



BY SAM KYLE

Decision Checklist

Your guide to making better decisions and becoming the leader you are meant to be

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Decision Checklist

*Timeless steps to help you make meaningful decisions that
will improve your career and your life*

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First Edition

*This book is for students of life.
May we all learn together.*

“When you do as everyone else does, don’t be surprised when you get what everyone else gets.”
— *Peter Kaufman*

Introduction

The year was 1962. Dick Rowe, an executive at Dacca Records, had just listened to the audition tape of a band called the Silver Beatles, which included fifteen tracks on a twelve-inch audio tape and had been recorded a month prior when the band auditioned for producer Tony Meehan. After hearing the tape, Rowe was impressed, but had a gut feeling that guitar bands were falling out of favor, so he passed on signing the group.

The Silver Beatles later changed their name to the Beatles, signed with EMI Records, and went on to make \$38.5 million by the end of the summer of 1967.

Dick Rowe probably lost a lot of sleep over his decision. And, obviously, he'd missed making a fortune. But as a business executive, he'd had to make a decision. Unfortunately, he'd made the wrong one.

The decision-making dilemma

Maybe you're not making decisions every day that could launch the next great band, or cost your company millions (or, maybe you are), but you're all faced with important and consequential decisions that directly impact your organization, your colleagues, and, ultimately, your success.

If you're reading this book, you're looking for answers about how to make better decisions. You're not alone. People have struggled to make decisions throughout history. Think about Napoleon deciding to invade Russia, leaders at NASA ignoring the O-ring issues on the Challenger, Margaret Thatcher deciding to get behind a "poll tax" that ended up getting her ousted by her own party, or George Bush making the decision to invade Iraq. These people were professional decision makers, with all the relevant information available to them, and yet they still made poor decisions. If they can't get it right, what hope is there for the rest of us?

But business schools, or any schools for that matter, don't offer courses on decision making. You're left with what you were taught as a child, or have expensively learned through trial and error, or have learned by observing leaders

you admire. Maybe these ways of making decisions result in a good outcome once in a while. But rarely do we take the time to evaluate if our cobbled-together decision-making processes really work well on a consistent basis.

Think back on your life. You've likely made decisions about where to go to college, what to study, whom to marry, what career to pursue, and countless others. Those decisions changed the course of your life, yet how many of you were really prepared to make them? What eighteen-year-old is ready to make decisions about a career, what school to attend, what to major in? I know I certainly wasn't.

And when we're older, once we have a job, once we get empowered to finally make decisions and eventually lead people, we have the responsibility to make decisions that not only affect our lives, but the lives of others. We make decisions about promotions, what projects to invest in, whether to lay off people. Our decisions create our legacies.

Even small, seemingly inconsequential decisions can matter a lot over time. Think about your diet. What you eat every day may not matter much, but over months and years, eating at McDonald's every day will probably give you a potbelly and high blood pressure. And in a similar way, the seemingly small decisions you make in your job add up over time, for good or bad.

Not only do we struggle with not knowing the optimal way to make decisions, but we are also overwhelmed. We have decision-making fatigue. So much mental energy goes into decision making, that even deciding on clothes for the day can drain us. That's why smart leaders pare down their decisions so they can focus on what's essential.

Former President Barack Obama wore the same thing every day. He said, "You'll see I wear only gray or blue suits. I'm trying to pare down decisions." Steve Jobs did the same thing. He wore a black turtleneck with jeans.

As leaders, we have the responsibility to make good decisions. Our outcomes are to a large extent the product of the decisions we make. But decision making is hard. So what do we do? We follow our intuition without having a process to support it. We overanalyze until we have "analysis paralysis"—mulling over so much information that we can't bring ourselves to make a decision. Or, we pass the responsibility to a committee or someone else. We shirk our responsibility.

Decision making—the process of making a decision—can be derailed by many things. We'd like to think we make logical, thoughtful decisions, but often our decision-making processes are affected by emotions, fatigue, mental errors, or procrastination.

Good decision making starts here

That's why I wanted to write this book—because I realized other people are just as passionate as I am to find a way to make better decisions. I wanted to provide another resource, all in one place, where people could learn how to make better decisions to improve their careers and their lives. How can we make better decisions? How can we assess the decisions we've already made? What about the decisions of others? And how can we learn more about ourselves, and our decision-making processes, so that we can be the leaders we are meant to be?

When it comes to making decisions, or doing anything, really, the person with the fewest blind spots wins. The more we can eliminate any blind spots we have when making decisions, the more we will improve our ability to make correct decisions, and thus improve our organizations.

Imagine playing poker, and you can see everyone else's cards, but they can't see yours. You're playing by the same rules, but you have the advantage. Because you have fewer blind spots than your competitors, you play your hands differently, and probably win more often, right?

It's the same with decision making. When we have fewer blind spots, we make better initial decisions and avoid problems.

In order to make better initial decisions, we need to understand exactly what good decision making looks like, and develop habits that lead to repeatable success. That's what this book can do for you.

How to use this book

For our purposes in this book, the definition of a good decision is when we use a *good process* on a consistent basis to make decisions. While a good process does not guarantee a good outcome, it sure does improve your chances! This book will give you the tools you need to learn more about how you currently make decisions, give you the resources to make better decisions, and offer you the time and space to really THINK about your decision making. This book will help you:

- Explore how and why you make decisions
- Find a clear path to overcoming barriers
- Improve your decision-making process

- Spend time thinking about your decisions and decision-making process in a three-dimensional way by using a decision journal

This book isn't just about gaining knowledge; it's also about putting that knowledge to use. What's the point of learning something if you don't put it into action? So, as you read each chapter, spend time thinking about the information and wisdom contained in it, and how it can help you improve your decision-making skills.

After reading each chapter, complete the questions and exercises at the end. Use your decision journal (which we will talk about in Chapter 1), to reflect on your past decisions, and to contemplate how you can use the information in the chapter when making current and future decisions.

Change takes time, and hard work.

But if your success depends on how you make decisions, and you're committed to making the best decisions you can—it's imperative that you spend time thinking about your decisions, your process, and your outcomes. So let's get started!

Chapter 1:

Know Thyself:

The Power of a Decision Journal

“Formal education will make you a living. Self-education will make you a fortune.”
— Jim Rohn

We probably make hundreds, if not thousands, of little decisions every day. We make decisions about what to wear in the morning, when to brush our teeth, what to eat for breakfast, whether we’re going to order a grande mocha or a tall soy latte at the Starbucks drive-thru, where to park our car, whether or not we’re going to stop and chat with a co-worker in the office. And that’s all before we even sit down at our desk!

If you’re a business leader, knowledge worker, or entrepreneur, then decision-making is a major part of your job. As Erik Larson, founder and CEO of Cloverpop, a cloud solution that applies behavioral economics and collaboration to help businesspeople make better decisions, wrote in the [Harvard Business Review](#) in 2016, managers make about *three billion* decisions each year! That’s crazy, right? And, according to Larson, almost all of those decisions can be made better.

It’s not our fault we don’t make better decisions. We enter adulthood with years and years of baggage around decision making. Maybe we were taught to second-guess ourselves, or maybe we didn’t have the guidance we needed, early on, to learn how to make solid choices. Maybe we were taught to just “trust our gut.”

But now we find ourselves in positions where that decision-making baggage is holding us back. In order to reach our potential as a leader, we need to let go of that baggage and learn better, more effective ways to make decisions.

The gap between potential and practice

Larson [studied five hundred managers](#) and executives, and found that only 2 percent regularly apply best practices when making decisions, while few companies have systems in place to measure and improve decision making over time. There's a huge gap between potential and practice when it comes to decision making, for several reasons, says Larson, including:

- **History.** Until recently, most managers had relatively little access to accurate information, making it difficult to make good decisions. But even if they had accurate information, that doesn't mean they would have made good decisions. Economics in the twentieth century was based on the theory that people make rational choices when given good information, but this theory has been proven spotty, and even completely wrong, thanks to a recent revolution in behavioral economics. In addition, the most popular decision-making tool, the pros-and-cons list (popularized by Benjamin Franklin) is nearly 250 years old!
- **Psychology.** The fact is, most people are not rational when it comes to making decisions. We use mental shortcuts and cognitive biases that lead to distortions and prevent us from making better choices, behavioral economists have discovered. In addition, we often tend to rely on gut feelings or intuition to make decisions, and when business decisions are made by a group, groupthink takes over, which adds to our individual biases.
- **Technology.** While technology and enterprise software have made our lives easier in many ways because some tasks are now automated, the complex and ambiguous information technology offers doesn't necessarily help managers and their teams overcome challenges to make better decisions. Businesses won't see dramatic improvements in decision making just by implementing more big data analytics software.

So, as you can see, we have our work cut out for us. We have many things working against us in the quest to make better decisions. The first step is understanding these barriers, and understanding how they affect us.

Closing the gap

As leaders, we live and die by our decisions. We are the result of our decisions, and we all have a vested interest in getting better at making them. Good decisions can get us promoted, and bad ones can get us fired.

One cause of poor decisions is that we don't know what we don't know. It's not only that we don't understand the problem, but we fail to understand ourselves. We lack the knowledge, and the self-knowledge, to approach a decision in a smart way. Do you know HOW and WHY you make decisions the way you do? Do you have the self-knowledge to know when your biases may be getting in the way? Do you really understand the problem? Do you use a consistent process when you make decisions? Do you take full responsibility for your decisions?

Having an understanding of all these things is integral to making good decisions, and one important thing I want you to take away from this book is the idea that with the right preparation, the right mindset, and the right process, you CAN improve your decisions. But it takes work, some self-reflection, and the right tools.

Decision journal

One of the most important tools in improving ourselves is self-reflection. In the context of making better decisions, that means keeping a decision journal. Journaling isn't just for the brooding teenager. In fact, many accomplished professionals utilize journaling as a daily practice to help them understand and improve themselves.

I know a decision journal has helped me change the way I make decisions. It has provided me with a feedback loop, and a mechanism to switch from unconscious to conscious, which is one of the most valuable things you can have.

One of the biggest challenges when it comes to improving our ability to make better decisions is learning from our past decisions. This happens for a variety of reasons, two of which we will concern ourselves with.

First, our minds tend to rationalize the outcome of our decisions, because it's hard to admit when we are wrong. It's hard to go back and see what information we had at the time we made the original decision—because it's hard to admit the pain of our bad choice. We tell ourselves that bad outcomes are the result of bad luck, and not a bad process.

Second, it's hard to draw cause-and-effect relationships we can learn from,

because of the time between the results of our decisions and the decision itself. Rarely do we see that the problems we're facing today were caused by decisions we made months or years ago.

When I first started to use a decision journal, it was clear to me that I had optimism bias. This means I was focusing on the possible positive outcomes while not anticipating and preparing for potential negative ones.

Think about your day at work. Maybe you work from nine to five. You drop off the kids at school. It's a hectic morning. You get into the office a little later than you want. It's 8:35. You open your email. You have a nine o'clock meeting, but you've got to go through thirty emails before then. Before you know it, it's 8:55, and you only have five minutes to prepare for the meeting, where you're supposed to make a decision on something.

So you pull up the briefing document. You read the executive summary, then go to the meeting. You base your decision on the executive summary, which most times will work. But often that good outcome will lead you astray, because you haven't done the work behind the scenes to understand the decision, and to understand the dynamics of the problem. Therefore, the result is more attributable to luck, and essentially unrepeatable.

It's counterintuitive, but if you want to make better decisions and increase your productivity, you need to take the time to think about your decisions. I'm always amazed when I see people show up to work and simply react all day to the urgent emails in their inbox. They rely on their wits or snap judgments to make decisions. And, you know, 90 percent of the time that may work, but 10 percent of the time it doesn't, and that 10 percent of decisions with bad outcomes are going to consume most of your time going forward.

A decision journal will help you to slow down, reflect on and understand your decisions, and provide a path for you to get better. In the end, taking the time to *think* through problems will *save* you time. Not only will you make better initial decisions, but you'll spend less time cleaning up the mess of poor ones.

I encourage you to use a decision journal throughout this book. In each chapter, you will have a list of exercises that will help you to think about and improve your decisions.

We rarely receive feedback on the quality of our choices. There is no Yelp for decision-making ability where we can leave reviews. If you were running a restaurant and customers could never give you feedback, you'd never know that the spaghetti sauce was too bland, or that the steak was too tough. Eventually, customers would stop coming, and you'd go out of business. If we don't reflect on our decision making, we can't learn and get better at it. Good decisions don't ensure success, but bad ones almost always ensure failure.

[The story goes](#) that when Wall Street investment strategist Michael J. Mauboussin met Daniel Kahneman, a Nobel Prize winner and psychologist known for his work on the psychology of judgment and decision making, Kahneman told him that decision journals are the best way to test the quality of your decisions. “Go down to a local drugstore and buy a very cheap notebook.” Kahneman told him. Mauboussin explains:

“Whenever you’re making a consequential decision . . . just take a moment to think, write down what you expect to happen, why you expect it to happen and then actually, and this is optional, but probably a great idea, is write down how you feel about the situation, both physically and even emotionally. Just, how do you feel?”

Keeping a decision journal prevents something called hindsight bias, which is when we tend to look back on our decision-making process, and we skew it in a way that makes us look more favorable.

A decision journal helps us collect accurate and honest feedback on what we were thinking when we made various decisions. This feedback also helps us see when we were lucky and what we missed. Sometimes things work out for very different reasons than we thought they would. The key to understanding the limits of our knowledge is to check the results of our decisions against what we thought was going to happen and why we thought it was going to happen. That feedback loop is incredibly powerful.

Guess what? We don’t know as much as we think we know. We fool ourselves into thinking that we understand something when we really don’t. And what makes it worse is that we often have no means to correct ourselves. Our minds revise history to preserve our view of ourselves. The story we tell ourselves conflates the cause and effect between our decision and the outcome. And the best cure for this problem is the decision journal.

A decision journal provides us with quality control. Using the journal is pretty easy, but maintaining it requires discipline and humility.

