's idea was to destroy existing institutions, get rid of all technology, and let people start over and work on hard problems anew.

Kaczynski's methods were crazy, but his loss of faith in the technological frontier is all around us. Consider the trivial but revealing hallmarks of urban hipsterdom: faux vintage photography, the handlebar mustache, and vinyl record players all hark back to an earlier time when people were still optimistic about the future. If everything worth doing has already been done, you may as well feign an allergy to achievement and become a barista.



Hipster or Unabomber?

All fundamentalists think this way, not just terrorists and hipsters. Religious fundamentalism, for example, allows no middle ground for hard questions: there are easy truths that children are expected to rattle off, and then there are the mysteries of God, which can't be explained. In between—the zone of hard truths—lies heresy. In the modern religion of environmentalism, the easy truth is that we must protect the environment. Beyond that, Mother Nature knows best, and she cannot be questioned. Free marketeers worship a similar logic. The value of things is set by the market. Even a child can look up stock quotes. But whether those prices make sense is not to be second-guessed; the market knows far more than you ever could.

Why has so much of our society come to believe that there are no hard secrets left? It might start with geography. There are no blank spaces left on the map anymore. If you grew up in the 18th century, there were still new places to go. After hearing tales of foreign adventure, you could become an explorer yourself. This was probably true up through the 19th and early 20th centuries; after that point photography from *National Geographic* showed every Westerner what even the most exotic, underexplored places on earth look like. Today, explorers are found mostly in history books and children's tales. Parents don't expect their kids to become explorers any more than they expect them to become pirates or sultans. Perhaps there are a few dozen uncontacted tribes somewhere deep in the Amazon, and we know there remains one last earthly frontier in the depths of the oceans. But the unknown seems less accessible than ever.

Along with the natural fact that physical frontiers have receded, four social trends have conspired to root out belief in secrets. First is incrementalism. From an early age, we are taught that the right way to do things is to proceed one very small step at a time, day by day, grade by grade. If you overachieve and end up learning something that's not on the test, you won't receive credit for it. But in exchange for doing exactly what's asked of you (and for doing it just a bit better than your peers), you'll get an A. This process extends all the way up through the tenure track, which is why academics usually chase large numbers of trivial publications instead of new frontiers.

Second is risk aversion. People are scared of secrets because they are scared of being wrong. By definition, a secret hasn't been vetted by the mainstream. If your goal is to never make a mistake in

your life, you shouldn't look for secrets. The prospect of being lonely but right—dedicating your life to something that no one else believes in—is already hard. The prospect of being lonely and *wrong* can be unbearable.

Third is complacency. Social elites have the most freedom and ability to explore new thinking, but they seem to believe in secrets the least. Why search for a new secret if you can comfortably collect rents on everything that has already been done? Every fall, the deans at top law schools and business schools welcome the incoming class with the same implicit message: “You got into this elite institution. Your worries are over. You’re set for life.” But that’s probably the kind of thing that’s true only if you don’t believe it.

Fourth is “flatness.” As globalization advances, people perceive the world as one homogeneous, highly competitive marketplace: the world is “flat.” Given that assumption, anyone who might have had the ambition to look for a secret will first ask himself: if it were possible to discover something new, wouldn’t someone from the faceless global talent pool of smarter and more creative people have found it already? This voice of doubt can dissuade people from even starting to look for secrets in a world that seems too big a place for any individual to contribute something unique.

There’s an optimistic way to describe the result of these trends: today, you can’t start a cult. Forty years ago, people were more open to the idea that not all knowledge was widely known. From the Communist Party to the Hare Krishnas, large numbers of people thought they could join some enlightened vanguard that would show them the Way. Very few people take unorthodox ideas seriously today, and the mainstream sees that as a sign of progress. We can be glad that there are fewer crazy cults now, yet that gain has come at great cost: we have given up our sense of wonder at secrets left to be discovered.

## THE WORLD ACCORDING TO CONVENTION

How must you see the world if you don't believe in secrets? You'd have to believe we've already solved all great questions. If today's conventions are correct, we can afford to be smug and complacent: "God's in His heaven, All's right with the world."

For example, a world without secrets would enjoy a perfect understanding of justice. Every injustice necessarily involves a moral truth that very few people recognize early on: in a democratic society, a wrongful practice persists only when most people don't perceive it to be unjust. At first, only a small minority of abolitionists knew that slavery was evil; that view has rightly become conventional, but it was still a secret in the early 19th century. To say that there are no secrets left today would mean that we live in a society with no hidden injustices.

In economics, disbelief in secrets leads to faith in efficient markets. But the existence of financial bubbles shows that markets can have extraordinary inefficiencies. (And the more people believe in efficiency, the bigger the bubbles get.) In 1999, nobody wanted to believe that the internet was irrationally overvalued. The same was true of housing in 2005: Fed chairman Alan Greenspan had to acknowledge some "signs of froth in local markets" but stated that "a bubble in home prices for the nation as a whole does not appear likely." The market reflected all knowable information and couldn't be questioned. Then home prices fell across the country, and the financial crisis of 2008 wiped out trillions. The future turned out to hold many secrets that economists could not make vanish simply by ignoring them.

What happens when a company stops believing in secrets? The sad decline of Hewlett-Packard provides a cautionary tale. In 1990, the company was worth \$9 billion. Then came a decade of invention. In 1991, HP released the DeskJet 500C, the world's first affordable color printer. In 1993, it launched the OmniBook, one of the first "superportable" laptops. The next year, HP released the OfficeJet, the world's first all-in-one printer/fax/copier. This relentless product expansion paid off: by mid-2000, HP was worth \$135 billion.

But starting in late 1999, when HP introduced a new branding campaign around the imperative to "invent," it stopped inventing things. In 2001, the company launched HP Services, a glorified consulting and support shop. In 2002, HP merged with Compaq, presumably because it didn't know what else to do. By 2005, the company's market cap had plunged to \$70 billion—roughly half of what it had been just five years earlier.

HP's board was a microcosm of the dysfunction: it split into two factions, only one of which cared about new technology. That faction was led by Tom Perkins, an engineer who first came to HP in 1963 to run the company's research division at the personal request of Bill Hewlett and Dave Packard. At 73 years old in 2005, Perkins may as well have been a time-traveling visitor from a bygone age of optimism: he thought the board should identify the most promising new technologies and then have HP build them. But Perkins's faction lost out to its rival, led by chairwoman Patricia Dunn. A banker by trade, Dunn argued that charting a plan for future technology was beyond the board's competence. She thought the board should restrict itself to a night watchman's role: Was everything proper in the accounting department? Were people following all the rules?

Amid this infighting, someone on the board started leaking information to the press. When it was exposed that Dunn arranged a series of illegal wiretaps to identify the source, the backlash was worse than the original dissension, and the board was disgraced. Having abandoned the search for technological secrets, HP obsessed over gossip. As a result, by late 2012 HP was worth just \$23 billion—not much more than it was worth in 1990, adjusting for inflation.

## THE CASE FOR SECRETS

You can't find secrets without looking for them. Andrew Wiles demonstrated this when he proved Fermat's Last Theorem after 358 years of fruitless inquiry by other mathematicians—the kind of sustained failure that might have suggested an inherently impossible task. Pierre de Fermat had conjectured in 1637 that no integers  $a$ ,  $b$ , and  $c$  could satisfy the equation  $a^n + b^n = c^n$  for any integer  $n$  greater than 2. He claimed to have a proof, but he died without writing it down, so his conjecture long remained a major unsolved problem in mathematics. Wiles started working on it in 1986, but he kept it a secret until 1993, when he knew he was nearing a solution. After nine years of hard work, Wiles proved the conjecture in 1995. He needed brilliance to succeed, but he also needed a faith in secrets. If you think something hard is impossible, you'll never even start trying to achieve it. Belief in secrets is an effective truth.

The actual truth is that there are many more secrets left to find, but they will yield only to relentless searchers. There is more to do in science, medicine, engineering, and in technology of all kinds. We are within reach not just of marginal goals set at the competitive edge of today's conventional disciplines, but of ambitions so great that even the boldest minds of the Scientific Revolution hesitated to announce them directly. We could cure cancer, dementia, and all the diseases of age and metabolic decay. We can find new ways to generate energy that free the world from conflict over fossil fuels. We can invent faster ways to travel from place to place over the surface of the planet; we can even learn how to escape it entirely and settle new frontiers. But we will never learn any of these secrets unless we demand to know them and force ourselves to look.

The same is true of business. Great companies can be built on open but unsuspected secrets about how the world works. Consider the Silicon Valley startups that have harnessed the spare capacity that is all around us but often ignored. Before Airbnb, travelers had little choice but to pay high prices for a hotel room, and property owners couldn't easily and reliably rent out their unoccupied space. Airbnb saw untapped supply and unaddressed demand where others saw nothing at all. The same is true of private car services Lyft and Uber. Few people imagined that it was possible to build a billion-dollar business by simply connecting people who want to go places with people willing to drive them there. We already had state-licensed taxicabs and private limousines; only by believing in and looking for secrets could you see beyond the convention to an opportunity hidden in plain sight. The same reason that so many internet companies, including Facebook, are often underestimated—their very simplicity—is itself an argument for secrets. If insights that look so elementary in retrospect can support important and valuable businesses, there must remain many great companies still to start.

## HOW TO FIND SECRETS

There are two kinds of secrets: secrets of nature and secrets about people. Natural secrets exist all around us; to find them, one must study some undiscovered aspect of the physical world. Secrets about people are different: they are things that people don't know about themselves or things they hide because they don't want others to know. So when thinking about what kind of company to build, there are two distinct questions to ask: What secrets is nature not telling you? What secrets are people not telling you?

It's easy to assume that natural secrets are the most important: the people who look for them can sound intimidatingly authoritative. This is why physics PhDs are notoriously difficult to work with—because they know the most fundamental truths, they think they know *all* truths. But does understanding electromagnetic theory automatically make you a great marriage counselor? Does a gravity theorist know more about your business than you do? At PayPal, I once interviewed a physics PhD for an engineering job. Halfway through my first question, he shouted, "Stop! I already know what you're going to ask!" But he was wrong. It was the easiest no-hire decision I've ever made.

Secrets about people are relatively underappreciated. Maybe that's because you don't need a dozen years of higher education to ask the questions that uncover them: What are people not allowed to talk about? What is forbidden or taboo?

Sometimes looking for natural secrets and looking for human secrets lead to the same truth. Consider the monopoly secret again: *competition and capitalism are opposites*. If you didn't already know it, you could discover it the natural, empirical way: do a quantitative study of corporate profits and you'll see they're eliminated by competition. But you could also take the human approach and ask: what are people running companies not allowed to say? You would notice that monopolists downplay their monopoly status to avoid scrutiny, while competitive firms strategically exaggerate their uniqueness. The differences between firms only seem small on the surface; in fact, they are enormous.

The best place to look for secrets is where no one else is looking. Most people think only in terms of what they've been taught; schooling itself aims to impart conventional wisdom. So you might ask: are there any fields that matter but haven't been standardized and institutionalized? Physics, for example, is a real major at all major universities, and it's set in its ways. The opposite of physics might be astrology, but astrology doesn't matter. What about something like nutrition? Nutrition matters for everybody, but you can't major in it at Harvard. Most top scientists go into other fields. Most of the big studies were done 30 or 40 years ago, and most are seriously flawed. The food pyramid that told us to eat low fat and enormous amounts of grains was probably more a product of lobbying by Big Food than real science; its chief impact has been to aggravate our obesity epidemic. There's plenty more to learn: we know more about the physics of faraway stars than we know about human nutrition. It won't be easy, but it's not obviously impossible: exactly the kind of field that could yield secrets.

## WHAT TO DO WITH SECRETS

If you find a secret, you face a choice: Do you tell anyone? Or do you keep it to yourself?

It depends on the secret: some are more dangerous than others. As Faust tells Wagner:

*The few who knew what might be learned,  
Foolish enough to put their whole heart on show,  
And reveal their feelings to the crowd below,  
Mankind has always crucified and burned.*

Unless you have perfectly conventional beliefs, it's rarely a good idea to tell everybody everything that you know.

So who do you tell? Whoever you need to, and no more. In practice, there's always a golden mean between telling nobody and telling everybody—and that's a company. The best entrepreneurs know this: every great business is built around a secret that's hidden from the outside. A great company is a conspiracy to change the world; when you share your secret, the recipient becomes a fellow conspirator.

As Tolkien wrote in *The Lord of the Rings*:

*The Road goes ever on and on  
Down from the door where it began.*

Life is a long journey; the road marked out by the steps of previous travelers has no end in sight. But later on in the tale, another verse appears:

*Still round the corner there may wait  
A new road or a secret gate,  
And though we pass them by today,  
Tomorrow we may come this way  
And take the hidden paths that run  
Towards the Moon or to the Sun.*

The road doesn't have to be infinite after all. Take the hidden paths.



# FOUNDATIONS

EVERY GREAT COMPANY is unique, but there are a few things that every business must get right at the beginning. I stress this so often that friends have teasingly nicknamed it “Thiel’s law”: *a startup messed up at its foundation cannot be fixed.*

Beginnings are special. They are qualitatively different from all that comes afterward. This was true 13.8 billion years ago, at the founding of our cosmos: in the earliest microseconds of its existence, the universe expanded by a factor of  $10^{30}$ —a million trillion trillion. As cosmogonic epochs came and went in those first few moments, the very laws of physics were different from those we know today.

It was also true 227 years ago at the founding of our country: fundamental questions were open for debate by the Framers during the few months they spent together at the Constitutional Convention. How much power should the central government have? How should representation in Congress be apportioned? Whatever your views on the compromises reached that summer in Philadelphia, they’ve been hard to change ever since: after ratifying the Bill of Rights in 1791, we’ve amended the Constitution only 17 times. Today, California has the same representation in the Senate as Alaska, even though it has more than 50 times as many people. Maybe that’s a feature, not a bug. But we’re probably stuck with it as long as the United States exists. Another constitutional convention is unlikely; today we debate only smaller questions.

Companies are like countries in this way. Bad decisions made early on—if you choose the wrong partners or hire the wrong people, for example—are very hard to correct after they are made. It may take a crisis on the order of bankruptcy before anybody will even try to correct them. As a founder, your first job is to get the first things right, because you cannot build a great company on a flawed foundation.

## FOUNDING MATRIMONY

When you start something, the first and most crucial decision you make is whom to start it with. Choosing a co-founder is like getting married, and founder conflict is just as ugly as divorce. Optimism abounds at the start of every relationship. It's unromantic to think soberly about what could go wrong, so people don't. But if the founders develop irreconcilable differences, the company becomes the victim.

In 1999, Luke Nosek was one of my co-founders at PayPal, and I still work with him today at Founders Fund. But a year before PayPal, I invested in a company Luke started with someone else. It was his first startup; it was one of my first investments. Neither of us realized it then, but the venture was doomed to fail from the beginning because Luke and his co-founder were a terrible match. Luke is a brilliant and eccentric thinker; his co-founder was an MBA type who didn't want to miss out on the '90s gold rush. They met at a networking event, talked for a while, and decided to start a company together. That's no better than marrying the first person you meet at the slot machines in Vegas: you *might* hit the jackpot, but it probably won't work. Their company blew up and I lost my money.

Now when I consider investing in a startup, I study the founding teams. Technical abilities and complementary skill sets matter, but how well the founders know each other and how well they work together matter just as much. Founders should share a prehistory before they start a company together—otherwise they're just rolling dice.