[Carol Loomis once said](#), “Writing itself makes you realize where there are holes in things. I’m never sure what I think until I see what I write. And so I believe that, even though you’re an optimist, the analysis part of you kicks in when you sit down [to write] . . . You think, ‘Oh, that can’t be right.’ And you have to go back, and you have to rethink it all.”

Using a decision journal

A decision journal can be a simple notebook, as Daniel Kahneman recommends, that you get from your local drugstore. Of course, if you Google “decision journal,” you’ll find useful templates online, plus some physical ones you can buy. You can use your journal to answer the questions at the end of each chapter. Then use the Decision Journal Template found in Appendix B whenever you’re making a decision, either individually or as part of a group. Take a moment and write down:

1. The situation or context.
2. The variables that govern the situation.
3. The complications or complexity as you see it.
4. Alternatives that were seriously considered, and *why* they were not chosen.
5. A paragraph explaining the range of outcomes you deem possible, with probabilities.
6. A paragraph explaining what you expect to happen, and the reasoning. (The degree of confidence matters, a lot.)
7. The time of day you’re making the decision, and how you feel physically and mentally. (If you’re tired, for example, write it down.)

Here are some other tips to keep in mind as you implement your decision journal.

- **Get beyond the obvious.** Often your first thoughts aren’t your own, but are the thinking of someone else. So try to get beyond the brief and obvious insights.
- **Handwrite in your journal.** Technology is great, but writing things down in your own handwriting will keep you honest and help prevent hindsight bias. It’s easy to look at a document on your computer screen and say, “I didn’t see it that way.” It’s a lot harder to look at your own handwriting and say the same thing.
- **Be specific and concrete.** Avoid vague language. If you’re stuck in the fog of abstractions, you’re not ready to make a decision, and it will be easy to change definitions to fit any new information. Write down the probabilities as you see them.
- **Review your journal often.** I review mine quarterly. This is an important part of the process. It helps you to realize where you made mistakes, how

you made them, what types of decisions you're bad at, etc. If you share your journal with a coach, they can review it and help you identify areas for improvement.

- **Remember it's not just about outcomes.** Maybe you made the right decision (which, in our sense, means used a good process) and still had a bad outcome. That's called a bad break. On the other hand, maybe you discovered that you had a good outcome for the wrong reasons (i.e., despite a bad process), and a decision journal will stop you from being overly confident in using that process in the future.

As you discover more about yourself and your decisions, it may be humbling. But that's good news, because learning about our weaknesses is the first step in becoming better decision makers.

Chapter 1 checklist:

- Purchase a simple notebook that you can use as your decision journal, and use the template in the Appendix as a guide to help you journal when making decisions.
- In your decision journal, reflect on how you currently feel about your decision-making skills and process. Why do you feel you need to improve your decision making?

Start by thinking of a small decision you have to make—maybe it's where to take your next vacation, or something like that. Work through the steps above so you can get a feel for how to use the decision journal.

Chapter 2:

Own Your Power:

Embrace Your Decision-Making Responsibility

"The general who wins a battle makes many calculations in his temple before the battle is fought."
— Sun Tzu

[Charles Frankel](#), who was an American philosopher and founding director of the National Humanities Center, once wrote, "A system is responsible in proportion to the degree that the people who make the decisions bear the consequences."

How often does that happen today? Not very often.

In most organizations people don't make decisions—committees do. Responsibility is diffused to a group, not the individual. Everyone is insulated from their mistakes. Everyone takes credit for success.

Four thousand years ago, the ancients had a way to prevent this.

King Hammurabi of Babylon, Mesopotamia, laid out [Hammurabi's Code](#), which was a set of 282 laws, most of them concerning punishment. The code also included the earliest known construction laws, designed to align the incentives of builder and occupant to ensure that builders created safe homes. [The code says](#), "If a builder builds a house for a man and does not make its construction firm, and the house which he has built collapses and causes the death of the owner of the house, that builder shall be put to death."

While extreme, that is the best risk-management rule ever. If you have the upside, you have to keep the downside. The Romans had a similar system: The guy who created an arch stood under it as the scaffolding was removed.

According to Charlie Frankel's [philosophy of responsibility](#), the system is responsible in proportion to the degree that the people who make the decisions bear the consequences. But how often in recent years have we seen people fail to take responsibility for their decisions?

Leading up to the financial crisis of 2009, banks were offering mortgage loans

to people who they knew would probably not be able to pay them back. The banks then promptly transferred the loans to other financial institutions, ensuring that they would never have to bear the responsibility when the loans went bad. This practice was partly what caused the real estate bubble and financial crisis. To Frankel, that is an amoral and irresponsible system.

So why take responsibility for your decisions? I mean, when everyone around you is passing the risk of the decision on to someone else, why shouldn't you just do the same? What could be so wrong about it, if it seems to be the norm?

Sure, it would be easier to pass the buck, and there may even be financial advantages (i.e., mortgage lenders in 2007 and 2009). But if you want to be an exceptional leader, a leader whom people respect and who wants to leave a legacy, then you need to build a reputation as someone who makes the tough decisions and takes full responsibility for them. There's no shortcut to greatness. If you want to be an excellent leader, then take responsibility.

The cost of indecision

Some people avoid the responsibility of decisions by avoiding them altogether. They remain in the zone of indecision. Have you ever heard the story of [Buridan's ass](#)? It's the story of a donkey that is equally hungry and thirsty and is placed precisely midway between a stack of hay and a pail of water. Since the paradox assumes the ass will always go to whichever is closer, it dies of both hunger and thirst, since it cannot make any decision between the hay and water.

The costs of indecision are largely invisible. You may not risk your life, like the donkey, but you can lose in other ways. [Geoffrey Keating](#), Senior Editor of Intercom, writes, "At best, [indecision is] an opportunity cost . . . For every eight hours of indecision, you're trading eight hours of productivity—hours you could spend actually executing one of the options you're agonizing over. Add in salaries, hourly rates and attention diverted and the costs are greater still." Indecision is costly.

He continues: "At worst, indecision can lead to analysis paralysis, a slow poison that will slow you down and kill your morale. People can end up frozen by indecision, which creates a willingness to abdicate responsibility. There are hundreds of ways to say 'Let's wait until . . . , ' in the hope that new information will make your decision easier. But you can't always wait for the perfect conditions to set your course."

Great companies are rarely built one indecisive step at a time, he says.

There are many reasons for indecision. But according to [Erik Sherman](#),

contributing writer at Inc.com, there are a few common ways that we become paralyzed and fail to own our responsibility for making decisions, including:

We monumentalize the trivial

Researchers have discovered that when even a simple decision becomes hard work, the decision maker tends to magnify it in their minds. And when someone sees a decision as increasingly important, they expend more energy on it. It's an endless loop that causes paralysis.

We have too much information

These days, we're drowning in data. While information can help us make decisions, too much of it can cause paralysis. How do you know what data to take into account?

We adopt a do-or-die mentality

We live in a world of hype, and it's all too easy to overemphasize the importance of anything: a date, an investment, or a business decision. Very rarely must we make a single make-or-break decision, and if we do find ourselves there, chances are we've made many mistakes along the way.

Taking responsibility means taking action

Successful leaders are those who, in the face of fear and hesitation, make a decision anyway. They don't avoid the responsibility of making the decision. They just do it despite the fear. They don't deal with the onslaught of daily decisions by thinking about them for days on end until they have thought themselves into paralysis. They don't constantly delegate to just one person, pushing the decision onto someone else. They don't rely on a committee so that no one has to take direct responsibility if the decision turns out to be a bad one.

Good leaders have the courage to take action. As Clare Boothe Luce observed in an article she wrote for *Reader's Digest* in 1979, "Courage is the ladder on which all the other virtues mount." You must acquire the courage to make difficult decisions.

After 9/11, US agencies gathered intelligence on Osama bin Laden, and by 2007 they had a breakthrough: they discovered the name of bin Laden's courier, Ibrahim Saeed Ahmed. When then-President Obama took office in 2009, he intensified the search efforts, telling security advisors that [he wanted to make the](#)

[hunt for bin Laden a top priority](#). Soon, there was another breakthrough. There was a chance that bin Laden was hiding in a compound in Abbottabad, Pakistan. But the experts didn't know for sure. The level of certainty ranged from 10 percent to 95 percent. As various advisors around him argued about the level of certainty, finally, [Obama said](#), "This is fifty-fifty . . . look, guys, this is a flip of the coin. I can't base this decision on the notion that we have any greater certainty than that."

As we all know, Obama made the decision for Navy SEALs to conduct a ground raid that ultimately succeeded in capturing and killing bin Laden. In the midst of great uncertainty, with the lives of Navy SEALs and possibly his political career at risk, Obama made one of the toughest decisions imaginable.

That took courage. And it's easy to say the decision was the right one, because we know the outcome. But tough decisions take courage, because the stakes are high, and even if you have a good decision-making process, you have to take responsibility for the outcome, good or bad.

While you will probably never have to make a decision with those kinds of stakes, you *will* have to make tough ones. Like which employees to lay off after you lose a major client. Or whether or not to fire that client who treats your employees badly, even though you know you'll lose revenue. Will you have the courage to make those tough calls?

Think about it. Is there a gap between your potential as a decision maker and how you make decisions in practice? Do you struggle to take responsibility for your decisions? Are you indecisive?

Let's explore these issues. I want you to honestly reflect on how you're currently doing as a decision maker. Let's start by completing the following exercises. Be honest with yourself. And get feedback from your colleagues.

Chapter 2 checklist:

- Conduct a 360° performance review with your colleagues to help you understand your decision-making strengths and blind spots.
- Take a personality assessment to gain a deeper understanding of how your preferences may affect your decision making.
- Also use your decision journal to respond to these prompts:
 - Write about one decision where you didn't take responsibility. What happened? What was your role? Why didn't you take responsibility? What would you do differently now?

- Write about one decision where your indecisiveness cost you or your company. What happened? Why were you indecisive? What would you do differently?

Chapter 3

Overcome Obstacles

Break Down Barriers to Making Good Decisions

“The impediment to action advances action. What stands in the way becomes the way.”

— Marcus Aurelius

Once you acknowledge your responsibility for certain decisions—and for their outcomes—you will have embraced the philosophy of self-made men and women. While adopting this mindset is one thing, the next step is to recognize the barriers that keep you from living it.

You’re probably not as effective at making decisions as you could be. Think about a tough decision you’re grappling with right now. Having a decision working in your mind as you’re reading this chapter will help make the information tangible. For example, it could be a decision about where to take your next vacation, or a work decision like choosing between two equally good candidates for a management position, or choosing between two equally impressive advertising agencies. These are decisions that could affect your bottom line for years to come. As you read this chapter, see if any of these decision-making barriers resonate with you.

We only see what’s in front of us

As Daniel Kahneman says in his book [*Thinking Fast and Slow*](#), “A remarkable aspect of your mental life is that you are rarely stumped . . . The normal state of your mind is that you have intuitive feelings and opinions about almost everything that comes your way. You like or dislike people long before you know much about them; you trust or distrust strangers without knowing why; you feel that an enterprise is bound to succeed without analyzing it.”

We're quick to jump to conclusions, because we give too much weight to the information in front of us and we fail to search for new information that might disprove our thoughts. Kahneman calls this tendency "what you see is all there is." We look for information that fits our thoughts, and ignore information that doesn't.

We blindly follow the leader

Some people call this the HIPPO problem—the Highest Paid Person's Opinion carries the day, even if that opinion is wrong. The problem is that people often blindly follow the boss and what he or she thinks should be done.

[Stanley Milgram](#) was an American social psychologist, best known for his controversial experiment on obedience conducted in the 1960s during his professorship at Yale. He demonstrated our obedience to authority through a series of experiments. Milgram summarized his most famous experiment in a 1974 article, "[The Perils of Obedience](#)":

"I set up a simple experiment at Yale University to test how much pain an ordinary citizen would inflict on another person simply because he was ordered to by an experimental scientist. Stark authority was pitted against the subjects' [participants'] strongest moral imperatives against hurting others, and, with the subjects' ears ringing with the screams of the victims, authority won more often than not. The extreme willingness of adults to go to almost any lengths on the command of an authority constitutes the chief finding of the study and the fact most urgently demanding explanation.

Ordinary people, simply doing their jobs, and without any particular hostility on their part, can become agents in a terrible destructive process. Moreover, even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority."

We lack wisdom

In our decision-making we tend to be like a golfer who never took a lesson, is unhappy with her golf game, and yet never seeks to learn a better swing. She just hopes that every time she lifts a club the outcome will be better than the last time.

During the savings and loan crisis in the 1980s, Warren Buffett had the foresight to realize that the savings and loan operation that he owned with his partner, Charlie Munger, could fail due to forces outside of their control. So they changed course dramatically—even though the rest of the industry did nothing.

Unsurprisingly, when the savings and loan industry collapsed, it had little effect on their business holdings. At the time, their decisions seemed unusual. But in hindsight, they saved themselves from deep financial loss.

We have to be willing to make decisions that are different than everyone else. We need to be clear headed and laser focused, refusing to fall into old patterns or blindly following cognitive biases.

Here are some examples of applying, and failing to apply, knowledge about how the world really works.

- **Interpersonal relationships matter:** It doesn't matter how smart you are if you can't work with other people. Nikola Tesla, a brilliant inventor, had difficulty relating to others, and he was notoriously hard to work with. As a result, he missed out on winning the Nobel Prize, and his temperament kept him from making a fortune.
- **Sometimes it's better to be a big fish in a small pond.** It's not always to your advantage to work in "sexy" industries, such as tech. Smart companies, like Berkshire Hathaway, understand the underappreciated laws of thermodynamics and that contrast is important. It's better to be a big fish in a small pond than to be in a sexy industry where there are many other companies that are just as good as yours.
- **Our perspective is limited:** Michael Abrashoff took command of the worst-performing ship in the US Pacific Fleet, and twelve months later it was the best ship in the entire Navy. How did he do it? He started by expanding his perspective. He started looking at things through the eyes of his crew, which taught him how to lead them differently. In his book *It's Your Ship*, he wrote, "The most important skill a skipper can have is the ability to see through the eyes of the crew."

Knowing how the world works means you can stop fighting it—and yourself. In this way, you stop battling a headwind and start taking advantage of a tailwind.

We fail to recognize our biases

In the book [*Decisive*](#), authors Chip and Dan Heath talk about our biases when making decisions, and the tendency to see only what's in front of us. They call this the “spotlight” effect, which in essence is the core difficulty of decision making. What's in the spotlight will rarely be everything we need to make good decisions, but we won't always remember to shift the light.

Most of us rarely use a process for thinking about things. (We'll talk more about processes in Chapter 6.) If we do use one, it's likely to be the pros-and-cons list. While better than nothing, this approach is still deeply flawed, because it doesn't really account for biases.

In their book, the Heaths focus on four biases, which they call “villains,” that affect our decisions:

- **We're overconfident.** “People think they know more than they do about how the future will unfold.”
- **Our frame is too narrow.** “This is the tendency to define our choices too narrowly, to see them in binary terms. We ask, ‘Should I break up with my partner or not?’ instead of ‘What are the ways I could make this relationship better?’”
- **We rely on short-term emotion.** “When we've got a difficult decision to make, our feelings churn. We replay the same arguments in our head. We agonize about our circumstances. We change our minds from day to day. If our decision was represented on a spreadsheet, none of the numbers would be changing—there's no new information being added—but it doesn't feel that way in our heads.”
- **We have confirmation bias.** “When people have the opportunity to collect information from the world, they are more likely to select information that supports their preexisting attitudes, beliefs, and actions.” We pretend we want the truth, yet all we really want is reassurance.

So what are your barriers to making good decisions? Are you overconfident? Do you blindly follow the leader? Do you have confirmation bias? Take some time to explore these questions in your decision journal.

Chapter 3 checklist:

In your decision journal, do the following:

- List the barriers you think are keeping you from making better decisions.

- List three decisions you made in the past that did not have good outcomes. For each of these decisions, what barriers listed above affected your decision making?

Chapter 4

Mind Your Thoughts:

Intelligently Prepare Your Mind To Make Better Choices

“As with physical tools, the lack of a mental tool at a crucial moment can lead to a bad result, and the use of a wrong mental tool is even worse.”
— Shane Parrish

In a [commencement speech](#) at USC in 1994, Charlie Munger, the billionaire business partner of Warren Buffett, told an apocryphal story about Max Planck, the German theoretical physicist who originated quantum theory. In his speech, Munger said:

“Planck went around Germany giving the same standard lecture on the new quantum mechanics after he won the Nobel Prize in 1918. Over time, his chauffeur memorized the lecture and said, ‘Would you mind, Professor Planck, because it’s so boring to stay in our routine, if I gave the lecture in Munich and you just sat in front wearing my chauffeur’s hat?’

“Planck said, ‘Why not?’ And the chauffeur got up and gave this long lecture on quantum mechanics. After which a physics professor stood up and asked a perfectly ghastly question. The speaker said, ‘Well, I’m surprised that in an advanced city like Munich I get such an elementary question. I’m going to ask my chauffeur to reply.’

*“This anecdote illustrates two types of knowledge. The first is **Planck knowledge**. People who have Planck knowledge really know what they are talking about; they’ve done the work, and paid their dues. Then there are people who have **chauffeur knowledge**. They’ve learned the talk. They may have a big head of hair, they may have fine temper in the voice, they’ll make a hell of an impression. But their knowledge is shallow. They are just pretending. They can’t answer the follow up questions. They use jargon or vague terms. They don’t*

understand how things interact.”

Planck knowledge is hard to come by. It takes work and commitment. We should apply all the knowledge at our disposal to the problems and challenges we face every day.

Think about it. Over time, you’ve picked up a lot of fundamentals about how the world works. You may have read a book about the Manhattan Project and the building of the nuclear bomb that was launched at Hiroshima. This story conveys the awesome power of self-sustaining nuclear reactions. Have you ever thought about applying those ideas to your life? You should.

The top general thinking concepts

To dramatically improve our decision-making skills, we need to combine knowledge from multiple subjects, along with general-thinking frameworks. These thinking frameworks help you look at problems from different angles. I’ve compiled a list of them in the appendix of this book, but here are the top three:

Inverting the Problem:

Think about problems in reverse. It is not enough to think about them one way. You need to think about problems forward and backward, which forces you to uncover hidden beliefs about the problem you are trying to solve. For instance, instead of thinking about what would make a good life, think about what would make your life miserable, and then avoid those things. Or here’s another example. Do you want to be a good leader? If so, then think about all of the bad leaders you’ve met in your life and list the reasons why they were bad. Think about the ways you don’t want to be like those bad leaders, and you’ll be more likely to succeed at being a good leader.

Second- and Subsequent-Order Thinking:

Ask yourself, “And then what?” First-order thinkers stay on the surface. They tend to look for things that are easy and simple. Second-order thinkers don’t accept the first conclusion. They go deeper and push harder. Have you ever been in a meeting where a good idea is suggested, everyone agrees on it, and then that’s the end of the discussion? No one asks deeper questions. No one goes to the next level. No one asks what will happen if

new problems arise. Second-order thinking is hard work.

The Map Is Not the Territory:

Our minds create maps of our world in order to understand it, because the only way we can process the complexity of everything is to simplify it in our minds. Businesses use maps all the time. These are the strategic plans, the budgets, even profit and loss statements. And we can't avoid them. We need to use maps in order to pass information around in an easily digestible way. Sometimes, in fact, we are so reliant on simplification that we will frequently use an incorrect model because we feel *any* model is preferable to *no* model.

Here's an example: Ron Johnson was one the most successful and desirable retail executives. He was handpicked by Steve Jobs to build the Apple stores, and had been credited with playing a major role in turning Target from a Kmart lookalike into the trendy-but-cheap *Tar-zhey* by the late 1990s and early 2000s.

With that success, in 2011 Johnson was hired to turn around the dowdy old department store chain JCPenney. His plan was to take the best ideas from his experience at Apple and apply them to the department store. This approach failed almost immediately. JCPenney customers had no idea what was going on, and by 2013, Johnson had been sacked. What went wrong? It turned out Apple's products, customers, and history had far too little in common with JCPenney's. In other words, the old map was not very useful.

These concepts help us to prepare for decision making. We need to become lifelong learners to understand how people and the world work. Just like an Olympic runner trains to compete, decision makers need to train their minds to be as fit as possible to make good decisions. We need to become good thinkers—not just doers. We need to know our circle of competence (which we'll discuss in the next chapter). We need to know things at a deeper level. The extent the ideas you hold in your head offer you an accurate synthesis of the situation is the extent to which you will make good decisions.

Latticework of mental models

Charlie Munger is not only one of the best investors in the world; he's also one

of the best thinkers. Munger popularized the concept of a latticework of mental models in the [speech he gave at USC](#).

Let's start by defining these terms.

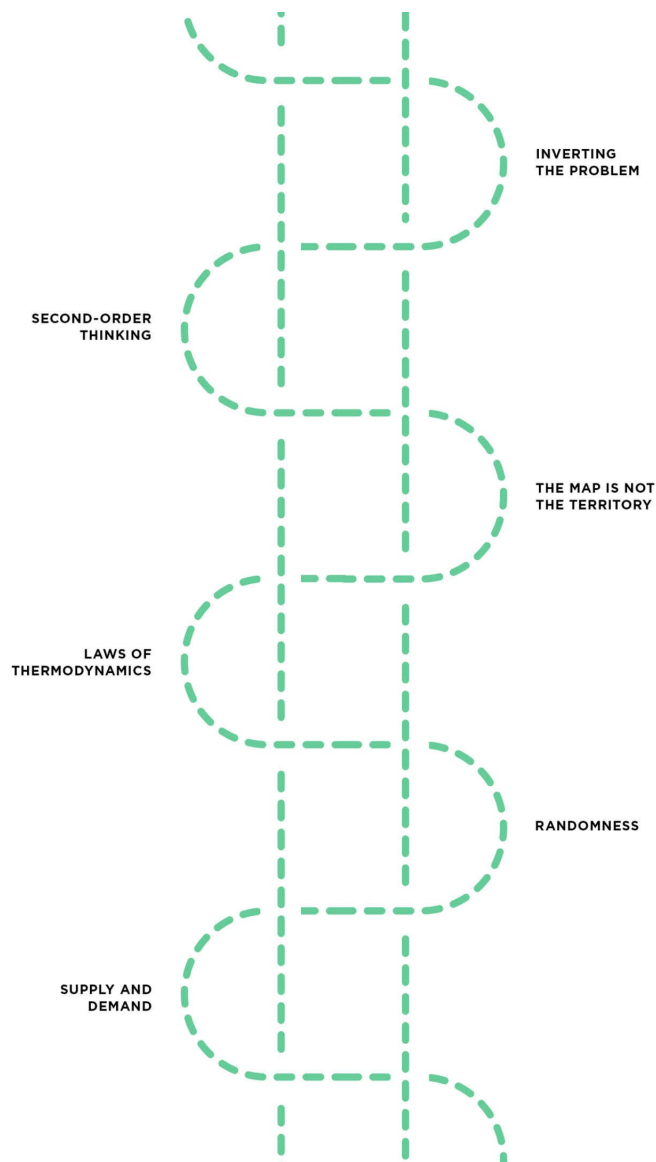
A **mental model** is an explanation that helps us to understand the world. It's a mental construction of how things work that helps us reduce the complexity of the world into bite-sized pieces.

[Jay Wright Forrester](#), a pioneering computer engineer and systems scientist and professor at MIT, [said this about mental models](#): "The image of the world around us, which we carry in our head, is just a model. Nobody in his head imagines all the world, government or country. He has only selected concepts, and relationships between them, and uses those to represent the real system."

All of us have mental processes that help us to make sense of how something works in the real world—an internal representation of external reality. If we didn't do this, we'd be overwhelmed with nuance and detail. These are our mental models. Without them, we'd become paralyzed. All of your mental models together shape how you see the world.

Mental models govern how you see things. And how you see things governs how you think. How you think governs how you understand. And how you understand governs how you act. Mental models are the linchpin that holds everything together.

Not all of our mental models are correct. The value of mental models comes down to their usefulness. That is their predictability and utility in daily life. Just as incorrect models lead us astray, correct ones help us understand. And understanding helps us change how we act.



A **latticework** of mental models is just like it sounds: a weaving together of many different mental models in order to deepen your wisdom, and therefore your decision-making skills. Munger said in his speech at USC, “What is elementary, worldly wisdom? Well, the first rule is that you can’t really know anything if you just remember isolated facts and try and bang ’em back. If the facts don’t hang together on a ***latticework of theory***, you don’t have them in a usable form.”

To help clarify this concept, author Tren Griffin, in his book [*Charlie Munger: The Complete Investor*](#), writes, “Munger believes that by using a range of different [mental] models from many different disciplines—psychology, history, mathematics, physics, philosophy, biology, and so on—a person can use the

combined output of the synthesis to produce something that has more value than the sum of its parts.”

Experienced decision makers have more reliable mental models integrated into their thought processes, and therefore have more tools to help them as they are making decisions. The latticework model conveys the idea that things are interconnected. We need a working knowledge of many mental models and how they interact and link.

This adds value to our decision-making process, and allows for the effective use of what I call the “Munger two-step”:

1. Understand the forces at play.
2. Understand how your subconscious might be leading you astray.

“Simply put,” Griffin writes, “Munger believes that people who think very broadly and understand many different models from many different disciplines make better decisions.”

It’s easy to think about our own discipline, the one you live in on a daily basis. If you’re in business, of course you know a lot about business. This comes naturally. However, it’s likely to lead to problems. Mark Twain said, “To the man with a hammer everything looks like a nail.” If you only have one model, you will fit whatever problem you face to the model you have.

Building the latticework

The central principle of the mental-models approach is that the *mental models must be fundamentally lasting ideas*, and you must have *a large number of them*. Just like the tools in your toolbox, if you don’t have the right one at the right time, it can lead to a bad result. Lacking the right mental tool, or using the wrong mental tool, at a crucial moment can lead to a bad result.

We don’t naturally think this way. Without training, our minds tend to shortcut to ideas we love and know well. The problem is that we apply them indiscriminately to the situation at hand, even when it doesn’t make sense to do so. This tendency is called the “availability heuristic,” and its power is well documented. It’s a mental shortcut that relies on immediate examples that come to mind when evaluating a specific topic, concept, method, or decision.

Here’s an example: Statistics show that you’re much more likely to die in a car accident than in an airplane crash. And yet, airplane crashes typically receive much more news coverage, in part *because* they happen less frequently and

involve more people. So, when deciding whether to fly or drive to Florida for spring break vacation with your kids, your brain may “shortcut” to recent headlines in the newspaper about that airplane that crashed in South America. So, you decide to drive to Florida. The readily available information in your brain overemphasized the risks of flying, so you made the decision to keep your family safer by driving. In reality, they would have been safer on a plane.

At work, you may go back to the same information over and over again to make your decisions, because that information has worked well for you in the past. Such narrow-minded thinking feels entirely natural to us, but it leads us down the wrong path too many times. You probably do it every single day without knowing it. It’s not that you don’t have some good ideas in your head. They’re just limited, and we tend to use the same ones over and over again. This combination makes our good ideas just as dangerous as bad ones!

The great investor and teacher [Benjamin Graham](#) explained it best: A good idea taken to the extreme becomes a bad idea. The antidote to this sort of mental overreaching is to add more models to your mental palette—to expand your repertoire of ideas, making them vivid and available in the problem-solving process.

You’re on the right track when multiple models start to compete with each other. When one model tells you one thing, and another model tells you another, that means you’re getting somewhere. Good thinking happens when the models compete for the greater truth. It’s hard work, but hard work is what leads us to the right answers.

Old ideas vs. new ideas

There are big, basic ideas from all the truly fundamental academic disciplines. These are the ideas you learn in the “101” course of each major subject in college. These are the true general principles that underlie most of what’s going on in the world. Things like the main laws of physics (theory of relativity, law of universal gravitation, three laws of motion, etc.). The big, useful tools of mathematics (permutations and combinations, randomness, algebraic equivalence, etc.). The guiding principles of biology (incentives, cooperation, evolution by natural selection, etc.). The hugely useful concepts from human psychology (trust, bias from incentives, denial, etc.). The central principles of systems thinking (scale, law of diminishing returns, Pareto principle, etc.). The working concepts behind business and markets (opportunity costs, creative destruction, comparative advantage, etc.).