## OWNERSHIP, POSSESSION, AND CONTROL

It's not just founders who need to get along. Everyone in your company needs to work well together. A Silicon Valley libertarian might say you could solve this problem by restricting yourself to a sole proprietorship. Freud, Jung, and every other psychologist has a theory about how every individual mind is divided against itself, but in business at least, working for yourself guarantees alignment. Unfortunately, it also limits what kind of company you can build. It's very hard to go from 0 to 1 without a team.

A Silicon Valley anarchist might say you could achieve perfect alignment as long as you hire just the right people, who will flourish peacefully without any guiding structure. Serendipity and even free-form chaos at the workplace are supposed to help "disrupt" all the old rules made and obeyed by the rest of the world. And indeed, "if men were angels, no government would be necessary." But anarchic companies miss what James Madison saw: men aren't angels. That's why executives who manage companies and directors who govern them have separate roles to play; it's also why founders' and investors' claims on a company are formally defined. You need good people who get along, but you also need a structure to help keep everyone aligned for the long term.

To anticipate likely sources of misalignment in any company, it's useful to distinguish between three concepts:

- Ownership: who legally owns a company's equity?
- Possession: who actually runs the company on a day-to-day basis?
- Control: who formally governs the company's affairs?

A typical startup allocates ownership among founders, employees, and investors. The managers and employees who operate the company enjoy possession. And a board of directors, usually comprising founders and investors, exercises control.

In theory, this division works smoothly. Financial upside from part ownership attracts and rewards investors and workers. Effective possession motivates and empowers founders and employees—it means they can get stuff done. Oversight from the board places managers' plans in a broader perspective. In practice, distributing these functions among different people makes sense, but it also multiplies opportunities for misalignment.

To see misalignment at its most extreme, just visit the DMV. Suppose you need a new driver's license. Theoretically, it should be easy to get one. The DMV is a government agency, and we live in a democratic republic. All power resides in "the people," who elect representatives to serve them in government. If you're a citizen, you're a part owner of the DMV and your representatives control it, so you should be able to walk in and get what you need.

Of course, it doesn't work like that. We the people may "own" the DMV's resources, but that ownership is merely fictional. The clerks and petty tyrants who operate the DMV, however, enjoy very real possession of their small-time powers. Even the governor and the legislature charged with nominal control over the DMV can't change anything. The bureaucracy lurches ever sideways of its own inertia no matter what actions elected officials take. Accountable to nobody, the DMV is misaligned with everybody. Bureaucrats can make your licensing experience pleasurable or nightmarish at their sole discretion. You can try to bring up political theory and remind them that you are the boss, but that's unlikely to get you better service.

Big corporations do better than the DMV, but they're still prone to misalignment, especially between ownership and possession. The CEO of a huge company like General Motors, for example,

will own some of the company's stock, but only a trivial portion of the total. Therefore he's incentivized to reward himself through the power of possession rather than the value of ownership. Posting good quarterly results will be enough for him to keep his high salary and corporate jet. Misalignment can creep in even if he receives stock compensation in the name of "shareholder value." If that stock comes as a reward for short-term performance, he will find it more lucrative and much easier to cut costs instead of investing in a plan that might create more value for all shareholders far in the future.

Unlike corporate giants, early-stage startups are small enough that founders usually have both ownership and possession. Most conflicts in a startup erupt between ownership and control—that is, between founders and investors on the board. The potential for conflict increases over time as interests diverge: a board member might want to take a company public as soon as possible to score a win for his venture firm, while the founders would prefer to stay private and grow the business.

In the boardroom, less is more. The smaller the board, the easier it is for the directors to communicate, to reach consensus, and to exercise effective oversight. However, that very effectiveness means that a small board can forcefully oppose management in any conflict. This is why it's crucial to choose wisely: every single member of your board matters. Even one problem director will cause you pain, and may even jeopardize your company's future.

A board of three is ideal. Your board should never exceed five people, unless your company is publicly held. (Government regulations effectively mandate that public companies have larger boards—the average is nine members.) By far the worst you can do is to make your board extra large. When unsavvy observers see a nonprofit organization with dozens of people on its board, they think: "Look how many great people are committed to this organization! It must be extremely well run." Actually, a huge board will exercise no effective oversight at all; it merely provides cover for whatever microdictator actually runs the organization. If you want that kind of free rein from your board, blow it up to giant size. If you want an effective board, keep it small.

## ON THE BUS OR OFF THE BUS

As a general rule, everyone you involve with your company should be involved full-time. Sometimes you'll have to break this rule; it usually makes sense to hire outside lawyers and accountants, for example. However, anyone who doesn't own stock options or draw a regular salary from your company is fundamentally misaligned. At the margin, they'll be biased to claim value in the near term, not help you create more in the future. That's why hiring consultants doesn't work. Part-time employees don't work. Even working remotely should be avoided, because misalignment can creep in whenever colleagues aren't together full-time, in the same place, every day. If you're deciding whether to bring someone on board, the decision is binary. Ken Kesey was right: you're either on the bus or off the bus.

## CASH IS NOT KING

For people to be fully committed, they should be properly compensated. Whenever an entrepreneur asks me to invest in his company, I ask him how much he intends to pay himself. A company does better the less it pays the CEO—that’s one of the single clearest patterns I’ve noticed from investing in hundreds of startups. *In no case should a CEO of an early-stage, venture-backed startup receive more than \$150,000 per year in salary.* It doesn’t matter if he got used to making much more than that at Google or if he has a large mortgage and hefty private school tuition bills. If a CEO collects \$300,000 per year, he risks becoming more like a politician than a founder. High pay incentivizes him to defend the status quo along with his salary, not to work with everyone else to surface problems and fix them aggressively. A cash-poor executive, by contrast, will focus on increasing the value of the company as a whole.

Low CEO pay also sets the standard for everyone else. Aaron Levie, the CEO of Box, was always careful to pay himself less than everyone else in the company—four years after he started Box, he was still living two blocks away from HQ in a one-bedroom apartment with no furniture except a mattress. Every employee noticed his obvious commitment to the company’s mission and emulated it. If a CEO doesn’t set an example by taking the *lowest* salary in the company, he can do the same thing by drawing the *highest* salary. So long as that figure is still modest, it sets an effective ceiling on cash compensation.

Cash is attractive. It offers pure optionality: once you get your paycheck, you can do anything you want with it. However, high cash compensation teaches workers to claim value from the company as it already exists instead of investing their time to create new value in the future. A cash bonus is slightly better than a cash salary—at least it’s contingent on a job well done. But even so-called incentive pay encourages short-term thinking and value grabbing. Any kind of cash is more about the present than the future.

## VESTED INTERESTS

Startups don't need to pay high salaries because they can offer something better: part ownership of the company itself. Equity is the one form of compensation that can effectively orient people toward creating value in the future.

However, for equity to create commitment rather than conflict, you must allocate it very carefully. Giving everyone equal shares is usually a mistake: every individual has different talents and responsibilities as well as different opportunity costs, so equal amounts will seem arbitrary and unfair from the start. On the other hand, granting different amounts up front is just as sure to seem unfair. Resentment at this stage can kill a company, but there's no ownership formula to perfectly avoid it.

This problem becomes even more acute over time as more people join the company. Early employees usually get the most equity because they take more risk, but some later employees might be even more crucial to a venture's success. A secretary who joined eBay in 1996 might have made 200 times more than her industry-veteran boss who joined in 1999. The graffiti artist who painted Facebook's office walls in 2005 got stock that turned out to be worth \$200 million, while a talented engineer who joined in 2010 might have made only \$2 million. Since it's impossible to achieve perfect fairness when distributing ownership, founders would do well to keep the details secret. Sending out a company-wide email that lists everyone's ownership stake would be like dropping a nuclear bomb on your office.

Most people don't want equity at all. At PayPal, we once hired a consultant who promised to help us negotiate lucrative business development deals. The only thing he ever successfully negotiated was a \$5,000 daily cash salary; he refused to accept stock options as payment. Stories of startup chefs becoming millionaires notwithstanding, people often find equity unattractive. It's not liquid like cash. It's tied to one specific company. And if that company doesn't succeed, it's worthless.

Equity is a powerful tool precisely because of these limitations. Anyone who prefers owning a part of your company to being paid in cash reveals a preference for the long term and a commitment to increasing your company's value in the future. Equity can't create perfect incentives, but it's the best way for a founder to keep everyone in the company broadly aligned.

## EXTENDING THE FOUNDING

Bob Dylan has said that he who is not busy being born is busy dying. If he's right, being born doesn't happen at just one moment—you might even continue to do it somehow, poetically at least. The founding moment of a company, however, really does happen just once: only at the very start do you have the opportunity to set the rules that will align people toward the creation of value in the future.

The most valuable kind of company maintains an openness to invention that is most characteristic of beginnings. This leads to a second, less obvious understanding of the founding: it lasts as long as a company is creating new things, and it ends when creation stops. If you get the founding moment right, you can do more than create a valuable company: you can steer its distant future toward the creation of new things instead of the stewardship of inherited success. You might even extend its founding indefinitely.

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# THE MECHANICS OF MAFIA

**S**TART WITH A THOUGHT EXPERIMENT: what would the ideal company culture look like? Employees should love their work. They should enjoy going to the office so much that formal business hours become obsolete and nobody watches the clock. The workspace should be open, not cubicled, and workers should feel at home: beanbag chairs and Ping-Pong tables might outnumber file cabinets. Free massages, on-site sushi chefs, and maybe even yoga classes would sweeten the scene. Pets should be welcome, too: perhaps employees' dogs and cats could come and join the office's tankful of tropical fish as unofficial company mascots.

What's wrong with this picture? It includes some of the absurd perks Silicon Valley has made famous, but none of the substance—and without substance perks don't work. You can't accomplish anything meaningful by hiring an interior decorator to beautify your office, a "human resources" consultant to fix your policies, or a branding specialist to hone your buzzwords. "Company culture" doesn't exist apart from the company itself: no company *has* a culture; every company *is* a culture. A startup is a team of people on a mission, and a good culture is just what that looks like on the inside.

## BEYOND PROFESSIONALISM

The first team that I built has become known in Silicon Valley as the “PayPal Mafia” because so many of my former colleagues have gone on to help each other start and invest in successful tech companies. We sold PayPal to eBay for \$1.5 billion in 2002. Since then, Elon Musk has founded SpaceX and co-founded Tesla Motors; Reid Hoffman co-founded LinkedIn; Steve Chen, Chad Hurley, and Jawed Karim together founded YouTube; Jeremy Stoppelman and Russel Simmons founded Yelp; David Sacks co-founded Yammer; and I co-founded Palantir. Today all seven of those companies are worth more than \$1 billion each. PayPal’s office amenities never got much press, but the team has done extraordinarily well, both together and individually: the culture was strong enough to transcend the original company.

We didn’t assemble a mafia by sorting through résumés and simply hiring the most talented people. I had seen the mixed results of that approach firsthand when I worked at a New York law firm. The lawyers I worked with ran a valuable business, and they were impressive individuals one by one. But the relationships between them were oddly thin. They spent all day together, but few of them seemed to have much to say to each other outside the office. Why work with a group of people who don’t even like each other? Many seem to think it’s a sacrifice necessary for making money. But taking a merely professional view of the workplace, in which free agents check in and out on a transactional basis, is worse than cold: it’s not even rational. Since time is your most valuable asset, it’s odd to spend it working with people who don’t envision any long-term future together. If you can’t count durable relationships among the fruits of your time at work, you haven’t invested your time well—even in purely financial terms.

From the start, I wanted PayPal to be tightly knit instead of transactional. I thought stronger relationships would make us not just happier and better at work but also more successful in our careers even beyond PayPal. So we set out to hire people who would actually enjoy working together. They had to be talented, but even more than that they had to be excited about working specifically with us. That was the start of the PayPal Mafia.

## RECRUITING CONSPIRATORS

Recruiting is a core competency for any company. It should never be outsourced. You need people who are not just skilled on paper but who will work together cohesively after they're hired. The first four or five might be attracted by large equity stakes or high-profile responsibilities. More important than those obvious offerings is your answer to this question: *Why should the 20th employee join your company?*

Talented people don't *need* to work for you; they have plenty of options. You should ask yourself a more pointed version of the question: *Why would someone join your company as its 20th engineer when she could go work at Google for more money and more prestige?*

Here are some bad answers: "Your stock options will be worth more here than elsewhere." "You'll get to work with the smartest people in the world." "You can help solve the world's most challenging problems." What's wrong with valuable stock, smart people, or pressing problems? Nothing—but every company makes these same claims, so they won't help you stand out. General and undifferentiated pitches don't say anything about why a recruit should join your company instead of many others.

The only good answers are specific to your company, so you won't find them in this book. But there are two general kinds of good answers: answers about your mission and answers about your team. You'll attract the employees you need if you can explain why your mission is compelling: not why it's important in general, but why you're doing something important that no one else is going to get done. That's the only thing that can make its importance unique. At PayPal, if you were excited by the idea of creating a new digital currency to replace the U.S. dollar, we wanted to talk to you; if not, you weren't the right fit.

However, even a great mission is not enough. The kind of recruit who would be most engaged as an employee will also wonder: "Are these the kind of people I want to work with?" You should be able to explain why your company is a unique match for him personally. And if you can't do that, he's probably not the right match.

Above all, don't fight the perk war. Anybody who would be more powerfully swayed by free laundry pickup or pet day care would be a bad addition to your team. Just cover the basics like health insurance and then promise what no others can: the opportunity to do irreplaceable work on a unique problem alongside great people. You probably can't be the Google of 2014 in terms of compensation or perks, but you *can* be like the Google of 1999 if you already have good answers about your mission and team.

## WHAT'S UNDER SILICON VALLEY'S HOODIES

*From the outside, everyone in your company should be different in the same way.*

Unlike people on the East Coast, who all wear the same skinny jeans or pinstripe suits depending on their industry, young people in Mountain View and Palo Alto go to work wearing T-shirts. It's a cliché that tech workers don't care about what they wear, but if you look closely at those T-shirts, you'll see the logos of the wearers' companies—and tech workers care about those very much. What makes a startup employee instantly distinguishable to outsiders is the branded T-shirt or hoodie that makes him look the same as his co-workers. The startup uniform encapsulates a simple but essential principle: everyone at your company should be different in the same way—a tribe of like-minded people fiercely devoted to the company's mission.

Max Levchin, my co-founder at PayPal, says that startups should make their early staff as personally similar as possible. Startups have limited resources and small teams. They must work quickly and efficiently in order to survive, and that's easier to do when everyone shares an understanding of the world. The early PayPal team worked well together because we were all the same kind of nerd. We all loved science fiction: *Cryptonomicon* was required reading, and we preferred the capitalist *Star Wars* to the communist *Star Trek*. Most important, we were all obsessed with creating a digital currency that would be controlled by individuals instead of governments. For the company to work, it didn't matter what people looked like or which country they came from, but we needed every new hire to be equally obsessed.

## DO ONE THING

*On the inside, every individual should be sharply distinguished by her work.*

When assigning responsibilities to employees in a startup, you could start by treating it as a simple optimization problem to efficiently match talents with tasks. But even if you could somehow get this perfectly right, any given solution would quickly break down. Partly that's because startups have to move fast, so individual roles can't remain static for long. But it's also because job assignments aren't just about the relationships between workers and tasks; they're also about relationships between employees.