These are the winning ideas. There's a lot of "bestselling" stuff out there, but there's always a more fundamental, underlying idea that we already knew about. The "new idea" is only a retelling and packaging of old ideas.

We spend a lot of time keeping up with "new" ideas at the expense of learning the old, fundamental ideas. This is truly nuts, because most of what's "new" to us probably won't be relevant in five months anyway. The mental-models approach, in contrast, focuses on learning the time-tested mental models *very well*, then using that powerful database every single day.

Remember: Building your latticework is a lifelong project. Stick with it, and you'll find that your ability to understand reality and consistently make good decisions will always be improving.

Chapter 4 checklist:

- In your decision journal, think of a time when you used a mental shortcut, or "availability heuristic" to make a decision.
- In your decision journal, answer the following questions:
 - Do you currently use a latticework of mental models to make decisions?
 - Is your mind currently prepared to make decisions based on many mental models?
 - Based on the list of mental models at the end of this book, how many do you currently feel competent in understanding?

Take a look at the list of mental models in the appendix of this book. Pick out three models you would like to understand better. I suggest Second-Order Thinking, Inversion, and The Map is Not the Territory. Commit to working on learning more about these mental models and incorporating them into your decision making. Each week, pick three more models you want to learn more about.

Chapter 5:

Know What You Know:

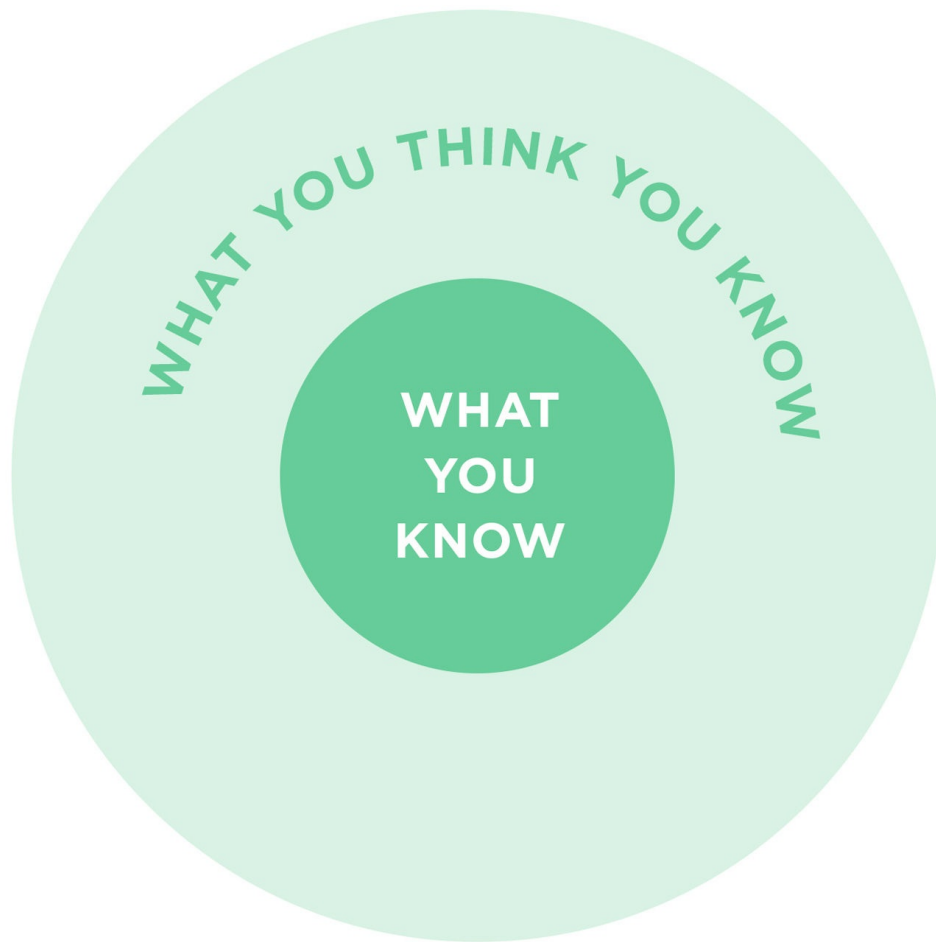
Leverage Your Circle of Competence

“You have to figure out what your own aptitudes are. If you play games where other people have the aptitudes and you don’t, you’re going to lose. And that’s as close to certain as any prediction that you can make. You have to figure out where you’ve got an edge. And you’ve got to play within your own Circle of Competence.”

— Charlie Munger

While having broad knowledge—a latticework of mental models—is a critical part of making good decisions, there is also value in knowing your circle of competence.

What is a circle of competence? Well, it’s pretty much what it sounds like. It’s the ability to know the limits of your understanding. You can think of this as a calibration of yourself. Accurately gauging your skills is more important than the size of those skills. After all, it’s not how big your circle is, but how you use it.



While this may seem contradictory to what we discussed in Chapter 4—having broad knowledge across a wide range of mental models—it’s really not. It’s extremely valuable to have working knowledge of many mental models, and how they work together, to better inform our decisions. But it’s also valuable to know when you’re making decisions within your area of expertise and when you’re not. When possible, you want to stick to your knitting.

In a 1996 shareholder letter, Warren Buffett wrote, “What an investor needs is the ability to correctly evaluate selected businesses. Note that word ‘selected’: You don’t have to be an expert on every company, or even many. You only have to be able to evaluate companies within your circle of competence. The size of that circle is not very important; knowing its boundaries, however, is vital.”

Just like investors, who should only operate in areas they know best, the same goes for decision makers. Where do you consistently make good choices? The best way to avoid making poor choices is to operate where you consistently make good ones. And while making those decisions, it's to your advantage to utilize your latticework of mental models that we talked about in Chapter 4.

Each of us, through experience or study, has built up useful knowledge on certain topics. Most people would be able to understand how to start a coffee shop, for instance. You would start by renting or buying a storefront space, invest in tables, chairs, an espresso machine, etc., then hire employees to make and serve the coffee and pastries. Then, you just need to generate enough traffic and set prices to generate profit on the coffee and pastries you serve—after all of your operating expenses have been paid.

Pretty simple, right? But then there are other areas that require special knowledge. For instance, how many of us can say we understand the workings of a microchip company or a biotech drug company at the same level? Not many.

This concept can be applied to decision making, and to life in general. We need to ask ourselves, “Where should we devote our limited time in life, in order to achieve the most success?” Charlie Munger has a [simple prescription](#):

“You have to figure out what your own aptitudes are. If you play games where other people have the aptitudes and you don't, you're going to lose. And that's as close to certain as any prediction that you can make. You have to figure out where you've got an edge. And you've got to play within your own circle of competence.

“If you want to be the best tennis player in the world, you may start out trying and soon find out that it's hopeless—that other people blow right by you. However, if you want to become the best plumbing contractor in Bemidji, that is probably doable by two-thirds of you. It takes a will. It takes the intelligence. But after a while, you'd gradually know all about the plumbing business in Bemidji and master the art. That is an attainable objective, given enough discipline. And people who could never win a chess tournament or stand in center court in a respectable tennis tournament can rise quite high in life by slowly developing a circle of competence—which results partly from what they were born with and partly from what they slowly develop through work.”

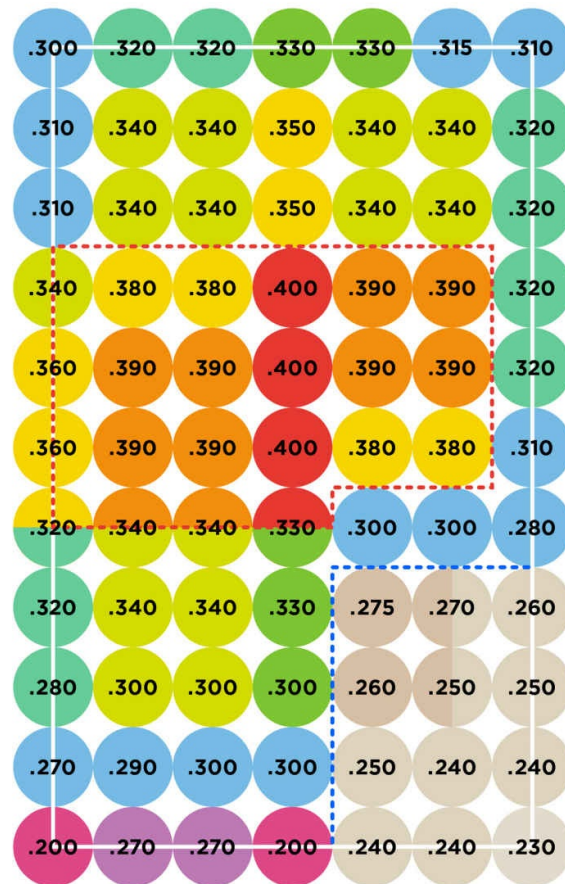
What is your circle of competence? Do you know your own aptitudes? If you want to improve your odds of success in life and business, then figure out your circle of competence and stay within its boundaries.

Over time, you can grow your circle, but you need to be honest with yourself about where it stands today. You should never be afraid to admit when you're outside of your circle of competence, or to say "I don't know." Being outside your circle of competence isn't a problem unless you're too proud to admit when you're outside it.

Learning from baseball's greatest hitter

The best example of staying within a circle of competence is [Ted Williams](#) (1918–2002), who was arguably the greatest pure hitter who ever played the game of baseball. He was the last person to cross the magic .400 batting average barrier, which means he succeeded in getting a hit 40 percent of the time. How did he do it? And what can we learn from him that will help us make better decisions?

He wrote a book, called [The Science of Hitting](#), that contained a very interesting picture of himself at bat, with the strike zone broken into seventy-seven circles.



Williams knew he could improve his odds of getting a hit if he waited for a pitch that was in his “sweet spot.” In the sweet spot, he could get a hit 40 percent of the time, but outside of it, he would only get a hit 23 to 25 percent of the time. He knew his circle of competence.

Williams carved the strike zone into seventy-seven spaces, each the size of a baseball. He knew which pitches offered the greatest odds of success, and he had the discipline to wait for those pitches. Knowing his circle of competence—having the patience to wait for the right pitch and the humility to understand what he wasn’t good at—was the difference between being an average baseball player and ending up in the Baseball Hall of Fame.

Everyone's sweet spot is different. We all want to have a bigger circle and do everything well. But the size of our circle is not as important as knowing its boundaries.

As [Charlie Munger says](#), "It's not a competency if you don't know the edge of it."

Warren Buffett elaborated on the same topic in a [1999 Berkshire Hathaway Chairman's letter](#):

"If we have a strength, it is in recognizing when we are well within our cycle of competence and when we are approaching the perimeter. Predicting the long term economics of companies that operate in fast-changing industries is simply far beyond our perimeter. If others claim predictive skills in those industries—and seem to have claims validated by the behaviour of the stock market we neither envy nor emulate them. Instead, we just stick with what we understand. If we stray, we will have done so inadvertently, not because we got restless and substituted hope for rationality."

In some situations, we can sit around and wait for the right opportunity. But at other times, we don't have that luxury. Sometimes, we have to make decisions with imperfect or incomplete information, and in an uncertain world.

But knowing our circle of competence can help us in those situations. Making decisions outside that circle is riskier than making decisions inside it. When we know we're not in our sweet spot, we can try to improve the odds of making a good decision (see the suggestions below), or at least acknowledge that it's a risky decision. We can follow a different process.

How to make decisions outside your circle of competence

What happens if one day you get to work and one of your colleagues is not in the office because she's sick at home with pneumonia? Her department has a crucial decision that has to be made, and the decision falls on you to make. At some point in your career, you'll have to make decisions outside of your circle of competence. It's inevitable.

So what can you do in these situations? Here are some suggestions:

- **Reach out to someone.** Is there someone who knows the situation better

than you do? Someone with more experience or knowledge than you about the subject? Reach out to him or her to get more information. However, don't fall for the common trap of asking what they would do. You need to be strategic about what you ask so you can learn.

- **Ask questions in order to learn.** You will need to approach this situation as a student. You need to learn all of the factors that will go into making the decision. Ask questions like: What are the variables to consider? Why? How do they interact? Come from a place of curiosity, not knowledge. You don't want a quick answer that will allow you to make a quick decision. You want to understand things in a deeper way, so you can learn what you need to know to improve your knowledge in this area. It's not just about *what* questions you ask, but *how* you ask them. Don't ask, "What would you do?" But ask what variables are relevant, what key things govern the situation, and how they interact with one another.
- **Take your time.** It's easier to just make a quick inquiry, then decide in order get the decision off of your plate, but that may end up costing you more time down the road. Spend time asking two or three people who know more about the subject than you do to give you their input on what matters and how it all connects. The time spent now will save you precious time later.

Knowing and understanding the boundaries of your circle of competence can be a critical factor in becoming a better decision maker. Once again, use your decision journal to help you understand what your circle of competence may be and where you can learn from others. This improves the odds of making better decisions.

Chapter 5 checklist:

- In your decision journal, write about what you think is your circle of competence. How do you know?
- Think about a time when you made a decision outside of your circle of competence. What was the outcome?
- Ask your colleagues to give you feedback about what they think your circle of competence is. Collect their responses in your journal to keep a record for future reference.
- If you're not in your circle of competence, find someone with more

knowledge than you on the subject. Don't ask them what to do; instead, ask them what variables matter, and why. Seek to understand how the variables interact. You'll start developing your circle, and will make a better decision than you would have alone.

To develop your circle of competence, identify the people closest to you, along with their circle of competence. What are they good at that you don't know very well? Make a point of inviting them to lunch, with the goal of picking their brain on a subject that interests them.

Chapter 6:

Just Do It:

Find a Process, and Use it Consistently

"A man will be imprisoned in a room with a door that's unlocked and opens inwards; as long as it does not occur to him to pull rather than push."
— Ludwig Wittgenstein

None of us can expect to make perfect decisions 100 percent of the time. Sometimes even good decisions (defined by using a good process) can have bad outcomes. But we can raise the odds of obtaining good outcomes by using a good decision-making process.