The best thing I did as a manager at PayPal was to make every person in the company responsible for doing just one thing. Every employee's one thing was unique, and everyone knew I would evaluate him only on that one thing. I had started doing this just to simplify the task of managing people. But then I noticed a deeper result: defining roles reduced conflict. Most fights inside a company happen when colleagues compete for the same responsibilities. Startups face an especially high risk of this since job roles are fluid at the early stages. Eliminating competition makes it easier for everyone to build the kinds of long-term relationships that transcend mere professionalism. More than that, internal peace is what enables a startup to survive at all. When a startup fails, we often imagine it succumbing to predatory rivals in a competitive ecosystem. But every company is also its own ecosystem, and factional strife makes it vulnerable to outside threats. Internal conflict is like an autoimmune disease: the technical cause of death may be pneumonia, but the real cause remains hidden from plain view.

## OF CULTS AND CONSULTANTS

In the most intense kind of organization, members hang out only with other members. They ignore their families and abandon the outside world. In exchange, they experience strong feelings of belonging, and maybe get access to esoteric “truths” denied to ordinary people. We have a word for such organizations: cults. Cultures of total dedication look crazy from the outside, partly because the most notorious cults were homicidal: Jim Jones and Charles Manson did not make good exits.

But entrepreneurs should take cultures of extreme dedication seriously. Is a lukewarm attitude to one’s work a sign of mental health? Is a merely professional attitude the only sane approach? The extreme opposite of a cult is a consulting firm like Accenture: not only does it lack a distinctive mission of its own, but individual consultants are regularly dropping in and out of companies to which they have no long-term connection whatsoever.

Every company culture can be plotted on a linear spectrum:



The best startups might be considered slightly less extreme kinds of cults. The biggest difference is that cults tend to be fanatically *wrong* about something important. People at a successful startup are fanatically *right* about something those outside it have missed. You’re not going to learn those kinds of secrets from consultants, and you don’t need to worry if your company doesn’t make sense to conventional professionals. Better to be called a cult—or even a mafia.



# IF YOU BUILD IT, WILL THEY COME?

EVEN THOUGH SALES is everywhere, most people underrate its importance. Silicon Valley underrates it more than most. The geek classic *The Hitchhiker's Guide to the Galaxy* even explains the founding of our planet as a reaction against salesmen. When an imminent catastrophe requires the evacuation of humanity's original home, the population escapes on three giant ships. The thinkers, leaders, and achievers take the A Ship; the salespeople and consultants get the B Ship; and the workers and artisans take the C Ship. The B Ship leaves first, and all its passengers rejoice vainly. But the salespeople don't realize they are caught in a ruse: the A Ship and C Ship people had always thought that the B Ship people were useless, so they conspired to get rid of them. And it was the B Ship that landed on Earth.

Distribution may not matter in fictional worlds, but it matters in ours. We underestimate the importance of distribution—a catchall term for everything it takes to sell a product—because we share the same bias the A Ship and C Ship people had: salespeople and other “middlemen” supposedly get in the way, and distribution should flow magically from the creation of a good product. The *Field of Dreams* conceit is especially popular in Silicon Valley, where engineers are biased toward building cool stuff rather than selling it. But customers will not come just because you build it. You have to make that happen, and it's harder than it looks.

## NERDS VS. SALESMEN

The U.S. advertising industry collects annual revenues of \$150 billion and employs more than 600,000 people. At \$450 billion annually, the U.S. sales industry is even bigger. When they hear that 3.2 million Americans work in sales, seasoned executives will suspect the number is low, but engineers may sigh in bewilderment. What could that many salespeople possibly be doing?

In Silicon Valley, nerds are skeptical of advertising, marketing, and sales because they seem superficial and irrational. But advertising matters because it works. It works on nerds, and it works on *you*. You may think that you're an exception; that *your* preferences are authentic, and advertising only works on *other* people. It's easy to resist the most obvious sales pitches, so we entertain a false confidence in our own independence of mind. But advertising doesn't exist to make you buy a product right away; it exists to embed subtle impressions that will drive sales later. Anyone who can't acknowledge its likely effect on himself is doubly deceived.

Nerds are used to transparency. They add value by becoming expert at a technical skill like computer programming. In engineering disciplines, a solution either works or it fails. You can evaluate someone else's work with relative ease, as surface appearances don't matter much. Sales is the opposite: an orchestrated campaign to change surface appearances without changing the underlying reality. This strikes engineers as trivial if not fundamentally dishonest. They know their own jobs are hard, so when they look at salespeople laughing on the phone with a customer or going to two-hour lunches, they suspect that no real work is being done. If anything, people overestimate the relative difficulty of science and engineering, because the challenges of those fields are obvious. What nerds miss is that it takes hard work to make sales look easy.

## SALES IS HIDDEN

All salesmen are actors: their priority is persuasion, not sincerity. That's why the word "salesman" can be a slur and the used car dealer is our archetype of shadiness. But we only react negatively to awkward, obvious salesmen—that is, the bad ones. There's a wide range of sales ability: there are many gradations between novices, experts, and masters. There are even sales grandmasters. If you don't know any grandmasters, it's not because you haven't encountered them, but rather because their art is hidden in plain sight. Tom Sawyer managed to persuade his neighborhood friends to whitewash the fence for him—a masterful move. But convincing them to actually *pay him* for the privilege of doing his chores was the move of a grandmaster, and his friends were none the wiser. Not much has changed since Twain wrote in 1876.

Like acting, sales works best when hidden. This explains why almost everyone whose job involves distribution—whether they're in sales, marketing, or advertising—has a job title that has nothing to do with those things. People who sell advertising are called "account executives." People who sell customers work in "business development." People who sell companies are "investment bankers." And people who sell themselves are called "politicians." There's a reason for these redescriptions: none of us wants to be reminded when we're being sold.

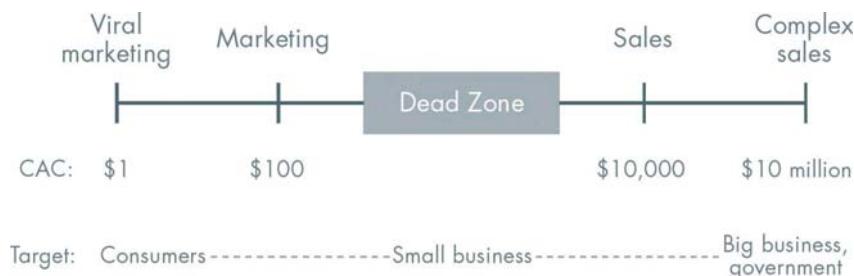
Whatever the career, sales ability distinguishes superstars from also-rans. On Wall Street, a new hire starts as an "analyst" wielding technical expertise, but his goal is to become a dealmaker. A lawyer prides himself on professional credentials, but law firms are led by the rainmakers who bring in big clients. Even university professors, who claim authority from scholarly achievement, are envious of the self-promoters who define their fields. Academic ideas about history or English don't just sell themselves on their intellectual merits. Even the agenda of fundamental physics and the future path of cancer research are results of persuasion. The most fundamental reason that even businesspeople underestimate the importance of sales is the systematic effort to hide it at every level of every field in a world secretly driven by it.

The engineer's grail is a product great enough that "it sells itself." But anyone who would actually say this about a real product must be lying: either he's delusional (lying to himself) or he's selling something (and thereby contradicting himself). The polar opposite business cliché warns that "the best product doesn't always win." Economists attribute this to "path dependence": specific historical circumstances independent of objective quality can determine which products enjoy widespread adoption. That's true, but it doesn't mean the operating systems we use today and the keyboard layouts on which we type were imposed by mere chance. It's better to think of distribution as something essential to the design of your product. If you've invented something new but you haven't invented an effective way to sell it, you have a bad business—no matter how good the product.

## HOW TO SELL A PRODUCT

Superior sales and distribution by itself can create a monopoly, even with no product differentiation. The converse is not true. No matter how strong your product—even if it easily fits into already established habits and anybody who tries it likes it immediately—you must still support it with a strong distribution plan.

Two metrics set the limits for effective distribution. The total net profit that you earn on average over the course of your relationship with a customer (Customer Lifetime Value, or CLV) must exceed the amount you spend on average to acquire a new customer (Customer Acquisition Cost, or CAC). In general, the higher the price of your product, the more you have to spend to make a sale—and the more it makes sense to spend it. Distribution methods can be plotted on a continuum:



### *Complex Sales*

If your average sale is seven figures or more, every detail of every deal requires close personal attention. It might take months to develop the right relationships. You might make a sale only once every year or two. Then you'll usually have to follow up during installation and service the product long after the deal is done. It's hard to do, but this kind of “complex sales” is the only way to sell some of the most valuable products.

SpaceX shows that it can be done. Within just a few years of launching his rocket startup, Elon Musk persuaded NASA to sign billion-dollar contracts to replace the decommissioned space shuttle with a newly designed vessel from SpaceX. Politics matters in big deals just as much as technological ingenuity, so this wasn't easy. SpaceX employs more than 3,000 people, mostly in California. The traditional U.S. aerospace industry employs more than 500,000 people, spread throughout all 50 states. Unsurprisingly, members of Congress don't want to give up federal funds going to their home districts. But since complex sales requires making just a few deals each year, a sales grandmaster like Elon Musk can use that time to focus on the most crucial people—and even to overcome political inertia.

Complex sales works best when you don't have “salesmen” at all. Palantir, the data analytics company I co-founded with my law school classmate Alex Karp, doesn't employ anyone separately tasked with selling its product. Instead, Alex, who is Palantir's CEO, spends 25 days a month on the road, meeting with clients and potential clients. Our deal sizes range from \$1 million to \$100 million. At that price point, buyers want to talk to the CEO, not the VP of Sales.

Businesses with complex sales models succeed if they achieve 50% to 100% year-over-year growth over the course of a decade. This will seem slow to any entrepreneur dreaming of viral growth. You might expect revenue to increase 10x as soon as customers learn about an obviously

superior product, but that almost never happens. Good enterprise sales strategy starts small, as it must: a new customer might agree to become your biggest customer, but they'll rarely be comfortable signing a deal completely out of scale with what you've sold before. Once you have a pool of reference customers who are successfully using your product, then you can begin the long and methodical work of hustling toward ever bigger deals.

### *Personal Sales*

Most sales are not particularly complex: average deal sizes might range between \$10,000 and \$100,000, and usually the CEO won't have to do all the selling himself. The challenge here isn't about how to make any particular sale, but how to establish a process by which a sales team of modest size can move the product to a wide audience.

In 2008, Box had a good way for companies to store their data safely and accessibly in the cloud. But people didn't know they needed such a thing—cloud computing hadn't caught on yet. That summer, Blake was hired as Box's third salesperson to help change that. Starting with small groups of users who had the most acute file sharing problems, Box's sales reps built relationships with more and more users in each client company. In 2009, Blake sold a small Box account to the Stanford Sleep Clinic, where researchers needed an easy, secure way to store experimental data logs. Today the university offers a Stanford-branded Box account to every one of its students and faculty members, and Stanford Hospital runs on Box. If it had started off by trying to sell the president of the university on an enterprise-wide solution, Box would have sold nothing. A complex sales approach would have made Box a forgotten startup failure; instead, personal sales made it a multibillion-dollar business.

Sometimes the product itself is a kind of distribution. ZocDoc is a Founders Fund portfolio company that helps people find and book medical appointments online. The company charges doctors a few hundred dollars per month to be included in its network. With an average deal size of just a few thousand dollars, ZocDoc needs lots of salespeople—so many that they have an internal recruiting team to do nothing but hire more. But making personal sales to doctors doesn't just bring in revenue; by adding doctors to the network, salespeople make the product more valuable to consumers (and more consumer users increases its appeal to doctors). More than 5 million people already use the service each month, and if it can continue to scale its network to include a majority of practitioners, it will become a fundamental utility for the U.S. health care industry.

### *Distribution Doldrums*

In between personal sales (salespeople obviously required) and traditional advertising (no salespeople required) there is a dead zone. Suppose you create a software service that helps convenience store owners track their inventory and manage ordering. For a product priced around \$1,000, there might be no good distribution channel to reach the small businesses that might buy it. Even if you have a clear value proposition, how do you get people to hear it? Advertising would either be too broad (there's no TV channel that only convenience store owners watch) or too inefficient (on its own, an ad in *Convenience Store News* probably won't convince any owner to part with \$1,000 a year). The product needs a personal sales effort, but at that price point, you simply don't have the resources to send an actual person to talk to every prospective customer. This is why so many small and medium-sized businesses don't use tools that bigger firms take for granted. It's not

that small business proprietors are unusually backward or that good tools don't exist: distribution is the hidden bottleneck.

### *Marketing and Advertising*

Marketing and advertising work for relatively low-priced products that have mass appeal but lack any method of viral distribution. Procter & Gamble can't afford to pay salespeople to go door-to-door selling laundry detergent. (P&G *does* employ salespeople to talk to grocery chains and large retail outlets, since one detergent sale made to these buyers might mean 100,000 one-gallon bottles.) To reach its end user, a packaged goods company has to produce television commercials, print coupons in newspapers, and design its product boxes to attract attention.

Advertising can work for startups, too, but only when your customer acquisition costs and customer lifetime value make every other distribution channel uneconomical. Consider e-commerce startup Warby Parker, which designs and sells fashionable prescription eyeglasses online instead of contracting sales out to retail eyewear distributors. Each pair starts at around \$100, so assuming the average customer buys a few pairs in her lifetime, the company's CLV is a few hundred dollars. That's too little to justify personal attention on every transaction, but at the other extreme, hundred-dollar physical products don't exactly go viral. By running advertisements and creating quirky TV commercials, Warby is able to get its better, less expensive offerings in front of millions of eyeglass-wearing customers. The company states plainly on its website that "TV is a great big megaphone," and when you can only afford to spend dozens of dollars acquiring a new customer, you need the biggest megaphone you can find.

Every entrepreneur envies a recognizable ad campaign, but startups should resist the temptation to compete with bigger companies in the endless contest to put on the most memorable TV spots or the most elaborate PR stunts. I know this from experience. At PayPal we hired James Doohan, who played Scotty on *Star Trek*, to be our official spokesman. When we released our first software for the PalmPilot, we invited journalists to an event where they could hear James recite this immortal line: "I've been beaming people up my whole career, but this is the first time I've ever been able to beam money!" It flopped—the few who actually came to cover the event weren't impressed. We were all nerds, so we had thought Scotty the Chief Engineer could speak with more authority than, say, Captain Kirk. (Just like a salesman, Kirk was always showboating out in some exotic locale and leaving it up to the engineers to bail him out of his own mistakes.) We were wrong: when Priceline.com cast William Shatner (the actor who played Kirk) in a famous series of TV spots, it worked for them. But by then Priceline was a major player. No early-stage startup can match big companies' advertising budgets. Captain Kirk truly is in a league of his own.

### *Viral Marketing*

A product is viral if its core functionality encourages users to invite their friends to become users too. This is how Facebook and PayPal both grew quickly: every time someone shares with a friend or makes a payment, they naturally invite more and more people into the network. This isn't just cheap—it's fast, too. If every new user leads to more than one additional user, you can achieve a chain reaction of exponential growth. The ideal viral loop should be as quick and frictionless as possible. Funny YouTube videos or internet memes get millions of views very quickly because they have

extremely short cycle times: people see the kitten, feel warm inside, and forward it to their friends in a matter of seconds.