To start, let's look at how *organizations* make decisions. This is a good place to start if we're trying to improve the quality of our decisions (whether our own or in the context of organizations) and reduce the impact of cognitive biases.

What was the last major decision your company made? An acquisition? A large purchase? Or perhaps it was whether to launch a new product. There were probably three things that went into that decision: the insights of a few key executives; some sort of fact gathering and analysis; and some sort of decision process.

But how was the *quality* of your organization's strategic decisions?

If you're like most executives, the answer wouldn't be positive: [In a recent McKinsey Quarterly survey](#) of 2,207 executives, only 28 percent said the quality of strategic decisions in their companies was generally good, 60 percent thought bad decisions were about as frequent as good ones, and the remaining 12 percent thought good decisions were altogether infrequent.

The persistent problems across time and organizations, both large and small, indicate that we can make better decisions. We all know that gut decisions can be susceptible to biases. So, to counter the pitfalls of gut decisions, organizations often spend a lot of time gathering data and analyzing decisions. They think this analysis reduces biases. But does it? Is putting your faith in analysis any better than using your gut? What does the evidence say? Is there a better way?



Dan Lovallo, a professor at the University of Sydney, and Olivier Sibony, a director at McKinsey & Company, studied 1,048 major business decisions over five years. They wanted to find out how organizations made decisions.

The results were surprising.

They discovered that most business decisions were not made on “gut calls,” but rather rigorous analysis.

In short, most people did all the legwork they thought they were supposed to do: they delivered large quantities of detailed analysis. Most people do everything their fancy education taught them. And yet this isn't enough to improve outcomes. In the study, [Lovallo and Sibony concluded](#), “Our research

indicates that, contrary to what one might assume, good analysis in the hands of managers who have good judgment won't naturally yield good decisions."

Of course, Lovallo and Sibony didn't only look at analysis; they also asked executives about the *process*. Did these executives, for example, "explicitly explore and discuss major uncertainties or discuss viewpoints that contradicted the senior leader's?"

So what matters more? Process or analysis? After comparing the results, they determined that "**process mattered more than analysis—by a factor of six.**"

To illustrate the weakness of how most organizations make decisions, Sibony used an interesting analogy—the legal system:

"Imagine walking into a courtroom where the trial consists of a prosecutor presenting PowerPoint slides. In 20 pretty compelling charts, he demonstrates why the defendant is guilty. The judge then challenges some of the facts of the presentation, but the prosecutor has a good answer to every objection. So the judge decides, and the accused man is sentenced.

That wouldn't be due process, right? So if you would find this process shocking in a courtroom, why is it acceptable when you make . . . decisions? Now of course, this is an oversimplification, but this process is essentially the one most companies follow to make a decision. They have a team arguing only one side of the case. The team has a choice of what points it wants to make and what way it wants to make them. And it falls to the final decision maker to be both the challenger and the ultimate judge. Building a good decision-making process is largely ensuring that these flaws don't happen."

A disciplined decision process is the best way to improve the quality of your decisions. By following the same basic framework over and over you can start to improve it. When you do things willy-nilly all the time, it's hard to improve.

While there are a myriad of different decision-making processes out there, I'd like to highlight a few worth considering.

Process #1

Problem: It takes too long to make a decision, and you are overwhelmed

Solution: The Simple Checklist

Erik Larson, in [an article in the Harvard Business Review](#), writes that during the product development of Cloverpop, he and his team performed hundreds of

experiments with tens of thousands of decision makers. They found that the most successful decision-making approach boils down to a simple checklist. Larson's research found that managers who regularly follow the seven steps below save an average of ten hours of discussion, decide ten days faster, and improve the outcomes of their decisions by 20 percent.

But, he says, it's important to note that understanding the items on the list is not enough; in order to be effective, a checklist must be used, because our biases don't go away just because we know they are there.

Here's his seven-step checklist:

1. **"Write down five pre-existing company goals or priorities** that will be impacted by the decision. Focusing on what is important will help you avoid the rationalization trap of making up reasons for your choices after the fact."
2. **"Write down at least three, but ideally four or more, realistic alternatives.** One can be staying put and doing nothing. It might take a little effort and creativity, but no other practice improves decisions more than expanding your choices."
3. **"Write down the most important information you are missing.** We risk ignoring what we don't know because we are distracted by what we do know, especially in today's information-rich businesses."
4. **"Write down the impact your decision will have one year in the future.** Telling a brief story of the expected outcome of the decision will help you identify similar scenarios that can provide useful perspective."
5. **"Involve a team of at least two but no more than six stakeholders.** Getting more perspectives reduces your bias and increases buy-in—but bigger groups have diminishing returns."
6. **"Write down what was decided, as well as why and how much the team supports the decision.** Writing these things down increases commitment and establishes a basis to measure the results of the decision."
7. **"Schedule a decision follow-up in one to two months.** We often forget to check in when decisions are going poorly, missing the opportunity to make corrections and learn from what's happened."

Process #2:

Problem: You struggle with biases that affect your decisions

Solution: The Heaths' WRAP Model to Minimize Biases

Is your biggest struggle in decision making the biases you bring to each decision? Remember Chip and Dan Heath's Four Villains of Decision Making from Chapter Three? To review, these villains are:

- **We're overconfident.** "People think they know more than they do about how the future will unfold."
- **Our frame is too narrow.** "This is the tendency to define our choices too narrowly, to see them in binary terms. We ask, 'Should I break up with my partner or not?' instead of 'What are the ways I could make this relationship better?'"
- **We rely on short-term emotion.** "When we've got a difficult decision to make, our feelings churn. We replay the same arguments in our head. We agonize about our circumstances. We change our minds from day to day. If our decision was represented on a spreadsheet, none of the numbers would be changing—there's no new information being added—but it doesn't feel that way in our heads."
- **We have confirmation bias.** "When people have the opportunity to collect information from the world, they are more likely to select information that supports their preexisting attitudes, beliefs, and actions." We pretend we want the truth, yet all we really want is reassurance.

In their book [*Decisive*](#), the Heaths came up with a process to help us overcome these biases and make better choices. They call this the WRAP model. They write, "We can't deactivate our biases, but . . . we can counteract them with the right discipline." Here's the process they recommend:

1. **Widen your options:** You encounter a choice. But narrow framing makes you miss options. How can you expand your set of choices?
2. **Reality-test your assumptions:** You analyze your options. But the confirmation bias leads you to gather self-serving information. So how can you get outside your head and collect information you can trust?
3. **Attain distance before deciding:** You make a choice. But short-term emotion will often tempt you to make the wrong one . . . So how can you overcome short-term emotion and conflicted feelings to make the best choice?
4. **Prepare to be wrong:** You'll often be overconfident about how the future will unfold. So prepare to be wrong. How can you plan for an uncertain

future so that you give your decisions the best chance to succeed?

Process #3:

Problem: You have “analysis paralysis” and are overwhelmed by a decision

Solution: The PrOACT Process

In the book [*Smart Choices: A Practical Guide to Making Better Decisions*](#), John S. Hammond, Ralph L. Keeney, and Howard Raiffa recommend an interesting decision-making framework they call PrOACT.

They write: “We have found that even the most complex decision can be analysed and resolved by considering a set of eight elements. The first five—**Problem**, **Objectives**, **Alternatives**, **Consequences**, and **Tradeoffs**—constitute the core of our approach and are applicable to virtually any decision. The acronym for these—PrOACT—serves as a reminder that the best approach to decision situations is a proactive one. The three remaining elements—uncertainty, risk tolerance, and linked decisions—help clarify decisions in volatile or evolving environments.”

Here are the eight keys to effective decision making that Jammon, Keeney, and Raiffa suggest in their book:

1. “Work on the right decision **problem**. The way you frame your decision at the outset can make all the difference. To choose well, you need to state your decision problems carefully, acknowledging their complexity and avoiding unwarranted assumptions and option-limiting prejudices.”
2. “Specify your **objectives**. A decision is a means to an end. Ask yourself what you most want to accomplish and which of your interests, values, concerns, fears, and aspirations are most relevant to achieving your goal.”
3. “*Create imaginative **alternatives**. Remember: your decision can be no better than your best alternative.*” *Everything has an opportunity cost, which is the loss of potential gain from other alternatives when one alternative is chosen.*
4. “Understand the **consequences**. Assessing frankly the consequences of each alternative will help you to identify those that best meet your objectives—all your objectives.”
5. “Grapple with your **tradeoffs**. Because objectives frequently conflict with

one another, you'll need to strike a balance. Some of *this* must sometimes be sacrificed in favor of some of *that*."

6. "Clarify your **uncertainties**. What could happen in the future, and how likely is it that it will?"
7. "Think hard about your **risk tolerance**. When decisions involve uncertainties, the desired consequence may not be the one that actually results. A much-deliberated bone marrow transplant may or may not halt cancer."
8. "Consider **linked decisions**. What you decide today could influence your choices tomorrow, and your goals for tomorrow should influence your choices today. Thus many important decisions are linked over time."

Process #4:

Problem: You want to improve your judgment in decision making

Solution: Max Bazerman's Six Steps to Rational Decision Making

Harvard Professor Max Bazerman, who has written extensively on human misjudgment, explains the anatomy of decisions in his book, [*Judgment in Management Decision Making*](#), which he co-authored with Don A. Moore, a professor at the Haas Business School at the University of California, Berkeley. Before we can fully understand judgment, we have to identify the components of the decision-making process that require it.

Here are the six steps Bazerman and Moore argue you should take, either implicitly or explicitly, when applying a rational decision-making process.

1. "**Define the problem.** Managers often act without a thorough understanding of the problem to be solved, leading them to solve the wrong problem. Accurate judgment is required to identify and define the problem. Managers often err by (a) defining the problem in terms of a proposed solution, (b) missing a bigger problem, or (c) diagnosing the problem in terms of its symptoms. Your goal should be to solve the problem, not just eliminate its temporary symptoms."
2. "**Identify the criteria.** Most decisions require you to accomplish more than one objective. When buying a car, you may want to maximize fuel economy, minimize cost, maximize comfort, and so on. The rational decision maker will identify all relevant criteria in the decision-making

process.”

3. **“Weight the criteria.** Different criteria will vary in importance to a decision maker. Rational decision makers will know the relative value they place on each of the criteria identified (for example, the relative importance of fuel economy versus cost versus comfort). The value may be specified in dollars, points, or whatever scoring system makes sense.”
4. **“Generate alternatives.** The fourth step in the decision-making process requires identification of possible courses of action. Decision makers often spend an inappropriate amount of search time seeking alternatives, thus creating a barrier to effective decision making. An optimal search continues only until the cost of the search outweighs the value of added information.”
5. **“Rate each alternative on each criterion.** How well will each of the alternative solutions achieve each of the defined criteria? This is often the most difficult stage of the decision-making process, as it typically requires us to forecast future events. The rational decision maker carefully assesses the potential consequences on each of the identified criteria of selecting each of the alternative solutions.”
6. **“Compute the optimal decision.** Ideally, after all of the first five steps have been completed, the process of computing the optimal decision consists of (a) multiplying the ratings in step 5 by the weight of each criterion, (b) adding up the weighted ratings across all of the criteria for each alternative, and (c) choosing the solution with the highest sum of weighted ratings.”

Make a process yours, use it, and adapt consistently

Which one of these processes resonates with you the most? Why?

Maybe you’re not sure, or maybe you discovered that more than one of these processes could be integrated into *YOUR* process and help you make better decisions. The most important thing is to just start using one. Pick the process that seems to resonate the most with you, and start there. Once you have a process, remember that it’s not static. It’s dynamic, and should adapt to you. You need to iterate and improve on it.

We often get stuck when we try to reinvent the wheel or take someone else’s solution and try to implement it in our own context. Reinventing the wheel is costly and error prone. Taking someone else’s model and using it regardless of our circumstance is akin to removing an animal from a habitat in which it is fully

adapted to thrive and putting it into one where it will not adapt quickly enough to survive. You don't really need to choose between creating from scratch and copying someone else's model. Just change your mindset to using the best model from someone else as your starting place, then tailoring it to your context and iterating. And now you know the secret to getting use out of self-help books. Sometimes it's just easier to take someone else's starting position, then iterate on it to make it your own.

After using the process a few times, fill out your decision journal. Try and figure out if the process did or didn't work for you, and why. If it didn't work, you'll have to adapt and make it your own.

You can use different processes for different decisions. There is no rule that says you have to use the same one for every decision you make. Maybe you have a decision you need to make quickly, and Process #1 would be the most helpful. Or maybe you're facing a decision that is very emotional for you. Then Process #2 may be more helpful to get you thinking beyond your biases. You want to have the tools, but only use them when they make sense.

Just do it. Start somewhere. And once you choose a process that works well and have adapted it to your needs, use it consistently and see if your decisions improve. Like evolution, this is a process of continuous adaptation.

Chapter 6 checklist:

- Choose one of the processes listed above, or combine them in a way that makes sense for you to create *your* process and use it to make your next decision. Then answer the following questions:
 - Was the process helpful?
 - Did you feel like the process helped you to remove biases?
 - Do you feel that this process could be implemented in future decisions?
 - What about the process worked for you? What didn't? What would you do differently?
 - Now update your process.
- Think about how you would judge someone else's decision process, regardless of the outcome. What would you need to know? What would that process look like? Map that back to your process. What does it look like?

Feel free to try more than one process, to find what works best for you. You

can always mix and match. Journal about which process may be helpful in various situations. The point is that having a process that's reasonably consistent, and that you journal with, allows you to pick out blind spots and adapt the process accordingly. You can't adapt without feedback. And you can't get consistent feedback without using a consistent process.

Chapter 7:

Look Back:

Evaluate and Improve Your Decisions

"Life can only be understood backwards; but it must be lived forwards."
— Søren Kierkegaard

Now that you hopefully have a better understanding of your decision-making process, and have made a few decisions using that process, let's talk about a few steps to evaluate and improve your decisions.