At PayPal, our initial user base was 24 people, all of whom worked at PayPal. Acquiring customers through banner advertising proved too expensive. However, by directly paying people to sign up and then paying them more to refer friends, we achieved extraordinary growth. This strategy cost us \$20 per customer, but it also led to 7% daily growth, which meant that our user base nearly doubled every 10 days. After four or five months, we had hundreds of thousands of users and a viable opportunity to build a great company by servicing money transfers for small fees that ended up greatly exceeding our customer acquisition cost.

Whoever is first to dominate the most important segment of a market with viral potential will be the last mover in the whole market. At PayPal we didn't want to acquire more users at random; we wanted to get the most valuable users first. The most obvious market segment in email-based payments was the millions of emigrants still using Western Union to wire money to their families back home. Our product made that effortless, but the transactions were too infrequent. We needed a smaller niche market segment with a higher velocity of money—a segment we found in eBay “PowerSellers,” the professional vendors who sold goods online through eBay's auction marketplace. There were 20,000 of them. Most had multiple auctions ending each day, and they bought almost as much as they sold, which meant a constant stream of payments. And because eBay's own solution to the payment problem was terrible, these merchants were extremely enthusiastic early adopters. Once PayPal dominated this segment and became *the* payments platform for eBay, there was no catching up—on eBay or anywhere else.

### *The Power Law of Distribution*

One of these methods is likely to be far more powerful than every other for any given business: distribution follows a power law of its own. This is counterintuitive for most entrepreneurs, who assume that more is more. But the kitchen sink approach—employ a few salespeople, place some magazine ads, and try to add some kind of viral functionality to the product as an afterthought—doesn't work. Most businesses get zero distribution channels to work: poor sales rather than bad product is the most common cause of failure. If you can get just one distribution channel to work, you have a great business. If you try for several but don't nail one, you're finished.

### *Selling to Non-Customers*

Your company needs to sell more than its product. You must also sell your company to employees and investors. There is a “human resources” version of the lie that great products sell themselves: “This company is so good that people will be clamoring to join it.” And there's a fundraising version too: “This company is so great that investors will be banging down our door to invest.” Clamor and frenzy are very real, but they rarely happen without calculated recruiting and pitching beneath the surface.

Selling your company to the media is a necessary part of selling it to everyone else. Nerds who instinctively mistrust the media often make the mistake of trying to ignore it. But just as you can never expect people to buy a superior product merely on its obvious merits without any distribution strategy, you should never assume that people will admire your company without a public relations strategy. Even if your particular product doesn't need media exposure to acquire customers because

you have a viral distribution strategy, the press can help attract investors and employees. Any prospective employee worth hiring will do his own diligence; what he finds or doesn't find when he googles you will be critical to the success of your company.

## EVERYBODY SELLS

Nerds might wish that distribution could be ignored and salesmen banished to another planet. All of us want to believe that we make up our own minds, that sales doesn't work on us. But it's not true. Everybody has a product to sell—no matter whether you're an employee, a founder, or an investor. It's true even if your company consists of just you and your computer. Look around. If you don't see any salespeople, you're the salesperson.



# MAN AND MACHINE

As mature industries stagnate, information technology has advanced so rapidly that it has now become synonymous with “technology” itself. Today, more than 1.5 billion people enjoy instant access to the world’s knowledge using pocket-sized devices. Every one of today’s smartphones has thousands of times more processing power than the computers that guided astronauts to the moon. And if Moore’s law continues apace, tomorrow’s computers will be even more powerful.

Computers already have enough power to outperform people in activities we used to think of as distinctively human. In 1997, IBM’s Deep Blue defeated world chess champion Garry Kasparov. *Jeopardy!*’s best-ever contestant, Ken Jennings, succumbed to IBM’s Watson in 2011. And Google’s self-driving cars are already on California roads today. Dale Earnhardt Jr. needn’t feel threatened by them, but the *Guardian* worries (on behalf of the millions of chauffeurs and cabbies in the world) that self-driving cars “could drive the next wave of unemployment.”

Everyone expects computers to do more in the future—so much more that some wonder: 30 years from now, will there be anything left for people to do? “Software is eating the world,” venture capitalist Marc Andreessen has announced with a tone of inevitability. VC Andy Kessler sounds almost gleeful when he explains that the best way to create productivity is “to get rid of people.” *Forbes* captured a more anxious attitude when it asked readers: *Will a machine replace you?*

Futurists can seem like they hope the answer is yes. Luddites are so worried about being replaced that they would rather we stop building new technology altogether. Neither side questions the premise that better computers will necessarily replace human workers. But that premise is wrong: computers are complements for humans, not substitutes. The most valuable businesses of coming decades will be built by entrepreneurs who seek to empower people rather than try to make them obsolete.

## SUBSTITUTION VS. COMPLEMENTARITY

Fifteen years ago, American workers were worried about competition from cheaper Mexican substitutes. And that made sense, because humans really can substitute for each other. Today people think they can hear Ross Perot’s “giant sucking sound” once more, but they trace it back to server farms somewhere in Texas instead of cut-rate factories in Tijuana. Americans fear technology in the near future because they see it as a replay of the globalization of the near past. But the situations are very different: people compete for jobs and for resources; computers compete for neither.

### *Globalization Means Substitution*

When Perot warned about foreign competition, both George H. W. Bush and Bill Clinton preached the gospel of free trade: since every person has a relative strength at some particular job, in theory the economy maximizes wealth when people specialize according to their advantages and then trade with each other. In practice, it’s not unambiguously clear how well free trade has worked, for many workers at least. Gains from trade are greatest when there’s a big discrepancy in comparative advantage, but the global supply of workers willing to do repetitive tasks for an extremely small wage is extremely large.

People don’t just compete to supply labor; they also demand the same resources. While American consumers have benefited from access to cheap toys and textiles from China, they’ve had to pay higher prices for the gasoline newly desired by millions of Chinese motorists. Whether people eat shark fins in Shanghai or fish tacos in San Diego, they all need food and they all need shelter. And desire doesn’t stop at subsistence—people will demand ever more as globalization continues. Now that millions of Chinese peasants can finally enjoy a secure supply of basic calories, they want more of them to come from pork instead of just grain. The convergence of desire is even more obvious at the top: all oligarchs have the same taste in Cristal, from Petersburg to Pyongyang.

### *Technology Means Complementarity*

Now think about the prospect of competition from computers instead of competition from human workers. On the supply side, computers are far more different from people than any two people are different from each other: men and machines are good at fundamentally different things. People have intentionality—we form plans and make decisions in complicated situations. We’re less good at making sense of enormous amounts of data. Computers are exactly the opposite: they excel at efficient data processing, but they struggle to make basic judgments that would be simple for any human.

To understand the scale of this variance, consider another of Google’s computer-for-human substitution projects. In 2012, one of their supercomputers made headlines when, after scanning 10 million thumbnails of YouTube videos, it learned to identify a cat with 75% accuracy. That seems impressive—until you remember that an average four-year-old can do it flawlessly. When a cheap laptop beats the smartest mathematicians at some tasks but even a supercomputer with 16,000 CPUs can’t beat a child at others, you can tell that humans and computers are not just more or less powerful than each other—they’re categorically different.

	SUPPLY (of labor)	DEMAND (for resources)
GLOBALIZATION (other humans)	Substitution: "The world is flat."	Mimetic consumer competition
TECHNOLOGY (better computers)	Mostly complementary	Machines don't demand: all value goes to people

The stark differences between man and machine mean that gains from working with computers are much higher than gains from trade with other people. We don't trade with computers any more than we trade with livestock or lamps. And that's the point: computers are tools, not rivals.

The differences are even deeper on the demand side. Unlike people in industrializing countries, computers don't yearn for more luxurious foods or beachfront villas in Cap Ferrat; all they require is a nominal amount of electricity, which they're not even smart enough to want. When we design new computer technology to help solve problems, we get all the efficiency gains of a hyperspecialized trading partner without having to compete with it for resources. Properly understood, technology is the one way for us to escape competition in a globalizing world. As computers become more and more powerful, they won't be substitutes for humans: they'll be complements.

## COMPLEMENTARY BUSINESSES

Complementarity between computers and humans isn't just a macro-scale fact. It's also the path to building a great business. I came to understand this from my experience at PayPal. In mid-2000, we had survived the dot-com crash and we were growing fast, but we faced one huge problem: we were losing upwards of \$10 million to credit card fraud every month. Since we were processing hundreds or even thousands of transactions per minute, we couldn't possibly review each one—no human quality control team could work that fast.

So we did what any group of engineers would do: we tried to automate a solution. First, Max Levchin assembled an elite team of mathematicians to study the fraudulent transfers in detail. Then we took what we learned and wrote software to automatically identify and cancel bogus transactions in real time. But it quickly became clear that this approach wouldn't work either: after an hour or two, the thieves would catch on and change their tactics. We were dealing with an adaptive enemy, and our software couldn't adapt in response.

The fraudsters' adaptive evasions fooled our automatic detection algorithms, but we found that they didn't fool our human analysts as easily. So Max and his engineers rewrote the software to take a hybrid approach: the computer would flag the most suspicious transactions on a well-designed user interface, and human operators would make the final judgment as to their legitimacy. Thanks to this hybrid system—we named it "Igor," after the Russian fraudster who bragged that we'd never be able to stop him—we turned our first quarterly profit in the first quarter of 2002 (as opposed to a quarterly loss of \$29.3 million one year before). The FBI asked us if we'd let them use Igor to help detect financial crime. And Max was able to boast, grandiosely but truthfully, that he was "the Sherlock Holmes of the Internet Underground."

This kind of man-machine symbiosis enabled PayPal to stay in business, which in turn enabled hundreds of thousands of small businesses to accept the payments they needed to thrive on the internet. None of it would have been possible without the man-machine solution—even though most people would never see it or even hear about it.

I continued to think about this after we sold PayPal in 2002: if humans and computers together could achieve dramatically better results than either could attain alone, what other valuable businesses could be built on this core principle? The next year, I pitched Alex Karp, an old Stanford classmate, and Stephen Cohen, a software engineer, on a new startup idea: we would use the human-computer hybrid approach from PayPal's security system to identify terrorist networks and financial fraud. We already knew the FBI was interested, and in 2004 we founded Palantir, a software company that helps people extract insight from divergent sources of information. The company is on track to book sales of \$1 billion in 2014, and *Forbes* has called Palantir's software the "killer app" for its rumored role in helping the government locate Osama bin Laden.

We have no details to share from that operation, but we can say that neither human intelligence by itself nor computers alone will be able to make us safe. America's two biggest spy agencies take opposite approaches: The Central Intelligence Agency is run by spies who privilege humans. The National Security Agency is run by generals who prioritize computers. CIA analysts have to wade through so much noise that it's very difficult to identify the most serious threats. NSA computers can process huge quantities of data, but machines alone cannot authoritatively determine whether someone is plotting a terrorist act. Palantir aims to transcend these opposing biases: its software analyzes the data the government feeds it—phone records of radical clerics in Yemen or bank accounts linked to terror cell activity, for instance—and flags suspicious activities for a trained analyst to review.

In addition to helping find terrorists, analysts using Palantir’s software have been able to predict where insurgents plant IEDs in Afghanistan; prosecute high-profile insider trading cases; take down the largest child pornography ring in the world; support the Centers for Disease Control and Prevention in fighting foodborne disease outbreaks; and save both commercial banks and the government hundreds of millions of dollars annually through advanced fraud detection.

Advanced software made this possible, but even more important were the human analysts, prosecutors, scientists, and financial professionals without whose active engagement the software would have been useless.

Think of what professionals do in their jobs today. Lawyers must be able to articulate solutions to thorny problems in several different ways—the pitch changes depending on whether you’re talking to a client, opposing counsel, or a judge. Doctors need to marry clinical understanding with an ability to communicate it to non-expert patients. And good teachers aren’t just experts in their disciplines: they must also understand how to tailor their instruction to different individuals’ interests and learning styles. Computers might be able to do some of these tasks, but they can’t combine them effectively. Better technology in law, medicine, and education won’t replace professionals; it will allow them to do even more.

LinkedIn has done exactly this for recruiters. When LinkedIn was founded in 2003, they didn’t poll recruiters to find discrete pain points in need of relief. And they didn’t try to write software that would replace recruiters outright. Recruiting is part detective work and part sales: you have to scrutinize applicants’ history, assess their motives and compatibility, and persuade the most promising ones to join you. Effectively replacing all those functions with a computer would be impossible. Instead, LinkedIn set out to transform how recruiters did their jobs. Today, more than 97% of recruiters use LinkedIn and its powerful search and filtering functionality to source job candidates, and the network also creates value for the hundreds of millions of professionals who use it to manage their personal brands. If LinkedIn had tried to simply replace recruiters with technology, they wouldn’t have a business today.

### *The Ideology of Computer Science*

Why do so many people miss the power of complementarity? It starts in school. Software engineers tend to work on projects that replace human efforts because that’s what they’re trained to do. Academics make their reputations through specialized research; their primary goal is to publish papers, and publication means respecting the limits of a particular discipline. For computer scientists, that means reducing human capabilities into specialized tasks that computers can be trained to conquer one by one.

Just look at the trendiest fields in computer science today. The very term “machine learning” evokes imagery of replacement, and its boosters seem to believe that computers can be taught to perform almost any task, so long as we feed them enough training data. Any user of Netflix or Amazon has experienced the results of machine learning firsthand: both companies use algorithms to recommend products based on your viewing and purchase history. Feed them more data and the recommendations get ever better. Google Translate works the same way, providing rough but serviceable translations into any of the 80 languages it supports—not because the software understands human language, but because it has extracted patterns through statistical analysis of a huge corpus of text.

The other buzzword that epitomizes a bias toward substitution is “big data.” Today’s companies have an insatiable appetite for data, mistakenly believing that more data always creates more value. But big data is usually dumb data. Computers can find patterns that elude humans, but they don’t know how to compare patterns from different sources or how to interpret complex behaviors. Actionable insights can only come from a human analyst (or the kind of generalized artificial intelligence that exists only in science fiction).

We have let ourselves become enchanted by big data only because we exoticize technology. We’re impressed with small feats accomplished by computers alone, but we ignore big achievements from complementarity because the human contribution makes them less uncanny. Watson, Deep Blue, and ever-better machine learning algorithms are cool. But the most valuable companies in the future won’t ask what problems can be solved with computers alone. Instead, they’ll ask: *how can computers help humans solve hard problems?*

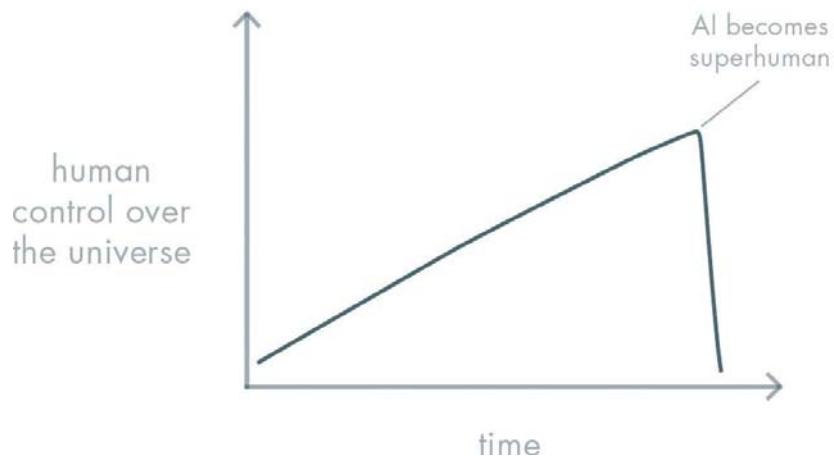
## EVER-SMARTER COMPUTERS: FRIEND OR FOE?