You probably already know that good decisions (that is, exercising good judgment and using a good decision-making process) don't always have a good outcome, just as bad decisions (using no process, or a bad process) don't always have bad outcomes. This reality is illustrated in this two-by-two matrix:

	Good Outcome	Bad Outcome
Good Process	What we are aiming for.	We are not omniscient. We need courage to weather this. Your system will not work every time, and it is easy to abandon the system the first time it fails.
Bad Process	Gambling and winning. Feeds the halo effect.	Gambling and losing. My bad luck, your poor skill.

Recognize dumb luck

[Paul DePodesta](#), a Harvard stats wiz, was a general manager of the Los Angeles Dodgers who led the team to their first playoff win in sixteen years in 2004. He is also known for his notable appearance in the book and movie [Moneyball](#), from his time with the Oakland Athletics. In talking about this matrix, he [writes](#):

“We all want to be in the upper left box—deserved success resulting from a good process . . . The box in the upper right, however, is the tough reality we all face in industries that are dominated by uncertainty. A good process can lead to a bad outcome in the real world. In fact, it happens all the time.

“. . . As tough as a good process/bad outcome combination is, nothing compares to the bottom left: bad process/good outcome. This is the wolf in sheep’s clothing that allows for one-time success but almost always cripples any chance of sustained success.”

If we can’t recognize when you’ve had dumb luck, we’ll never be able to correct the way we’re making decisions. Eventually, our luck will run out. Thankfully, we can improve our ability to make better decisions. But we need feedback. We need to know what information we had at the time we made the decision. We need to avoid tricking ourselves. And that’s why it’s important to record our decisions in a decision journal, as we discussed in the first chapter.

A good decision happens *before* the outcome is known. It involves gathering knowledge, identifying variables and the relationships between them, and applying models so we can identify what matters. Good decisions are valuable, but they are more valuable if they are part of a good decision process, because a good process allows for feedback that facilitates continuous improvement. This feedback, in turn, allows you to constantly get better at making decisions.

Focus on what’s the same, not what’s different

When we’re looking back on our decisions, we need to focus on what’s the same, not what’s different. “This time is different” are the four most dangerous words when it comes to making better decisions.

As we evaluate our past decisions to inform our future decisions, we need to ask ourselves instead, “What’s the same?” We tend to think that differences are more valuable than similarities. We’re all so busy trying to find differences that

we forget to pay attention to what is the same. And there is a lot of value in understanding what hasn't changed.

Think of this scenario: You're sitting in a meeting where people are about to make the same mistake they made last year on the same type of decision. Let's say, for example, Jim has organized the company holiday party for the past three years, but he's not very good at it. Last year he went over budget, and the event involved several mishaps. Jim isn't very organized. But he's popular around the office.

The assignment for organizing the holiday party comes up, and Jim is once again nominated. Before you have a chance to voice your concerns, one of your colleagues says, "I know last year's party was a disaster, but I've noticed Jim has really been working on his organizational skills, and he has great ideas for this year's party."

So, everyone agrees to have Jim once again organize the holiday party. Everyone is focused on what's unique about this time, and it's unlikely, despite ample evidence, that you'll be able to convince them otherwise. People want to believe in Jim, because he's popular. The group is focused on why this time is different, and they ignore evidence to the contrary.

History provides context. And context is important, because it shows us that no matter how unique and special we think things are today, there are a lot of parallels with the past.

If you catch yourself reasoning based on "this time is different," remember that you are probably speculating. While you may indeed be right, odds are this time is not different. So spend some time looking for the similarities. "History doesn't repeat itself, but it often rhymes," as Mark Twain is reputed to have said.

Understand WHY you made the decision

We tend to focus only on the outcome of a decision when we are evaluating it. But that doesn't help us to understand any problems that may have occurred during the process. It's harder to think back and evaluate the merits of a particular decision based on what was known at the time. Was it a good decision with a bad outcome? Or a bad decision with a good outcome?

Annie Duke, who has a PhD in psychology and is a professional poker player and author, [talks about the mistakes we make when evaluating our decisions](#):

"There's this word that we use in poker: 'resulting.' It's a really important

word. You can think about it as creating too tight a relationship between the quality of the outcome and the quality of the decision. You can't use outcome quality as a perfect signal of decision quality, not with a small sample size anyway. I mean, certainly, if someone has gotten in 15 car accidents in the last year, I can certainly work backward from the outcome quality to their decision quality. But one accident doesn't tell me much."

One way to prevent "resulting" is to pull out your decision journal, and see, in light of the facts and assumptions at the time of the decision, whether the best decision possible was made and if there was, in fact, a mistake. You can also look at patterns.

If there really was a mistake, or a pattern you see, you can look at your decision process and determine what went wrong and how to avoid it in the future. Don't hide mistakes by vaguely blaming "the committee," and therefore shirking responsibility. It's important to stay away from the blame/credit mentality, because it undermines understanding, which is the key to getting better.

One way to reinforce a good decision process is to put your name on the decision. Own up to the fact that YOU made the decision, and outline the reasons why you made it. This is how you get better.

Conduct a premortem

In Bob Sutton's book [*Scaling Up Excellence: Getting to More Without Settling for Less*](#), he talks about "a mind trick that goads and guides people to act on what they know and, in turn, amplifies their odds of success."

It's called the premortem. When you're on the verge of making a big decision, you call a meeting. At the meeting, you ask each member of your team to imagine that it's a year later. You imagine that a concrete success or failure has occurred, then look "back from the future" to tell a story about the causes. In Sutton's book, he writes about renowned scholars, including Kahneman and psychologists [Gary Klein](#) and [Karl Weick](#), who supply compelling logic and evidence that this approach generates better decisions, predictions, and plans. Their work suggests several reasons why:

1. **This approach helps people overcome blind spots:** "Looking back from the future helps people to see the nitty-gritty details required to achieve

long-term goals.”

2. **This approach helps people “bridge short-term and long-term thinking”:** “Analyzing a single event as if it *has* already occurred rather than pretending it *might* occur makes it seem more concrete and likely to actually happen, which motivates people to devote more attention to explaining it.”
3. **Looking back “dampens excessive optimism”:** “Most people overestimate the chances that good things will happen to them and underestimate the odds that they will face failures, delays, and setbacks. Kahneman adds that ‘in general, organizations really don’t like pessimists’ and that when naysayers raise risks and drawbacks, they are viewed as ‘almost disloyal.’”
4. **A premortem challenges the illusion of consensus:** Many times, groups tend to conform so they don’t disrupt harmony. “The resulting corrosive conformity is evident when people don’t raise private doubts, known risks, and inconvenient facts. In contrast, as Klein explains, a premortem can create a competition where members feel accountable for raising obstacles that others haven’t.”

The most important step

Looking back and evaluating your decision-making process—that is, exploring how and why you make decisions, and whether or not the outcome was due to a good process or a bad process—may be the most important step in learning how to make better decisions. We can’t improve our decisions until we have a deep understanding about our past decisions. Paraphrasing Kierkegaard’s wisdom above: Decisions can only be understood backward, so that we can make better decisions moving forward.

Chapter 7 checklist:

In your decision journal, answer these questions:

- What decision have you made recently that had a good process but a bad outcome?
- What decision have you made recently that had a bad process but a good

outcome?

- In the past, have you blamed other people for bad outcomes, or have you blamed the process?
- Think of a decision you need to make in the near future. Use the premortem steps to think through the possible outcomes and gain “prospective hindsight.”
- How do you think your decision making has improved in the process of reading this book?

Chapter 8: Make Time

Be Patient and Find Focus

*“We say we waste time, but that is impossible. We waste ourselves.”
— Alice Bloch*

This might be the shortest chapter in this book, but it’s also the most important. If you were a football player, you wouldn’t expect to just step on the field and play well without having put the time and effort into practice. Decisions are the same way. You need to prepare to make good ones.

Too often, we sabotage ourselves before we even begin.

The secret to good decision making is avoiding bad decisions. You don’t want to put yourself in a position where success is unlikely. One way to put yourself in a good position is to use the giant list of mental models in Appendix C to develop an understanding of the world. Another way to put yourself in a good position for decision success is to better use your time and focus.

[In a talk to the plebe class at West Point](#), William Deresiewicz offered some insight into how we sabotage ourselves by not understanding time (bolded emphases are mine):

“Let’s start with how you don’t learn to think. A study by a team of researchers at Stanford came out a couple of months ago. The investigators wanted to figure out how today’s college students were able to multitask so much more effectively than adults. How do they manage to do it, the researchers asked? The answer, they discovered—and this is by no means what they expected—is that they don’t. The enhanced cognitive abilities the investigators expected to find, the mental faculties that enable people to multitask effectively, were simply not there. In other words, people do not multitask effectively. And here’s the really surprising finding: the more people multitask, the worse they are, not just at other mental abilities, but at multitasking itself.

“One thing that made the study different from others is that the researchers

didn't test people's cognitive functions while they were multitasking. They separated the subject group into high multitaskers and low multitaskers and used a different set of tests to measure the kinds of cognitive abilities involved in multitasking. They found that in every case the high multitaskers scored worse. They were worse at distinguishing between relevant and irrelevant information and ignoring the latter. In other words, they were more distractible. They were worse at what you might call 'mental filing': keeping information in the right conceptual boxes and being able to retrieve it quickly. In other words, their minds were more disorganized. And they were even worse at the very thing that defines multitasking itself: switching between tasks.

"Multitasking, in short, is not only not thinking, it impairs your ability to think. Thinking means concentrating on one thing long enough to develop an idea about it. Not learning other people's ideas, or memorizing a body of information, however much those may sometimes be useful. Developing your own ideas. In short, thinking for yourself. You simply cannot do that in bursts of 20 seconds at a time, constantly interrupted by Facebook messages or Twitter tweets, or fiddling with your iPod, or watching something on YouTube.

"I find for myself that my first thought is never my best thought. My first thought is always someone else's; it's always what I've already heard about the subject, always the conventional wisdom. It's only by concentrating, sticking to the question, being patient, letting all the parts of my mind come into play, that I arrive at an original idea. By giving my brain a chance to make associations, draw connections, take me by surprise. And often even that idea doesn't turn out to be very good. I need time to think about it, too, to make mistakes and recognize them, to make false starts and correct them, to outlast my impulses, to defeat my desire to declare the job done and move on to the next thing . . . So it is with any other form of thought. You do your best thinking by slowing down and concentrating."

We can extract two valuable lessons from Deresiewicz's comments. First, you want to focus on one thing at a time. Second, you want to make time to think. Not thirty seconds here or there, but a lot of time. You need to have time to concentrate.

Most people won't schedule the time they need to think about a problem. Instead, they'll schedule themselves like a dentist. Their happiest day is when they squeeze in one more appointment.

When we don't take time to think before we act, we act without thinking. This leads to bad decisions. Those bad decisions catch up to us, and end up consuming all of our time.

Chapter 8 Checklist:

- Are you prepared to make good decisions? Think about the last few decisions you made. Did you do the work to understand the problem, or did you rush? What were the consequences?
- Are you preparing to make good decisions? This means studying the important ideas from multiple disciplines (see Appendix C)
- Are you doing more than one thing at a time? Or are you focusing on a single task?

Chapter 9: Conclusion

Know Yourself, Improve Your Decisions

“There are two kinds of truth; the truth that lights the way and the truth that warms the heart. The first of these is science, and the second is art. Neither is independent of the other or more important than the other.”

— Raymond Chandler

The book [*The Greatest Business Decisions of All Time*](#), by Verne Harnish and the editors of *Fortune* magazine, includes a powerful story about Henry Ford. The year was 1914. Henry Ford was becoming too successful. The Model T was in high demand, and in 1913, he had implemented the moving assembly line in his Highland Park, Michigan, plant to increase production. It worked even better than he could have imagined. He was able to double production with the same number of workers.

But there was one major problem: Employee turnover was extremely high. It was mind-numbing work that no one wanted to do.

Ford made a historic decision to improve the lives of his workers. He added a third shift to create more jobs, reduced the workday from nine hours to eight, and doubled the hourly pay of his employees.

Annual labor turnover fell from 360 percent to 16 percent. Ford solidified his position as the world’s greatest automaker, and became a billionaire.

I’m sure it wasn’t an easy decision to make. What if it hadn’t paid off? What if turnover had remained the same, despite the investment in higher wages?

But Ford made a risky decision at a critical juncture in his business, and changed the course of his life, the lives of his workers, and really, the trajectory of America.

Are you prepared to make good decisions?

Here's the question I want to ask you as we get to the end of this book. Are you now better prepared to make crucial decisions at critical times in your life or the life of your company? Your career, your life, and your legacy depend on your decisions.

Hopefully this book has given you the self-knowledge you need to make better decisions. Throughout the book, you have answered questions and used your decision journal to gain knowledge about your decision-making skills.

Now I have a few last questions for you. In your decision journal, ask yourself:

- While reading this book, what have you learned about yourself and your decision-making process?
- Do you think your decision-making skills have improved after learning more about yourself and implementing some of the ideas in this book?
- Are you willing to continue to do the work necessary to become the best decision maker you can be?
- Are you willing to take the time to build your latticework of mental models?
- Are you willing to evaluate past decisions, and to own your mistakes and learn from them?
- Are you putting yourself in the best position to succeed?

It's quite simple.

When you do what everyone else does, you're going to get the same results everyone else gets. The implications of this are clear. You're not going to outperform by doing what everyone else is doing.

Change doesn't come easily. Our decision-making habits are deeply ingrained, and it will take hard work, time, persistence, and practice to implement new processes and habits into your everyday life. But I want to encourage you to continue the work. Keep learning, and keep growing. And keep building your latticework of mental models. Keep reflecting. Because it's only when you do the hard work required that will you truly live up to your potential as a decision maker, and a leader.

Appendix A:

The Ultimate Decision-Making Checklist

Throughout this book, I have given you steps to take to help you improve your decision-making skills. As you continue to make decisions in your career and life, follow these steps. To make it easier to refer back to them, here's the Ultimate Decision-Making Checklist. Print it out, keep it on your desk, or tape it to your wall. Taking these steps will guide you on the path to becoming the best decision maker you can be!

✓ *Know Thyself*

- Purchase a simple notebook that you can use as your decision journal, and use the template in the Appendix as a guide to help you journal when making decisions.
- In your decision journal, reflect on how you currently feel about your decision-making skills and process. Why do you feel you need to improve your decision making?
- Start by thinking of a small decision you have to make—maybe it's where to take your next vacation, or something like that. Work through the steps above so you can get a feel for how to use the decision journal.

✓ *Own Your Power*

- Conduct a 360° performance review with your colleagues to help you understand your decision-making strengths and blind spots.
- Take a personality assessment to gain a deeper understanding of how your preferences may affect your decision making.

- Also use your decision journal to respond to these prompts:
 - Write about one decision where you didn't take responsibility. What happened? What was your role? Why didn't you take responsibility? What would you do differently now?
 - Write about one decision where your indecisiveness cost you or your company. What happened? Why were you indecisive? What would you do differently?

✓ *Overcome Obstacles*

- List the barriers you think are keeping you from making better decisions.
- List three decisions you made in the past that did not have good outcomes. For each of these decisions, what barriers listed above affected your decision making?

✓ *Mind Your Thoughts*

- In your decision journal, think of a time when you used a mental shortcut, or "availability heuristic" to make a decision.
- In your decision journal, answer the following questions:
 - Do you currently use a latticework of mental models to make decisions?
 - Is your mind currently prepared to make decisions based on many mental models?
 - Based on the list of mental models at the end of this book, how many do you currently feel competent in understanding?
- Take a look at the list of mental models in the appendix of this book. Pick out three models you would like to understand better. I suggest Second-Order Thinking, Inversion, and The Map is Not the Territory. Commit to working on learning more about these mental models and incorporating them into your decision making. Each week, pick three more models you want to learn more about.

✓ *Know What You Know*

- In your decision journal, write about what you think is your circle of competence. How do you know?
- Think about a time when you made a decision outside of your circle of competence. What was the outcome?
- Ask your colleagues to give you feedback about what they think your circle of competence is. Collect their responses in your journal to keep a record for future reference.
- If you're not in your circle of competence, find someone with more knowledge than you on the subject. Don't ask them what to do; instead, ask them what variables matter, and why. Seek to understand how the variables interact. You'll start developing your circle, and will make a better decision than you would have alone.
- To develop your circle of competence, identify the people closest to you, along with their circle of competence. What are they good at that you don't know very well? Make a point of inviting them to lunch, with the goal of picking their brain on a subject that interests them.

✓ *Just Do It*

- Choose one of the processes listed above, or combine them in a way that makes sense for you to create your process and use it to make your next decision. Then answer the following questions:
 - Was the process helpful?
 - Did you feel like the process helped you to remove biases?
 - Do you feel that this process could be implemented in future decisions?
 - What about the process worked for you? What didn't? What would you do differently?
 - Now update your process.
- Think about how you would judge someone else's decision process, regardless of the outcome. What would you need to know? What would that process look like? Map that back to your process. What does it look like?
- Feel free to try more than one process, to find what works best for you. You can always mix and match. Journal about which process may be helpful in various situations. The point is that having a process that's reasonably consistent, and that you journal with, allows you to pick out blind spots and adapt the process accordingly. You can't adapt without feedback. And you

can't get consistent feedback without using a consistent process.

✓ ***Look Back***

In your decision journal, answer these questions:

- What decision have you made recently that had a good process but a bad outcome?
- What decision have you made recently that had a bad process but a good outcome?
- In the past, have you blamed other people for bad outcomes, or have you blamed the process?
- Think of a decision you need to make in the near future. Use the premortem steps to think through the possible outcomes and gain “prospective hindsight.”
- How do you think your decision making has improved in the process of reading this book?

✓ ***Make Time***

- Are you prepared to make good decisions? Think about the last few decisions you made. Did you do the work to understand the problem, or did you rush? What were the consequences?
- Are you preparing to make good decisions? This means studying the important ideas from multiple disciplines (see Appendix C)
- Are you doing more than one thing at a time? Or are you focusing on a single task?

Appendix B:

Decision Journal Template

DECISION NO:

DATE:

TIME:

DECISION:

MENTAL/PHYSICAL STATE (CHECK BOXES):

☐ ENERGIZED

☐ FOCUSED

☐ RELAXED

☐ CONFIDENT

☐ TIRED

☐ ACCEPTING

☐ ACCOMMODATING

☐ ANXIOUS

☐ RESIGNED

☐ FRUSTRATED

☐ ANGRY

THE SITUATION/CONTEXT:

THE PROBLEM STATEMENT OR FRAME:

THE VARIABLES THAT GOVERN THE SITUATION INCLUDE:

Appendix C:

Mental Models

In Chapter 4, we talked about developing a Latticework of mental models. Here's a list of mental models, via the [Farnam Street blog](#) (used with permission). You can use this list to start building your latticework. Remember, however, it's a lifelong process.

Of course, you won't be able to learn and incorporate all of these models into your decision making immediately. But pick a few, and start there. Continue to build your latticework, and see how it can help you make better decisions.

Biological World

1. Adaptation

Species tend to adapt to their surroundings in order to survive, given the combination of their genetics and their environment—an always-unavoidable combination. However, adaptations made in an individual's lifetime are not passed down genetically, as was once thought: *Populations* of species adapt through the process of evolution by natural selection, as the most-fit examples of the species replicate at an above-average rate.

2. Cooperation (Including Symbiosis)

Competition tends to describe most biological systems, but cooperation at various levels is just as important a dynamic. In fact, the cooperation of a bacterium and a simple cell probably created the first complex cell and all of the life we see around us. Without cooperation, no group survives, and the cooperation of groups gives rise to even more complex versions of organization. Cooperation and competition tend to coexist at multiple levels.

3. Dunbar's Number

The primatologist Robin Dunbar observed through study that the number of individuals a primate can get to know and trust closely is related to the size of its neocortex. Extrapolating from his study of primates, Dunbar theorized that the Dunbar number for a human being is somewhere in the 100–250 range, which is supported by certain studies of human behavior and social networks.

4. Ecosystems

An ecosystem describes any group of organisms coexisting with the natural world. Most ecosystems show diverse forms of life taking on different approaches to survival, with such pressures leading to varying behavior. Social systems can be seen in the same light as the physical ecosystems and many of the same conclusions can be made.

5. Exaptation

Introduced by the biologist Steven Jay Gould, an exaptation refers to a trait developed for one purpose that is later used for another purpose. This is one way to explain the development of complex biological features like an eyeball; in a more primitive form, it may have been used for something else. Once it was there, and once it developed further, 3D sight became possible.

6. Extinction

The inability to survive can cause an extinction event, whereby an entire species ceases to compete and replicate effectively. Once its numbers have dwindled to a critically low level, an extinction can be unavoidable (and predictable) given the inability to effectively replicate in large enough numbers.

7. Evolution by Natural Selection

Evolution by natural selection was once called “the greatest idea anyone ever had.” In the 19th century, Charles Darwin and Alfred Russel Wallace simultaneously realized that species evolve through random mutation and differential survival rates. If we call human intervention in animal-breeding an example of “artificial selection,” we can call Mother Nature deciding the success or failure of a particular mutation “natural selection.” Those best suited for

survival tend to be preserved. But of course, conditions change.

8. Hierarchical and Other Organizing Instincts

Most complex biological organisms have an innate feel for how they should organize. While not all of them end up in hierarchical structures, many do, especially in the animal kingdom. Human beings like to think they are outside of this, but they feel the hierarchical instinct as strongly as any other organism.

9. Incentives

All creatures respond to incentives to keep themselves alive. This is the basic insight of biology. Constant incentives will tend to cause a biological entity to have constant behavior, to an extent. Humans are included and are particularly great examples of the incentive-driven nature of biology; however, humans are complicated in that their incentives can be hidden or intangible. The rule of life is to repeat what works and has been rewarded.

10. Niches

Most organisms find a niche: a method of competing and behaving for survival. Usually, a species will select a niche for which it is best adapted. The danger arises when multiple species begin competing for the same niche, which can cause an extinction—there can be only so many species doing the same thing before limited resources give out.

11. The Red Queen Effect (Co-evolutionary Arms Race)

The evolution-by-natural-selection model leads to something of an arms race among species competing for limited resources. When one species evolves an advantageous adaptation, a competing species must respond in kind or fail as a species. Standing pat can mean falling behind. This arms race is called the Red Queen Effect for the character in *Alice in Wonderland* who said, “Now, here, you see, it takes all the running you can do, to keep in the same place.”

12. Replication

A fundamental building block of diverse biological life is high-fidelity replication. The fundamental unit of replication seems to be the DNA molecule,

which provides a blueprint for the offspring to be built from physical building blocks. There are a variety of replication methods, but most can be lumped into sexual and asexual.

13. Self-Preservation Instincts

Without a strong self-preservation instinct in an organism's DNA, it would tend to disappear over time, thus eliminating that DNA. While cooperation is another important model, the self-preservation instinct is strong in all organisms and can cause violent, erratic, and/or destructive behavior for those around them.

14. Simple Physiological Reward-Seeking

All organisms feel pleasure and pain from simple chemical processes in their bodies which respond predictably to the outside world. Reward-seeking is an effective survival-promoting technique on average. However, those same pleasure receptors can be co-opted to cause destructive behavior, as with drug abuse.

15. Tendency to Minimize Energy Output (Mental & Physical)

In a physical world governed by thermodynamics and competition for limited energy and resources, any biological organism that was wasteful with energy would be at a severe disadvantage for survival. Thus, we see in most instances that behavior is governed by a tendency to minimize energy usage when at all possible.

General Thinking Concepts

1. Circle of Competence

An idea introduced by Warren Buffett and Charles Munger in relation to investing: each individual tends to have an area or areas in which they really, truly know their stuff, their area of special competence. Areas not inside that circle are problematic because not only are we ignorant about them, but we may also be ignorant of our own ignorance. Thus, when we're making decisions, it becomes important to define and attend to our special circle, so as to act

accordingly.

2. Default Status

The USCB ecologist/economist Garrett Hardin once said that “*The scientific mind is not closed: it is merely well-guarded by a conscientious and seldom sleeping gatekeeper.*” The way it does that is with the concept of the *default status*: The “resting position” of common sense, whereby the burden of proof falls on assertions to the contrary. Given the problem of opportunity costs and limited time and energy, a default status is nearly always necessary to avoid wasting time. Examples include the laws of thermodynamics, the law of natural selection, and the incentive-caused bias.

3. Falsification/Confirmation Bias

What a man wishes, he also believes. Similarly, what we believe is what we choose to see. This is commonly referred to as the confirmation bias. It is a deeply ingrained mental habit, both energy-conserving and comfortable, to look for confirmations of long-held wisdom rather than violations. Yet the scientific process—including hypothesis generation, blind testing when needed, and objective statistical rigor—is designed to root out precisely the opposite, which is why it works so well when followed.

The modern scientific enterprise operates under the principle of falsification: A method is termed scientific if it can be stated in such a way that a certain defined result would cause it to be proved false. Pseudo-knowledge and pseudo-science operate and propagate by being unfalsifiable—as with astrology, we are unable to prove them either correct or incorrect because the conditions under which they would be shown false are never stated.

4. Hanlon’s Razor

Harder to trace in its origin, Hanlon’s Razor states that we should not attribute to malice that which is more easily explained by stupidity. In a complex world, this principle helps us avoid extreme paranoia and ideology, often very hard to escape from, by not generally assuming that bad results are the fault of a bad actor, although they can be. More likely, a mistake has been made.

5. Inversion

Otherwise known as thinking through a situation in reverse or thinking “backwards,” inversion is a problem-solving technique. Often by considering what we want to avoid rather than what we want to get, we come up with better solutions. Inversion works in nearly every area of life. As the saying goes, “Just tell me where I’m going to die so I can never go there.”

6. The Map Is Not the Territory

The map of reality is not reality itself. If any map were to represent its actual territory with perfect fidelity, it would be the size of the territory itself. Thus, no need for a map! This model tells us that there will always be an imperfect relationship between reality and the models we use to represent and understand it. This imperfection is a necessity in order to simplify. It is all we can do to accept this and act accordingly.

7. Principle of Parsimony (Occam’s Razor)

Named after the friar William of Ockham, Occam’s Razor is a heuristic by which we select among competing explanations. Ockham stated that we should prefer the simplest explanation with the least moving parts: it is easier to falsify (see: Falsification), easier to understand, and more likely, on average, to be correct. This principle is not an iron law but a tendency and a mindset: If all else is equal, it’s more likely that the simple solution suffices. Of course, we also keep in mind Einstein’s famous idea (even if apocryphal) that “an idea should be made as simple as possible, but no simpler.”

8. Probabilistic Thinking (See also: Numeracy/Bayesian Updating)

The unknowable human world is dominated by probabilistic outcomes, as distinguished from deterministic ones. Although we cannot predict the future with great certainty, we are wise to ascribe odds to more and less probable events. We do this every day unconsciously as we cross the street and ascribe low, yet not negligible, odds of being hit by a car.

9. Second-Order Thinking

In all human systems and most complex systems, the second layer of effects often dwarfs the first layer, yet often goes unconsidered. In other words, we must

consider that effects have effects. Second-order thinking is best illustrated by the idea of standing on your tiptoes at a parade: Once one person does it, everyone will do it in order to see, thus negating the first tiptoer. Now, however, the whole parade audience suffers on their toes rather than standing firmly on their whole feet.

10. Thought Experiments

A technique popularized by Einstein, the thought experiment is a way to logically carry out a test in one's own head that would be very difficult or impossible to perform in real life. With the thought experiment as a tool, we can solve problems with intuition and logic that could not be demonstrated physically, as with Einstein imagining himself traveling on a beam of light in order to solve the problem of relativity.

Human Nature & Judgment

1. Availability Heuristic

One of the most useful findings of modern psychology is what Daniel Kahneman calls the Availability Bias or Heuristic: We tend to most easily recall what is salient, important, frequent, and recent. The brain has its own energy-saving and inertial tendencies that we have little control over—the availability heuristic is likely one of them. Having a truly comprehensive memory would be debilitating. Some sub-examples of the availability heuristic include the Anchoring and Sunk Cost Tendencies.