The future of computing is necessarily full of unknowns. It's become conventional to see ever-smarter anthropomorphized robot intelligences like Siri and Watson as harbingers of things to come; once computers can answer all our questions, perhaps they'll ask why they should remain subservient to us at all.

The logical endpoint to this substitutionist thinking is called "strong AI": computers that eclipse humans on every important dimension. Of course, the Luddites are terrified by the possibility. It even makes the futurists a little uneasy; it's not clear whether strong AI would save humanity or doom it. Technology is supposed to *increase* our mastery over nature and *reduce* the role of chance in our lives; building smarter-than-human computers could actually bring chance back with a vengeance. Strong AI is like a cosmic lottery ticket: if we win, we get utopia; if we lose, Skynet substitutes us out of existence.

But even if strong AI is a real possibility rather than an imponderable mystery, it won't happen anytime soon: replacement by computers is a worry for the 22nd century. Indefinite fears about the far future shouldn't stop us from making definite plans today. Luddites claim that we shouldn't build the computers that might replace people someday; crazed futurists argue that we should. These two positions are mutually exclusive but they are not exhaustive: there is room in between for sane people to build a vastly better world in the decades ahead. As we find new ways to use computers, they won't just get better at the kinds of things people already do; they'll help us to do what was previously unimaginable.

## THE FUTURE OF STRONG AI?



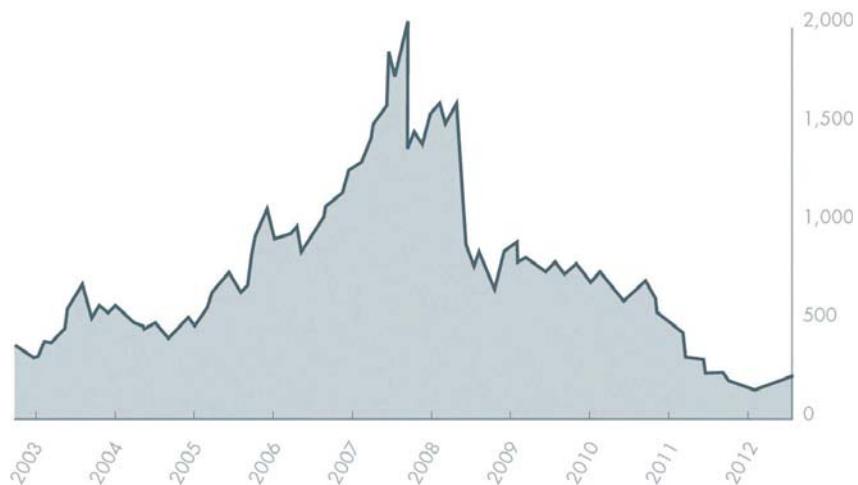


# SEEING GREEN

**A**T THE START of the 21st century, everyone agreed that the next big thing was clean technology. It had to be: in Beijing, the smog had gotten so bad that people couldn't see from building to building—even breathing was a health risk. Bangladesh, with its arsenic-laden water wells, was suffering what the *New York Times* called “the biggest mass poisoning in history.” In the U.S., Hurricanes Ivan and Katrina were said to be harbingers of the coming devastation from global warming. Al Gore implored us to attack these problems “with the urgency and resolve that has previously been seen only when nations mobilized for war.” People got busy: entrepreneurs started thousands of cleantech companies, and investors poured more than \$50 billion into them. So began the quest to cleanse the world.

It didn’t work. Instead of a healthier planet, we got a massive cleantech bubble. Solyndra is the most famous green ghost, but most cleantech companies met similarly disastrous ends—more than 40 solar manufacturers went out of business or filed for bankruptcy in 2012 alone. The leading index of alternative energy companies shows the bubble’s dramatic deflation:

RENIIX (RENEWABLE ENERGY INDUSTRIAL INDEX)



Why did cleantech fail? Conservatives think they already know the answer: as soon as green energy became a priority for the government, it was poisoned. But there really were (and there still are) good reasons for making energy a priority. And the truth about cleantech is more complex and more important than government failure. Most cleantech companies crashed because they neglected one or more of the seven questions that every business must answer:

## 1. The Engineering Question

*Can you create breakthrough technology instead of incremental improvements?*

## 2. The Timing Question

*Is now the right time to start your particular business?*

## 3. The Monopoly Question

*Are you starting with a big share of a small market?*

## 4. The People Question

*Do you have the right team?*

## 5. The Distribution Question

*Do you have a way to not just create but deliver your product?*

## 6. The Durability Question

*Will your market position be defensible 10 and 20 years into the future?*

## 7. The Secret Question

*Have you identified a unique opportunity that others don't see?*

We've discussed these elements before. Whatever your industry, any great business plan must address every one of them. If you don't have good answers to these questions, you'll run into lots of "bad luck" and your business will fail. If you nail all seven, you'll master fortune and succeed. Even getting five or six correct might work. But the striking thing about the cleantech bubble was that people were starting companies with zero good answers—and that meant hoping for a miracle.

It's hard to know exactly why any particular cleantech company failed, since almost all of them made several serious mistakes. But since *any one* of those mistakes is enough to doom your company, it's worth reviewing cleantech's losing scorecard in more detail.

## THE ENGINEERING QUESTION

A great technology company should have proprietary technology an order of magnitude better than its nearest substitute. But cleantech companies rarely produced 2x, let alone 10x, improvements. Sometimes their offerings were actually *worse* than the products they sought to replace. Solyndra developed novel, cylindrical solar cells, but to a first approximation, cylindrical cells are only  $\frac{1}{\pi}$  as efficient as flat ones—they simply don’t receive as much direct sunlight. The company tried to correct for this deficiency by using mirrors to reflect more sunlight to hit the bottoms of the panels, but it’s hard to recover from a radically inferior starting point.

Companies must strive for 10x better because merely incremental improvements often end up meaning no improvement at all for the end user. Suppose you develop a new wind turbine that’s 20% more efficient than any existing technology—when you test it in the laboratory. That sounds good at first, but the lab result won’t begin to compensate for the expenses and risks faced by any new product in the real world. And even if your system really is 20% better on net for the customer who buys it, people are so used to exaggerated claims that you’ll be met with skepticism when you try to sell it. Only when your product is 10x better can you offer the customer transparent superiority.

## THE TIMING QUESTION

Cleantech entrepreneurs worked hard to convince themselves that their appointed hour had arrived. When he announced his new company in 2008, SpectraWatt CEO Andrew Wilson stated that “[t]he solar industry is akin to where the microprocessor industry was in the late 1970s. There is a lot to be figured out and improved.” The second part was right, but the microprocessor analogy was way off. Ever since the first microprocessor was built in 1971, computing advanced not just rapidly but exponentially. Look at Intel’s early product release history:

Generation	Processor Model	Year
4-bit	4004	1971
8-bit	8008	1972
16-bit	8086	1978
32-bit	iAPX 432	1981

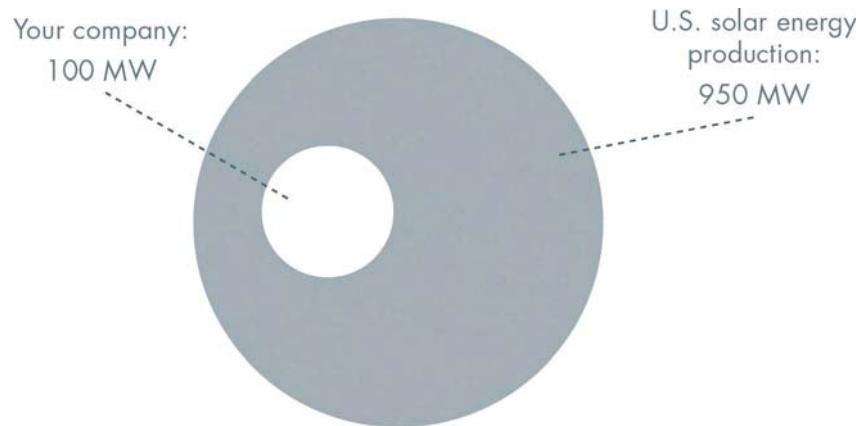
The first silicon solar cell, by contrast, was created by Bell Labs in 1954—more than *a half century* before Wilson’s press release. Photovoltaic efficiency improved in the intervening decades, but slowly and linearly: Bell’s first solar cell had about 6% efficiency; neither today’s crystalline silicon cells nor modern thin-film cells have exceeded 25% efficiency in the field. There were few engineering developments in the mid-2000s to suggest impending liftoff. Entering a slow-moving market can be a good strategy, but only if you have a definite and realistic plan to take it over. The failed cleantech companies had none.

## THE MONOPOLY QUESTION

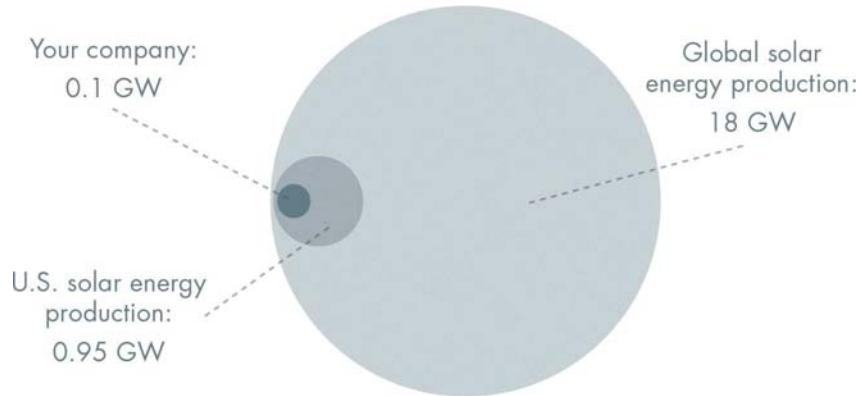
In 2006, billionaire technology investor John Doerr announced that “green is the new red, white and blue.” He could have stopped at “red.” As Doerr himself said, “Internet-sized markets are in the billions of dollars; the energy markets are in the trillions.” What he didn’t say is that huge, trillion-dollar markets mean ruthless, bloody competition. Others echoed Doerr over and over: in the 2000s, I listened to dozens of cleantech entrepreneurs begin fantastically rosy PowerPoint presentations with all-too-true tales of trillion-dollar markets—as if that were a good thing.

Cleantech executives emphasized the bounty of an energy market big enough for all comers, but each one typically believed that *his own* company had an edge. In 2006, Dave Pearce, CEO of solar manufacturer MiaSolé, admitted to a congressional panel that his company was just one of several “very strong” startups working on one particular kind of thin-film solar cell development. Minutes later, Pearce predicted that MiaSolé would become “the largest producer of thin-film solar cells in the world” within a year’s time. That didn’t happen, but it might not have helped them anyway: thin-film is just one of more than a dozen kinds of solar cells. Customers won’t care about any particular technology unless it solves a particular problem in a superior way. And if you can’t monopolize a unique solution for a small market, you’ll be stuck with vicious competition. That’s what happened to MiaSolé, which was acquired in 2013 for hundreds of millions of dollars less than its investors had put into the company.

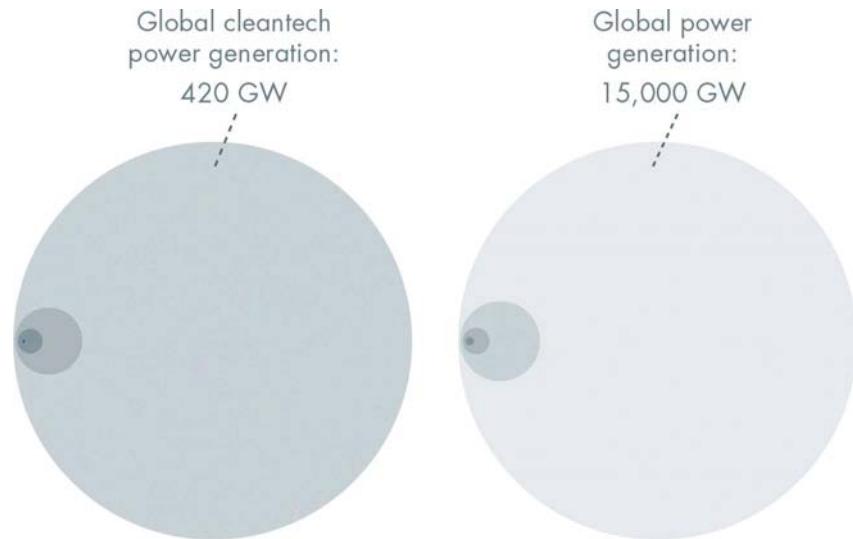
Exaggerating your own uniqueness is an easy way to botch the monopoly question. Suppose you’re running a solar company that’s successfully installed hundreds of solar panel systems with a combined power generation capacity of 100 megawatts. Since total U.S. solar energy production capacity is 950 megawatts, you own 10.53% of the market. Congratulations, you tell yourself: you’re a player.



But what if the U.S. solar energy market isn’t the relevant market? What if the relevant market is the *global* solar market, with a production capacity of 18 gigawatts? Your 100 megawatts now makes you a very small fish indeed: suddenly you own less than 1% of the market.



And what if the appropriate measure isn't global solar, but rather renewable energy *in general*? Annual production capacity from renewables is 420 gigawatts globally; you just shrank to 0.02% of the market. And compared to the total global power generation capacity of 15,000 gigawatts, your 100 megawatts is just a drop in the ocean.

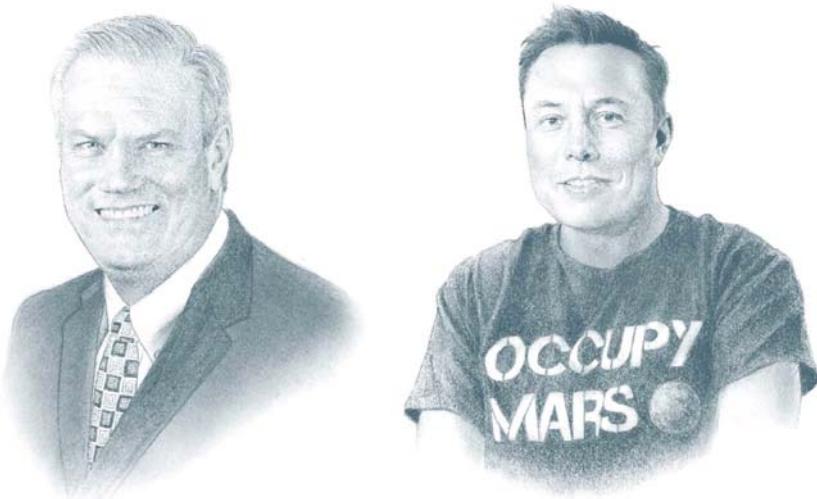


Cleantech entrepreneurs' thinking about markets was hopelessly confused. They would rhetorically shrink their market in order to seem differentiated, only to turn around and ask to be valued based on huge, supposedly lucrative markets. But you can't dominate a submarket if it's fictional, and huge markets are highly competitive, not highly attainable. Most cleantech founders would have been better off opening a new British restaurant in downtown Palo Alto.

## THE PEOPLE QUESTION

Energy problems are engineering problems, so you would expect to find nerds running cleantech companies. You'd be wrong: the ones that failed were run by shockingly nontechnical teams. These salesman-executives were good at raising capital and securing government subsidies, but they were less good at building products that customers wanted to buy.

At Founders Fund, we saw this coming. The most obvious clue was sartorial: cleantech executives were running around wearing suits and ties. This was a huge red flag, because real technologists wear T-shirts and jeans. So we instituted a blanket rule: pass on any company whose founders dressed up for pitch meetings. Maybe we still would have avoided these bad investments if we had taken the time to evaluate each company's technology in detail. But the team insight—never invest in a tech CEO that wears a suit—got us to the truth a lot faster. The best sales is hidden. There's nothing wrong with a CEO who can sell, but if he actually *looks* like a salesman, he's probably bad at sales and worse at tech.



Solyndra CEO Brian Harrison; Tesla Motors CEO Elon Musk

## THE DISTRIBUTION QUESTION

Cleantech companies effectively courted government and investors, but they often forgot about customers. They learned the hard way that the world is not a laboratory: selling and delivering a product is at least as important as the product itself.

Just ask Israeli electric vehicle startup Better Place, which from 2007 to 2012 raised and spent more than \$800 million to build swappable battery packs and charging stations for electric cars. The company sought to “create a green alternative that would lessen our dependence on highly polluting transportation technologies.” And it did just that—at least by 1,000 cars, the number it sold before filing for bankruptcy. Even selling that many was an achievement, because each of those cars was very hard for customers to buy.

For starters, it was never clear what you were actually buying. Better Place bought sedans from Renault and refitted them with electric batteries and electric motors. So, were you buying an electric Renault, or were you buying a Better Place? In any case, if you decided to buy one, you had to jump through a series of hoops. First, you needed to seek approval from Better Place. To get that, you had to prove that you lived close enough to a Better Place battery swapping station and promise to follow predictable routes. If you passed that test, you had to sign up for a fueling subscription in order to recharge your car. Only then could you get started learning the new behavior of stopping to swap out battery packs on the road.

Better Place thought its technology spoke for itself, so they didn’t bother to market it clearly. Reflecting on the company’s failure, one frustrated customer asked, “Why wasn’t there a billboard in Tel Aviv showing a picture of a Toyota Prius for 160,000 shekels and a picture of this car, for 160,000 plus fuel for four years?” He still bought one of the cars, but unlike most people, he was a hobbyist who “would do anything to keep driving it.” Unfortunately, he can’t: as the Better Place board of directors stated upon selling the company’s assets for a meager \$12 million in 2013, “The technical challenges we overcame successfully, but the other obstacles we were not able to overcome.”

## THE DURABILITY QUESTION

Every entrepreneur should plan to be the last mover in her particular market. That starts with asking yourself: what will the world look like 10 and 20 years from now, and how will my business fit in?

Few cleantech companies had a good answer. As a result, all their obituaries resemble each other. A few months before it filed for bankruptcy in 2011, Evergreen Solar explained its decision to close one of its U.S. factories:

Solar manufacturers in China have received considerable government and financial support....

Although [our] production costs ... are now below originally planned levels and lower than most western manufacturers, they are still much higher than those of our low cost competitors in China.

But it wasn't until 2012 that the "blame China" chorus really exploded. Discussing its bankruptcy filing, U.S. Department of Energy-backed Abound Solar blamed "aggressive pricing actions from Chinese solar panel companies" that "made it very difficult for an early stage startup company ... to scale in current market conditions." When solar panel maker Energy Conversion Devices failed in February 2012, it went beyond blaming China in a press release and filed a \$950 million lawsuit against three prominent Chinese solar manufacturers—the same companies that Solyndra's trustees in bankruptcy sued later that year on the grounds of attempted monopolization, conspiracy, and predatory pricing. But was competition from Chinese manufacturers really impossible to predict? Cleantech entrepreneurs would have done well to rephrase the durability question and ask: what will stop China from wiping out my business? Without an answer, the result shouldn't have come as a surprise.

Beyond the failure to anticipate competition in manufacturing the same green products, cleantech embraced misguided assumptions about the energy market as a whole. An industry premised on the supposed twilight of fossil fuels was blindsided by the rise of fracking. In 2000, just 1.7% of America's natural gas came from fracked shale. Five years later, that figure had climbed to 4.1%. Nevertheless, nobody in cleantech took this trend seriously: renewables were the only way forward; fossil fuels couldn't possibly get cheaper or cleaner in the future. But they did. By 2013, shale gas accounted for 34% of America's natural gas, and gas prices had fallen more than 70% since 2008, devastating most renewable energy business models. Fracking may not be a durable energy solution, either, but it was enough to doom cleantech companies that didn't see it coming.

## THE SECRET QUESTION

Every cleantech company justified itself with conventional truths about the need for a cleaner world. They deluded themselves into believing that an overwhelming social need for alternative energy solutions implied an overwhelming business opportunity for cleantech companies of all kinds. Consider how conventional it had become by 2006 to be bullish on solar. That year, President George W. Bush heralded a future of “solar roofs that will enable the American family to be able to generate their own electricity.” Investor and cleantech executive Bill Gross declared that the “potential for solar is enormous.” Suvi Sharma, then-CEO of solar manufacturer Solaria, admitted that while “there is a gold rush feeling” to solar, “there’s also real gold here—or, in our case, sunshine.” But rushing to embrace the convention sent scores of solar panel companies—Q-Cells, Evergreen Solar, SpectraWatt, and even Gross’s own Energy Innovations, to name just a few—from promising beginnings to bankruptcy court very quickly. Each of the casualties had described their bright futures using broad conventions on which everybody agreed. Great companies have secrets: specific reasons for success that other people don’t see.

## THE MYTH OF SOCIAL ENTREPRENEURSHIP

Cleantech entrepreneurs aimed for more than just success as most businesses define it. The cleantech bubble was the biggest phenomenon—and the biggest flop—in the history of “social entrepreneurship.” This philanthropic approach to business starts with the idea that corporations and nonprofits have until now been polar opposites: corporations have great power, but they’re shackled to the profit motive; nonprofits pursue the public interest, but they’re weak players in the wider economy. Social entrepreneurs aim to combine the best of both worlds and “do well by doing good.” Usually they end up doing neither.

The ambiguity between social and financial goals doesn’t help. But the ambiguity in the word “social” is even more of a problem: if something is “socially good,” is it good *for* society, or merely *seen* as good *by* society? Whatever is good enough to receive applause from all audiences can only be conventional, like the general idea of green energy.

Progress isn’t held back by some difference between corporate greed and nonprofit goodness; instead, we’re held back by the sameness of both. Just as corporations tend to copy each other, nonprofits all tend to push the same priorities. Cleantech shows the result: hundreds of undifferentiated products all in the name of one overbroad goal.

Doing something *different* is what’s truly good for society—and it’s also what allows a business to profit by monopolizing a new market. The best projects are likely to be overlooked, not trumpeted by a crowd; the best problems to work on are often the ones nobody else even tries to solve.

## TESLA: 7 FOR 7

Tesla is one of the few cleantech companies started last decade to be thriving today. They rode the social buzz of cleantech better than anyone, but they got the seven questions right, so their success is instructive:

TECHNOLOGY. Tesla's technology is so good that other car companies rely on it: Daimler uses Tesla's battery packs; Mercedes-Benz uses a Tesla powertrain; Toyota uses a Tesla motor. General Motors has even created a task force to track Tesla's next moves. But Tesla's greatest technological achievement isn't any single part or component, but rather its ability to integrate many components into one superior product. The Tesla Model S sedan, elegantly designed from end to end, is more than the sum of its parts: *Consumer Reports* rated it higher than any other car ever reviewed, and both *Motor Trend* and *Automobile* magazines named it their 2013 Car of the Year.

TIMING. In 2009, it was easy to think that the government would continue to support cleantech: "green jobs" were a political priority, federal funds were already earmarked, and Congress even seemed likely to pass cap-and-trade legislation. But where others saw generous subsidies that could flow indefinitely, Tesla CEO Elon Musk rightly saw a one-time-only opportunity. In January 2010—about a year and a half before Solyndra imploded under the Obama administration and politicized the subsidy question—Tesla secured a \$465 million loan from the U.S. Department of Energy. A half-billion-dollar subsidy was unthinkable in the mid-2000s. It's unthinkable today. There was only one moment where that was possible, and Tesla played it perfectly.

MONOPOLY. Tesla started with a tiny submarket that it could dominate: the market for high-end electric sports cars. Since the first Roadster rolled off the production line in 2008, Tesla's sold only about 3,000 of them, but at \$109,000 apiece that's not trivial. Starting small allowed Tesla to undertake the necessary R&D to build the slightly less expensive Model S, and now Tesla owns the luxury electric sedan market, too. They sold more than 20,000 sedans in 2013 and now Tesla is in prime position to expand to broader markets in the future.

TEAM. Tesla's CEO is the consummate engineer *and* salesman, so it's not surprising that he's assembled a team that's very good at both. Elon describes his staff this way: "If you're at Tesla, you're choosing to be at the equivalent of Special Forces. There's the regular army, and that's fine, but if you are working at Tesla, you're choosing to step up your game."

DISTRIBUTION. Most companies underestimate distribution, but Tesla took it so seriously that it decided to own the entire distribution chain. Other car companies are beholden to independent dealerships: Ford and Hyundai make cars, but they rely on other people to sell them. Tesla sells and services its vehicles in its own stores. The up-front costs of Tesla's approach are much higher than traditional dealership distribution, but it affords control over the customer experience, strengthens Tesla's brand, and saves the company money in the long run.

DURABILITY. Tesla has a head start and it's moving faster than anyone else—and that combination

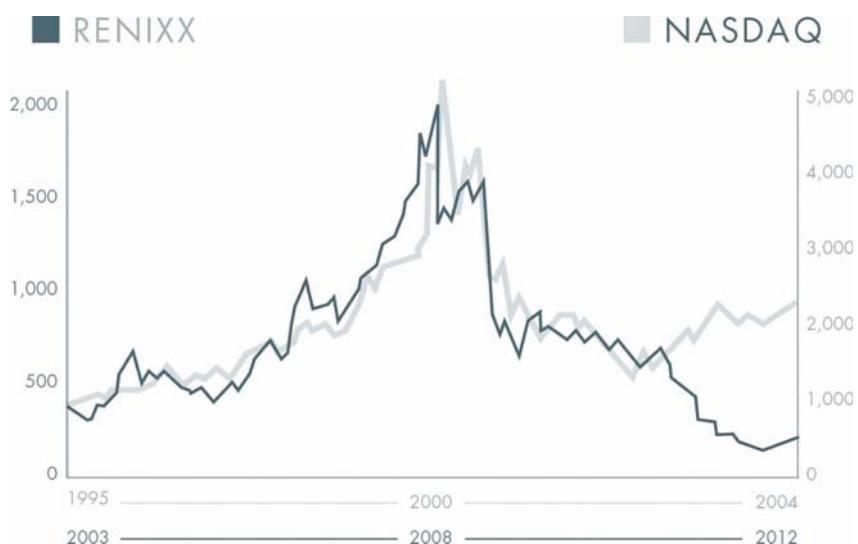
means its lead is set to widen in the years ahead. A coveted brand is the clearest sign of Tesla's breakthrough: a car is one of the biggest purchasing decisions that people ever make, and consumers' trust in that category is hard to win. And unlike every other car company, at Tesla the founder is still in charge, so it's not going to ease off anytime soon.

SECRETS. Tesla knew that fashion drove interest in cleantech. Rich people especially wanted to appear "green," even if it meant driving a boxy Prius or clunky Honda Insight. Those cars only made drivers look cool by association with the famous eco-conscious movie stars who owned them as well. So Tesla decided to build cars that made drivers look cool, period—Leonardo DiCaprio even ditched his Prius for an expensive (and expensive-looking) Tesla Roadster. While generic cleantech companies struggled to differentiate themselves, Tesla built a unique brand around the secret that cleantech was even more of a social phenomenon than an environmental imperative.

## ENERGY 2.0

Tesla's success proves that there was nothing inherently wrong with cleantech. The biggest idea behind it is right: the world really will need new sources of energy. Energy is the master resource: it's how we feed ourselves, build shelter, and make everything we need to live comfortably. Most of the world dreams of living as comfortably as Americans do today, and globalization will cause increasingly severe energy challenges unless we build new technology. There simply aren't enough resources in the world to replicate old approaches or redistribute our way to prosperity.

Cleantech gave people a way to be optimistic about the future of energy. But when indefinitely optimistic investors betting on the general idea of green energy funded cleantech companies that lacked specific business plans, the result was a bubble. Plot the valuation of alternative energy firms in the 2000s alongside the NASDAQ's rise and fall a decade before, and you see the same shape:



The 1990s had one big idea: *the internet is going to be big*. But too many internet companies had exactly that same idea and no others. An entrepreneur can't benefit from macro-scale insight unless his own plans begin at the micro-scale. Cleantech companies faced the same problem: no matter how much the world needs energy, only a firm that offers a superior solution for a specific energy problem can make money. No sector will ever be so important that merely participating in it will be enough to build a great company.

The tech bubble was far bigger than cleantech and the crash even more painful. But the dream of the '90s turned out to be right: skeptics who doubted that the internet would fundamentally change publishing or retail sales or everyday social life looked prescient in 2001, but they seem comically foolish today. Could successful energy startups be founded after the cleantech crash just as Web 2.0 startups successfully launched amid the debris of the dot-coms? The macro need for energy solutions is still real. But a valuable business must start by finding a niche and dominating a small market. Facebook started as a service for just one university campus before it spread to other schools and then the entire world. Finding small markets for energy solutions will be tricky—you could aim to replace diesel as a power source for remote islands, or maybe build modular reactors for quick deployment at military installations in hostile territories. Paradoxically, the challenge for the entrepreneurs who will create Energy 2.0 is to think small.



## THE FOUNDER'S PARADOX

**O**F THE SIX PEOPLE who started PayPal, four had built bombs in high school.

Five were just 23 years old—or younger. Four of us had been born outside the United States. Three had escaped here from communist countries: Yu Pan from China, Luke Nosek from Poland, and Max Levchin from Soviet Ukraine. Building bombs was not what kids normally did in those countries at that time.

The six of us could have been seen as eccentric. My first-ever conversation with Luke was about how he'd just signed up for cryonics, to be frozen upon death in hope of medical resurrection. Max claimed to be without a country and proud of it: his family was put into diplomatic limbo when the USSR collapsed while they were escaping to the U.S. Russ Simmons had escaped from a trailer park to the top math and science magnet school in Illinois. Only Ken Howery fit the stereotype of a privileged American childhood: he was PayPal's sole Eagle Scout. But Kenny's peers thought he was crazy to join the rest of us and make just one-third of the salary he had been offered by a big bank. So even he wasn't entirely normal.



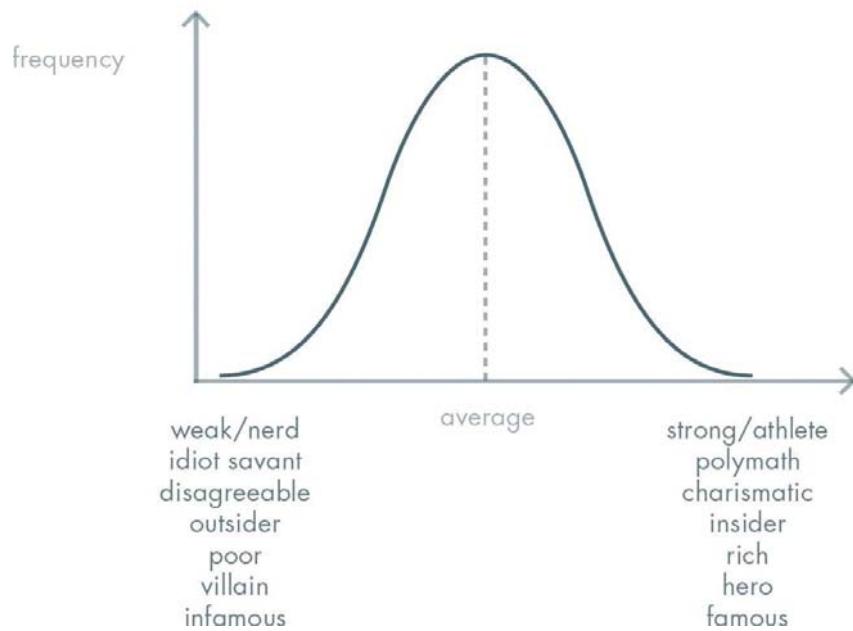
The PayPal Team in 1999

Are all founders unusual people? Or do we just tend to remember and exaggerate whatever is most unusual about them? More important, which personal traits actually matter in a founder? This chapter is about why it's more powerful but at the same time more dangerous for a company to be led by a distinctive individual instead of an interchangeable manager.

## THE DIFFERENCE ENGINE

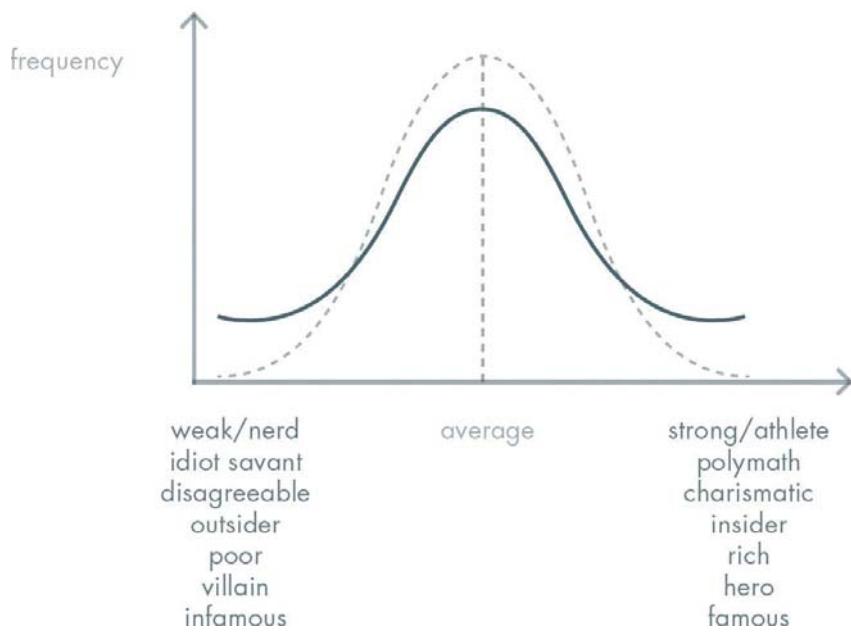
Some people are strong, some are weak, some are geniuses, some are dullards—but most people are in the middle. Plot where everyone falls and you’ll see a bell curve:

### NORMAL DISTRIBUTION OF TRAITS



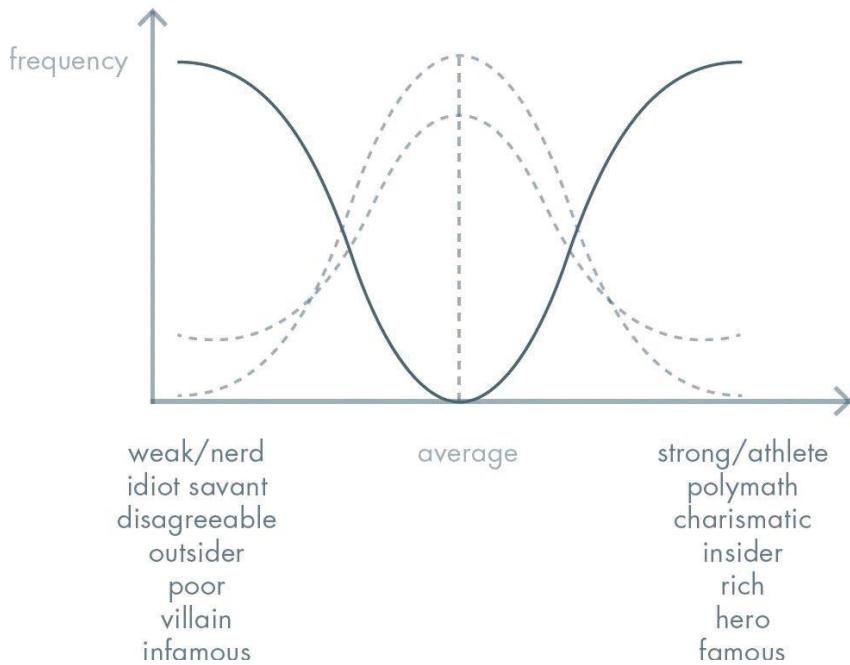
Since so many founders seem to have extreme traits, you might guess that a plot showing only founders’ traits would have fatter tails with more people at either end.

## FAT-TAILED DISTRIBUTION

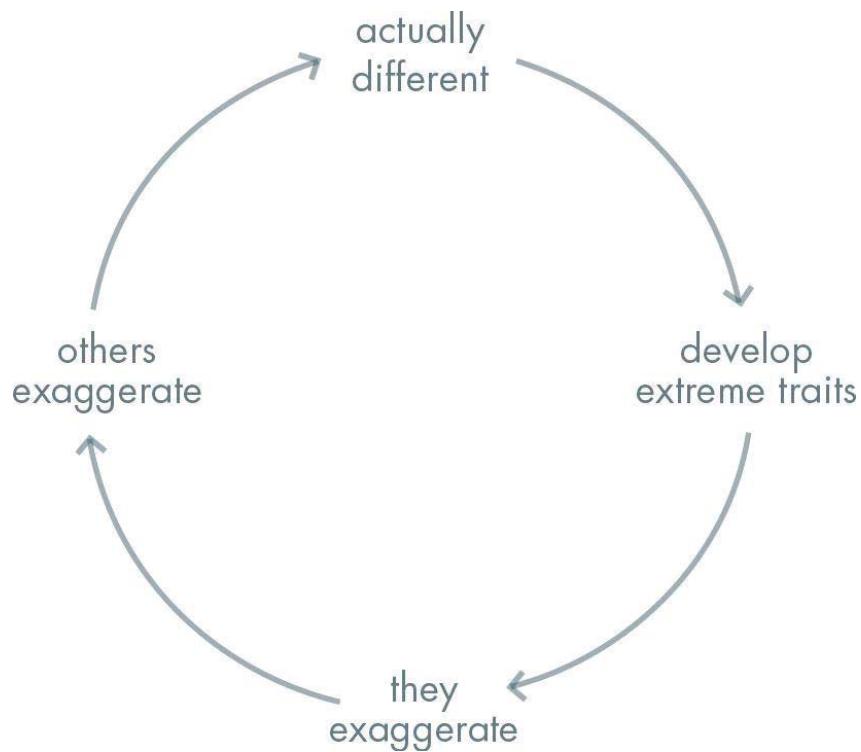


But that doesn't capture the strangest thing about founders. Normally we expect opposite traits to be mutually exclusive: a normal person can't be both rich and poor at the same time, for instance. But it happens all the time to founders: startup CEOs can be cash poor but millionaires on paper. They may oscillate between sullen jerkiness and appealing charisma. Almost all successful entrepreneurs are simultaneously insiders and outsiders. And when they do succeed, they attract both fame and infamy. When you plot them out, founders' traits appear to follow an inverse normal distribution:

## THE FOUNDER DISTRIBUTION



Where does this strange and extreme combination of traits come from? They could be present from birth (nature) or acquired from an individual's environment (nurture). But perhaps founders aren't really as extreme as they appear. Might they strategically exaggerate certain qualities? Or is it possible that everyone else exaggerates them? All of these effects can be present at the same time, and whenever present they powerfully reinforce each other. The cycle usually starts with unusual people and ends with them acting and seeming even more unusual:



As an example, take Sir Richard Branson, the billionaire founder of the Virgin Group. He could be described as a natural entrepreneur: Branson started his first business at age 16, and at just 22 he founded Virgin Records. But other aspects of his renown—the trademark lion's mane hairstyle, for example—are less natural: one suspects he wasn't born with that exact look. As Branson has cultivated his other extreme traits (Is kiteboarding with naked supermodels a PR stunt? Just a guy having fun? Both?), the media has eagerly enthroned him: Branson is “The Virgin King,” “The Undisputed King of PR,” “The King of Branding,” and “The King of the Desert and Space.” When Virgin Atlantic Airways began serving passengers drinks with ice cubes shaped like Branson’s face, he became “The Ice King.”

Is Branson just a normal businessman who happens to be lionized by the media with the help of a good PR team? Or is he himself a born branding genius rightly singled out by the journalists he is so good at manipulating? It’s hard to tell—maybe he’s both.



Another example is Sean Parker, who started out with the ultimate outsider status: criminal. Sean was a careful hacker in high school. But his father decided that Sean was spending too much time on the computer for a 16-year-old, so one day he took away Sean's keyboard mid-hack. Sean couldn't log out; the FBI noticed; soon federal agents were placing him under arrest.

Sean got off easy since he was a minor; if anything, the episode emboldened him. Three years later, he co-founded Napster. The peer-to-peer file sharing service amassed 10 million users in its first year, making it one of the fastest-growing businesses of all time. But the record companies sued and a federal judge ordered it shut down 20 months after opening. After a whirlwind period at the center, Sean was back to being an outsider again.

Then came Facebook. Sean met Mark Zuckerberg in 2004, helped negotiate Facebook's first funding, and became the company's founding president. He had to step down in 2005 amid allegations of drug use, but this only enhanced his notoriety. Ever since Justin Timberlake portrayed him in *The Social Network*, Sean has been perceived as one of the coolest people in America. JT is still more famous, but when he visits Silicon Valley, people ask if he's Sean Parker.



The most famous people in the world are founders, too: instead of a company, every celebrity founds and cultivates a personal brand. Lady Gaga, for example, became one of the most influential living people. But is she even a real person? Her real name isn't a secret, but almost no one knows or cares what it is. She wears costumes so bizarre as to put any other wearer at risk of an involuntary psychiatric hold. Gaga would have you believe that she was "born this way"—the title of both her second album and its lead track. But no one is born looking like a zombie with horns coming out of her head: Gaga must therefore be a self-manufactured myth. Then again, what kind of person would do this to herself? Certainly nobody normal. So perhaps Gaga really *was* born that way.

## WHERE KINGS COME FROM

Extreme founder figures are not new in human affairs. Classical mythology is full of them. Oedipus is the paradigmatic insider/outsider: he was abandoned as an infant and ended up in a foreign land, but he was a brilliant king and smart enough to solve the riddle of the Sphinx.

Romulus and Remus were born of royal blood and abandoned as orphans. When they discovered their pedigree, they decided to found a city. But they couldn't agree on where to put it. When Remus crossed the boundary that Romulus had decided was the edge of Rome, Romulus killed him, declaring: "So perish every one that shall hereafter leap over my wall." Law-maker *and* law-breaker, criminal outlaw *and* king who defined Rome, Romulus was a self-contradictory insider/outsider.

Normal people aren't like Oedipus or Romulus. Whatever those individuals were actually like in life, the mythologized versions of them remember only the extremes. But why was it so important for archaic cultures to remember extraordinary people?

The famous and infamous have always served as vessels for public sentiment: they're praised amid prosperity and blamed for misfortune. Primitive societies faced one fundamental problem above all: they would be torn apart by conflict if they didn't have a way to stop it. So whenever plagues, disasters, or violent rivalries threatened the peace, it was beneficial for the society to place the entire blame on a single person, someone everybody could agree on: a scapegoat.

Who makes an effective scapegoat? Like founders, scapegoats are extreme and contradictory figures. On the one hand, a scapegoat is necessarily weak; he is powerless to stop his own victimization. On the other hand, as the one who can defuse conflict by taking the blame, he is the most powerful member of the community.

Before execution, scapegoats were often worshipped like deities. The Aztecs considered their victims to be earthly forms of the gods to whom they were sacrificed. You would be dressed in fine clothes and feast royally until your brief reign ended and they cut your heart out. These are the roots of monarchy: every king was a living god, and every god a murdered king. Perhaps every modern king is just a scapegoat who has managed to delay his own execution.

## AMERICAN ROYALTY

Celebrities are supposedly “American royalty.” We even grant titles to our favorite performers: Elvis Presley was the king of rock. Michael Jackson was the king of pop. Britney Spears was the pop princess.



Until they weren’t. Elvis self-destructed in the ’70s and died alone, overweight, sitting on his toilet. Today, his impersonators are fat and sketchy, not lean and cool. Michael Jackson went from beloved child star to an erratic, physically repulsive, drug-addicted shell of his former self; the world reveled in the details of his trials. Britney’s story is the most dramatic of all. We created her from nothing, elevating her to superstardom as a teenager. But then everything fell off the tracks: witness the shaved head, the over- and under-eating scandals, and the highly publicized court case to take away her children. Was she always a little bit crazy? Did the publicity just get to her? Or did she do it all to get more?



For some fallen stars, death brings resurrection. So many popular musicians have died at age 27—Janis Joplin, Jimi Hendrix, Jim Morrison, and Kurt Cobain, for example—that this set has become immortalized as the “27 Club.” Before she joined the club in 2011, Amy Winehouse sang: “They tried to make me go to rehab, but I said, ‘No, no, no.’ ” Maybe rehab seemed so unattractive because it

blocked the path to immortality. Perhaps the only way to be a rock god forever is to die an early death.



We alternately worship and despise technology founders just as we do celebrities. Howard Hughes's arc from fame to pity is the most dramatic of any 20th-century tech founder. He was born wealthy, but he was always more interested in engineering than luxury. He built Houston's first radio transmitter at the age of 11. The year after that he built the city's first motorcycle. By age 30 he'd made nine commercially successful movies at a time when Hollywood was on the technological frontier. But Hughes was even more famous for his parallel career in aviation. He designed planes, produced them, and piloted them himself. Hughes set world records for top airspeed, fastest transcontinental flight, and fastest flight around the world.

Hughes was obsessed with flying higher than everyone else. He liked to remind people that he was a mere mortal, not a Greek god—something that mortals say only when they want to invite comparisons to gods. Hughes was “a man to whom you cannot apply the same standards as you can to you and me,” his lawyer once argued in federal court. Hughes paid the lawyer to say that, but according to the *New York Times* there was “no dispute on this point from judge or jury.” When Hughes was awarded the Congressional Gold Medal in 1939 for his achievements in aviation, he didn’t even show up to claim it—years later President Truman found it in the White House and mailed it to him.

The beginning of Hughes’s end came in 1946, when he suffered his third and worst plane crash. Had he died then, he would have been remembered forever as one of the most dashing and successful Americans of all time. But he survived—barely. He became obsessive-compulsive, addicted to painkillers, and withdrew from the public to spend the last 30 years of his life in self-imposed solitary confinement. Hughes had always acted a little crazy, on the theory that fewer people would want to bother a crazy person. But when his crazy act turned into a crazy life, he became an object of pity as much as awe.



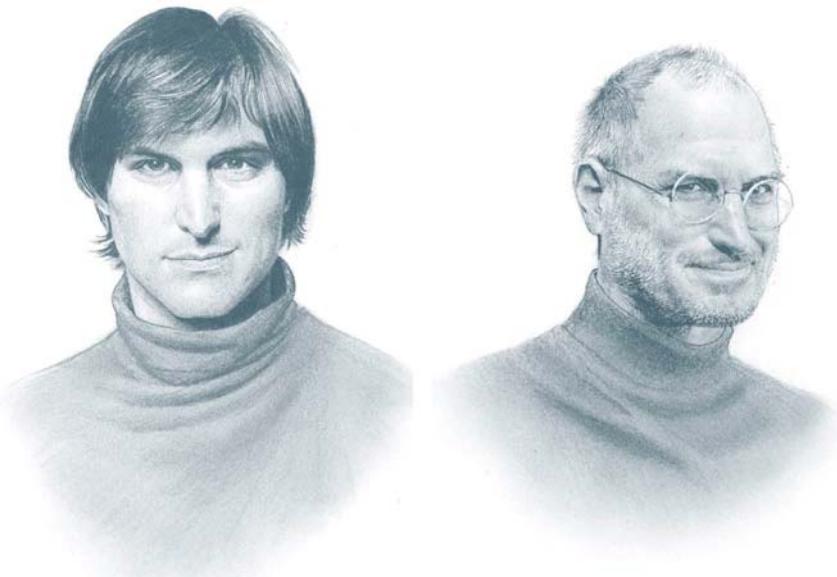
More recently, Bill Gates has shown how highly visible success can attract highly focused attacks. Gates embodied the founder archetype: he was simultaneously an awkward and nerdy college-dropout outsider and the world's wealthiest insider. Did he choose his geeky eyeglasses strategically, to build up a distinctive persona? Or, in his incurable nerdiness, did his geek glasses choose him? It's hard to know. But his dominance was undeniable: Microsoft's Windows claimed a 90% share of the market for operating systems in 2000. That year Peter Jennings could plausibly ask, "Who is more important in the world today: Bill Clinton or Bill Gates? I don't know. It's a good question."

The U.S. Department of Justice didn't limit itself to rhetorical questions; they opened an investigation and sued Microsoft for "anticompetitive conduct." In June 2000 a court ordered that Microsoft be broken apart. Gates had stepped down as CEO of Microsoft six months earlier, having been forced to spend most of his time responding to legal threats instead of building new technology. A court of appeals later overturned the breakup order, and Microsoft reached a settlement with the government in 2001. But by then Gates's enemies had already deprived his company of the full engagement of its founder, and Microsoft entered an era of relative stagnation. Today Gates is better known as a philanthropist than a technologist.



## THE RETURN OF THE KING

Just as the legal attack on Microsoft was ending Bill Gates's dominance, Steve Jobs's return to Apple demonstrated the irreplaceable value of a company's founder. In some ways, Steve Jobs and Bill Gates were opposites. Jobs was an artist, preferred closed systems, and spent his time thinking about great products above all else; Gates was a businessman, kept his products open, and wanted to run the world. But both were insider/outsiders, and both pushed the companies they started to achievements that nobody else would have been able to match.



A college dropout who walked around barefoot and refused to shower, Jobs was also the insider of his own personality cult. He could act charismatic or crazy, perhaps according to his mood or perhaps according to his calculations; it's hard to believe that such weird practices as apple-only diets weren't part of a larger strategy. But all this eccentricity backfired on him in 1985: Apple's board effectively kicked Jobs out of his own company when he clashed with the professional CEO brought in to provide adult supervision.

Jobs's return to Apple 12 years later shows how the most important task in business—the creation of new value—cannot be reduced to a formula and applied by professionals. When he was hired as interim CEO of Apple in 1997, the impeccably credentialed executives who preceded him had steered the company nearly to bankruptcy. That year Michael Dell famously said of Apple, "What would I do? I'd shut it down and give the money back to the shareholders." Instead Jobs introduced the iPod (2001), the iPhone (2007), and the iPad (2010) before he had to resign in 2011 because of poor health. By the following year Apple was the single most valuable company in the world.

Apple's value crucially depended on the singular vision of a particular person. This hints at the strange way in which the companies that create new technology often resemble feudal monarchies rather than organizations that are supposedly more "modern." A unique founder can make authoritative decisions, inspire strong personal loyalty, and plan ahead for decades. Paradoxically, impersonal bureaucracies staffed by trained professionals can last longer than any lifetime, but they usually act with short time horizons.

The lesson for business is that we need founders. If anything, we should be more tolerant of founders who seem strange or extreme; we need unusual individuals to lead companies beyond mere incrementalism.

The lesson for founders is that individual prominence and adulation can never be enjoyed except on the condition that it may be exchanged for individual notoriety and demonization at any moment—so be careful.

Above all, don't overestimate your own power as an individual. Founders are important not because they are the only ones whose work has value, but rather because a great founder can bring out the best work from everybody at his company. That we need individual founders in all their peculiarity does not mean that we are called to worship Ayn Randian “prime movers” who claim to be independent of everybody around them. In this respect Rand was a merely half-great writer: her villains were real, but her heroes were fake. There is no Galt’s Gulch. There is no secession from society. To believe yourself invested with divine self-sufficiency is not the mark of a strong individual, but of a person who has mistaken the crowd’s worship—or jeering—for the truth. The single greatest danger for a founder is to become so certain of his own myth that he loses his mind. But an equally insidious danger for every business is to lose all sense of myth and mistake disenchantment for wisdom.

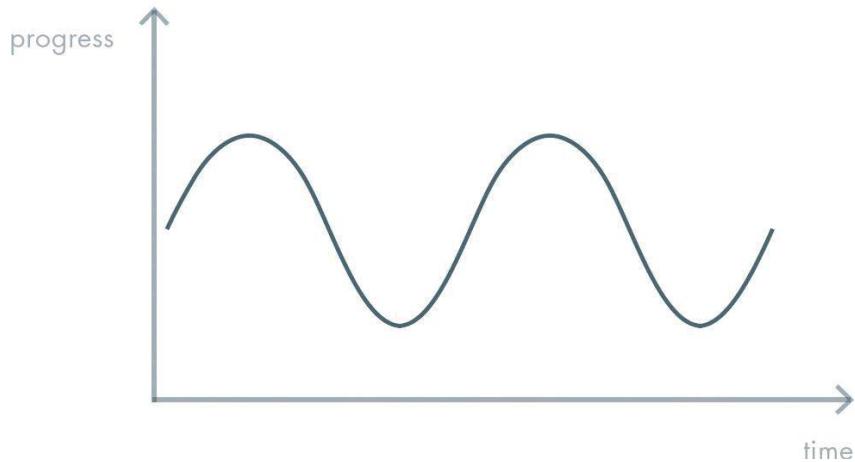
## *Conclusion*

# STAGNATION OR SINGULARITY?

If even the most farsighted founders cannot plan beyond the next 20 to 30 years, is there anything to say about the very distant future? We don't know anything specific, but we can make out the broad contours. Philosopher Nick Bostrom describes four possible patterns for the future of humanity.

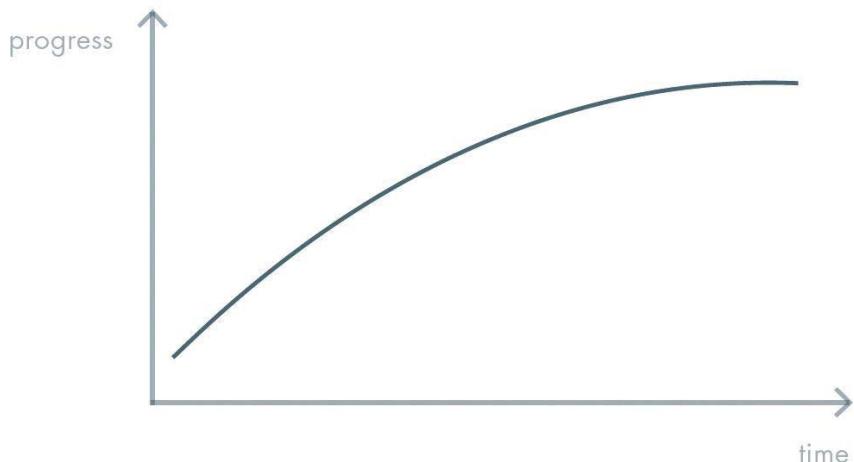
The ancients saw all of history as a neverending alternation between prosperity and ruin. Only recently have people dared to hope that we might permanently escape misfortune, and it's still possible to wonder whether the stability we take for granted will last.

## RECURRENT COLLAPSE



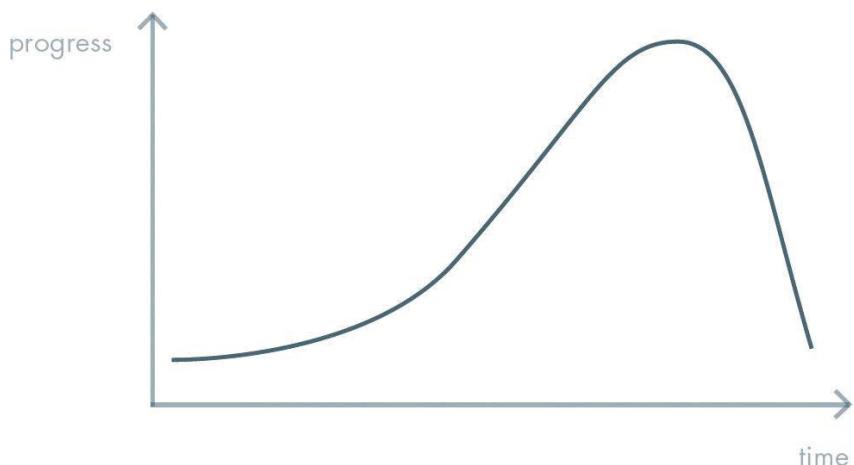
However, we usually suppress our doubts. Conventional wisdom seems to assume instead that the whole world will converge toward a plateau of development similar to the life of the richest countries today. In this scenario, the future will look a lot like the present.

## PLATEAU



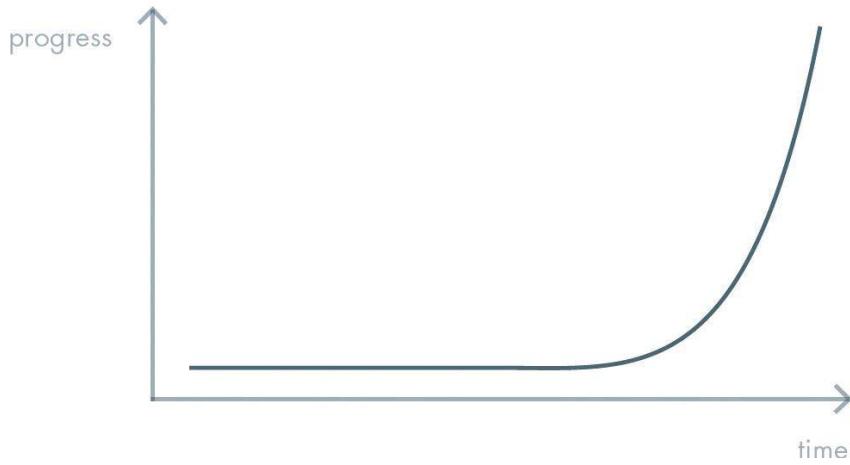
Given the interconnected geography of the contemporary world and the unprecedented destructive power of modern weaponry, it's hard not to ask whether a large-scale social disaster could be contained were it to occur. This is what fuels our fears of the third possible scenario: a collapse so devastating that we won't survive it.

## EXTINCTION



The last of the four possibilities is the hardest one to imagine: accelerating takeoff toward a much better future. The end result of such a breakthrough could take a number of forms, but any one of them would be so different from the present as to defy description.

## TAKEOFF



Which of the four will it be?

Recurrent collapse seems unlikely: the knowledge underlying civilization is so widespread today that complete annihilation would be more probable than a long period of darkness followed by recovery. However, in case of extinction, there is no human future of any kind to consider.

If we define the future as a time that looks different from the present, then most people aren't expecting any future at all; instead, they expect coming decades to bring more globalization, convergence, and sameness. In this scenario, poorer countries will catch up to richer countries, and the world as a whole will reach an economic plateau. But even if a truly globalized plateau were possible, could it last? In the best case, economic competition would be more intense than ever before for every single person and firm on the planet.

However, when you add competition to consume scarce resources, it's hard to see how a global plateau could last indefinitely. Without new technology to relieve competitive pressures, stagnation is likely to erupt into conflict. In case of conflict on a global scale, stagnation collapses into extinction.

That leaves the fourth scenario, in which we create new technology to make a much better future. The most dramatic version of this outcome is called the Singularity, an attempt to name the imagined result of new technologies so powerful as to transcend the current limits of our understanding. Ray Kurzweil, the best-known Singularitarian, starts from Moore's law and traces exponential growth trends in dozens of fields, confidently projecting a future of superhuman artificial intelligence. According to Kurzweil, "the Singularity is near," it's inevitable, and all we have to do is prepare ourselves to accept it.

But no matter how many trends can be traced, the future won't happen on its own. What the Singularity would look like matters less than the stark choice we face today between the two most likely scenarios: nothing or something. It's up to us. We cannot take for granted that the future will be better, and that means we need to work to create it today.

Whether we achieve the Singularity on a cosmic scale is perhaps less important than whether we seize the unique opportunities we have to do new things in our own working lives. Everything important to us—the universe, the planet, the country, your company, your life, and this very moment—is singular.

Our task today is to find singular ways to create the new things that will make the future not just different, but better—to go from 0 to 1. The essential first step is to think for yourself. Only by seeing

our world anew, as fresh and strange as it was to the ancients who saw it first, can we both re-create it and preserve it for the future.

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Onward.

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## *About the Authors*

Peter Thiel is an entrepreneur and investor. He started PayPal in 1998, led it as CEO, and took it public in 2002, defining a new era of fast and secure online commerce. In 2004 he made the first outside investment in Facebook, where he serves as a director. The same year he launched Palantir Technologies, a software company that harnesses computers to empower human analysts in fields like national security and global finance. He has provided early funding for LinkedIn, Yelp, and dozens of successful technology startups, many run by former colleagues who have been dubbed the “PayPal Mafia.” He is a partner at Founders Fund, a Silicon Valley venture capital firm that has funded companies like SpaceX and Airbnb. He started the Thiel Fellowship, which ignited a national debate by encouraging young people to put learning before schooling, and he leads the Thiel Foundation, which works to advance technological progress and long-term thinking about the future.

Blake Masters was a student at Stanford Law School in 2012 when his detailed notes on Peter’s class “Computer Science 183: Startup” became an internet sensation. He went on to co-found Judicata, a legal research technology startup.