2. Bias from Incentives

Highly responsive to incentives, humans have perhaps the most varied and hardest to understand set of incentives in the animal kingdom. This causes us to distort our thinking when it is in our own interest to do so. A wonderful example is a salesman truly believing that his product will improve the lives of its users. It's not merely convenient that he sells the product; the fact of his selling the product causes a very real bias in his own thinking.

3. Commitment & Consistency Bias

As psychologists have frequently and famously demonstrated, humans are subject to a bias toward keeping their prior commitments and staying consistent with our prior selves when possible. This trait is necessary for social cohesion: people who often change their conclusions and habits are often distrusted. Yet our bias toward staying consistent can become, as one wag put it, a “hobgoblin of foolish minds”—when it is combined with the first-conclusion bias, we end up landing on poor answers and standing pat in the face of great evidence.

4. Curiosity Instinct

We like to call other species curious, but we are the most curious of all, an instinct which led us out of the savanna and led us to learn a great deal about the world around us, using that information to create the world in our collective minds. The curiosity instinct leads to unique human behavior and forms of organization like the scientific enterprise. Even before there were direct incentives to innovate, humans innovated out of curiosity.

5. Denial

Anyone who has been alive long enough realizes that, as the saying goes, “denial is not just a river in Africa.” This is powerfully demonstrated in situations like war or drug abuse, where denial has powerful destructive effects but allows for behavioral inertia. Denying reality can be a coping mechanism, a survival mechanism, or a purposeful tactic.

6. First-Conclusion Bias

As Charlie Munger famously pointed out, the mind works a bit like a sperm and egg: the first idea gets in and then the mind shuts. Like many other tendencies, this is probably an energy-saving device. Our tendency to settle on first conclusions leads us to accept many erroneous results and cease asking questions; it can be countered with some simple and useful mental routines.

7. Hindsight Bias

Once we know the outcome, it’s nearly impossible to turn back the clock mentally. Our narrative instinct leads us to reason that we knew it all along (whatever “it” is), when in fact we are often simply reasoning post-hoc with

information not available to us before the event. The hindsight bias explains why it's wise to keep a journal of important decisions for an unaltered record and to re-examine our beliefs when we convince ourselves that we knew it all along.

8. Influence of Authority

The equally famous Stanford Prison Experiment and Milgram Experiments demonstrated what humans had learned practically many years before: the human bias toward being influenced by authority. In a dominance hierarchy such as ours, we tend to look to the leader for guidance on behavior, especially in situations of stress or uncertainty. Thus, authority figures have a responsibility to act well, whether they like it or not.

9. Influence of Stress (Including Breaking Points)

Stress causes both mental and physiological responses and tends to amplify the other biases. Almost all human mental biases become worse in the face of stress as the body goes into a fight-or-flight response, relying purely on instinct without the emergency brake of Daniel Kahneman's "System 2" type of reasoning. Stress causes hasty decisions, immediacy, and a fallback to habit, thus giving rise to the elite soldiers' motto: "In the thick of battle, you will not rise to the level of your expectations, but fall to the level of your training."

10. Language Instinct

The psychologist Steven Pinker calls our DNA-level instinct to learn grammatically constructed language the Language Instinct. The idea that grammatical language is not a simple cultural artifact was first popularized by the linguist Noam Chomsky. As we saw with the narrative instinct, we use these instincts to create shared stories, as well as to gossip, solve problems, and fight, among other things. Grammatically ordered language theoretically carries infinite varying meaning.

11. Narrative Instinct

Human beings have been appropriately called "the storytelling animal" because of our instinct to construct and seek meaning in narrative. It's likely that long before we developed the ability to write or to create objects, we were telling stories and thinking in stories. Nearly all social organizations, from religious

institutions to corporations to nation-states, run on constructions of the narrative instinct.

12. Pavlovian Mere Association

Ivan Pavlov very effectively demonstrated that animals can respond not just to direct incentives but also to associated objects; remember the famous dogs salivating at the ring of a bell. Human beings are much the same and can feel positive and negative emotion toward intangible objects, with the emotion coming from past associations rather than direct effects.

13. Relative Satisfaction/Misery Tendencies

The envy tendency is probably the most obvious manifestation of the relative satisfaction tendency, but nearly all studies of human happiness show that it is related to the state of the person relative to either their past or their peers, not absolute. These relative tendencies cause us great misery or happiness in a very wide variety of objectively different situations and make us poor predictors of our own behavior and feelings.

14. Representativeness Heuristic

The three major psychological findings that fall under Representativeness, also defined by Kahneman and his partner Tversky, are:

a. Failure to Account for Base Rates

An unconscious failure to look at past odds in determining current or future behavior.

b. Tendency to Stereotype

The tendency to broadly generalize and categorize rather than look for specific nuance. Like availability, this is generally a necessary trait for energy-saving in the brain.

c. Failure to See False Conjunctions

The tendency to broadly generalize and categorize rather than look for specific nuance. Like availability, this is generally a necessary trait for energy-saving in the brain. Most famously demonstrated by the Linda Test, the same two psychologists showed that students choose more vividly described individuals as more likely to fit into a predefined category than individuals with broader, more inclusive, but less vivid descriptions, even if

the vivid example was a mere subset of the more inclusive set. These specific examples are seen as more representative of the category than those with the broader but vaguer descriptions, in violation of logic and probability.

15. Sensitivity to Fairness

Justice runs deep in our veins. In another illustration of our relative sense of well-being, we are careful arbiters of what is fair. Violations of fairness can be considered grounds for reciprocal action, or at least distrust. Yet fairness itself seems to be a moving target. What is seen as fair and just in one time and place may not be in another. Consider that slavery has been seen as perfectly natural and perfectly unnatural in alternating phases of human existence.

16. Social Proof (Safety in Numbers)

Human beings are one of many social species, along with bees, ants, and chimps, among many more. We have a DNA-level instinct to seek safety in numbers and will look for social guidance of our behavior. This instinct creates a cohesive sense of cooperation and culture which would not otherwise be possible, but also leads us to do foolish things if our group is doing them as well.

17. Survivorship Bias

A major problem with historiography—our interpretation of the past—is that history is famously written by the victors. We do not see what Nassim Taleb calls the “silent grave” – the lottery ticket holders who did not win. Thus, we over-attribute success to things done by the successful agent rather than to randomness or luck, and we often learn false lessons by exclusively studying victors without seeing all of the accompanying losers who acted in the same way but were not lucky enough to succeed.

18. Tendency to Distort Due to Liking/Loving or Disliking/Hating

Based on past association, stereotyping, ideology, genetic influence, or direct experience, humans have a tendency to distort their thinking in favor of people or things that they like and against people or things they dislike. This tendency leads to overrating the things we like and underrating or broadly categorizing things we dislike, often missing crucial nuances in the process.

19. Tendency to Feel Envy & Jealousy

Humans have a tendency to feel envious of those receiving more than they are, and a desire “get what is theirs” in due course. The tendency toward envy is strong enough to drive otherwise irrational behavior, but is as old as humanity itself. Any system ignorant of envy effects will tend to self-immolate over time.

20. Trust

Fundamentally, the modern world operates on trust. Familial trust is generally a given (otherwise we’d have a hell of a time surviving), but we also choose to trust chefs, clerks, drivers, factory workers, executives, and many others. A trusting system is one that tends to work most efficiently; the rewards of trust are extremely high.

21. Tendency to Overestimate Consistency of Behavior (Fundamental Attribution Error)

We tend to over-ascribe the behavior of others to their innate traits rather than to situational factors, leading us to overestimate how consistent that behavior will be in the future. In such a situation, predicting behavior seems not very difficult. Of course, in practice this assumption is consistently demonstrated to be wrong, and we are consequently surprised when others do not act in accordance with the “innate” traits we’ve endowed them with.

22. Tendency to Overgeneralize from Small Samples

It’s important for human beings to generalize; we need not see every instance to understand the general rule, and this works to our advantage. With generalizing, however, comes a subset of errors when we forget about the Law of Large Numbers and act as if it does not exist. We take a small number of instances and create a general category, even if we have no statistically sound basis for the conclusion.

23. Tendency to Want to Do Something (Fight/Flight, Intervention, Demonstration of Value, etc.)

We might term this Boredom Syndrome: Most humans have the tendency to

need to act, even when their actions are not needed. We also tend to offer solutions even when we do not have enough knowledge to solve the problem.

Microeconomics & Strategy

1. Arbitrage

Given two markets selling an identical good, an arbitrage exists if the good can profitably be bought in one market and sold at a profit in the other. This model is simple on its face, but can present itself in disguised forms: The only gas station in a 50-mile radius is also an arbitrage as it can buy gasoline and sell it at the desired profit (temporarily) without interference. Nearly all arbitrage situations eventually disappear as they are discovered and exploited.

2. Bottlenecks

A bottleneck describes the place at which a flow (of a tangible or intangible) is stopped, thus holding it back from continuous movement. As with a clogged artery or a blocked drain, a bottleneck in production of any good or service can be small but have a disproportionate impact if it is in the critical path.

3. Bribery

Often ignored in mainstream economics, the concept of bribery is central to human systems: Given the chance, it is often easier to pay a certain agent to look the other way than to follow the rules. The enforcer of the rules is then neutralized. This principle/agent problem can be seen as a form of arbitrage.

4. Creative Destruction

Coined by economist Joseph Schumpeter, the term “creative destruction” describes the capitalistic process at work in a functioning free-market system. Motivated by personal incentives (including but not limited to financial profit), entrepreneurs will push to best one another in a never-ending game of creative one-upmanship, in the process destroying old ideas and replacing them with newer technology. Beware getting left behind.

5. Comparative Advantage

The Scottish economist David Ricardo had an unusual and non-intuitive insight: Two individuals, firms, or countries could benefit from trading with one another even if one of them was better at everything. Comparative advantage is best seen as an applied opportunity cost: If it has the opportunity to trade, an entity gives up free gains in productivity by not focusing on what it does best.

6. Double-Entry Bookkeeping

One of the marvels of modern capitalism has been the bookkeeping system introduced in Genoa in the 14th century. The double-entry system requires that every entry, such as income, also be entered into another corresponding account. Correct double-entry bookkeeping acts as a check on potential accounting errors and allows for accurate records and thus, more accurate behavior by the owner of a firm.

7. Opportunity Costs

Doing one thing means not being able to do another. We live in a world of trade-offs, and the concept of opportunity cost rules all. Most aptly summarized as “there is no such thing as a free lunch.”

8. Prisoner’s Dilemma

The Prisoner’s Dilemma is a famous application of game theory in which two prisoners are both better off cooperating with each other, but if one of them cheats, the other is better off cheating. Thus the dilemma. This model shows up in economic life, in war, and in many other areas of practical human life. Though the prisoner’s dilemma theoretically leads to a poor result, in the real world, cooperation is nearly always possible and must be explored.

9. Scarcity

Game theory describes situations of conflict, limited resources, and competition. Given a certain situation and a limited amount of resources and time, what decisions are competitors likely to make, and which should they make? One important note is that traditional game theory may describe humans as more rational than they really are. Game theory is theory, after all.

10. Seizing the Middle

In chess, the winning strategy is usually to seize control of the middle of the board, so as to maximize the potential moves that can be made and control the movement of the maximal number of pieces. The same strategy works profitably in business, as can be demonstrated by John D. Rockefeller's control of the refinery business in the early days of the oil trade and Microsoft's control of the operating system in the early days of the software trade.

11. Specialization (Pin Factory)

Another Scottish economist, Adam Smith, highlighted the advantages gained in a free-market system by specialization. Rather than having a group of workers each producing an entire item from start to finish, Smith explained that it's usually far more productive to have each of them specialize in one aspect of production. He also cautioned, however, that each worker might not enjoy such a life; this is a trade-off of the specialization model.

12. Supply and Demand

The basic equation of biological and economic life is one of limited supply of necessary goods and competition for those goods. Just as biological entities compete for limited usable energy, so too do economic entities compete for limited customer wealth and limited demand for their products. The point at which supply and demand for a given good are equal is called an equilibrium; however, in practical life, equilibrium points tend to be dynamic and changing, never static.

13. Trademarks, Patents, and Copyrights

These three concepts, along with other related ones, protect the creative work produced by enterprising individuals, thus creating additional incentives for creativity and promoting the creative-destruction model of capitalism. Without these protections, information and creative workers have no defense against their work being freely distributed.

14. Utility (Marginal, Diminishing, Increasing)

The usefulness of additional units of any good tends to vary with scale. Marginal utility allows us to understand the value of one additional unit, and in most practical areas of life, that utility diminishes at some point. On the other hand, in some cases, additional units are subject to a “critical point” where the utility function jumps discretely up or down. As an example, giving water to a thirsty man has diminishing marginal utility with each additional unit, and can eventually kill him with enough units.

Military & War

1. Asymmetric Warfare

The asymmetry model leads to an application in warfare whereby one side seemingly “plays by different rules” than the other side due to circumstance. Generally, this model is applied by an insurgency with limited resources. Unable to out-muscle their opponents, asymmetric fighters use other tactics, as with terrorism, creating fear that’s disproportionate to their actual destructive ability.

2. Counterinsurgency

Though asymmetric insurgent warfare can be extremely effective, over time competitors have also developed counterinsurgency strategies. Recently and famously, General David Petraeus of the United States led the development of counterinsurgency plans that involved no additional force but substantial additional gains. Tit-for-tat warfare or competition will often lead to a feedback loop that demands insurgency and counterinsurgency.

3. Mutually Assured Destruction

Somewhat paradoxically, the stronger two opponents become, the less likely they may be to destroy one another. This process of mutually assured destruction occurs not just in warfare, as with the development of global nuclear warheads, but also in business, as with the avoidance of destructive price wars between competitors. However, in a fat-tailed world, it is also possible that mutually assured destruction scenarios simply make destruction more severe in the event of a mistake (pushing destruction into the “tails” of the distribution).

4. Seeing the Front

One of the most valuable military tactics is the habit of “personally seeing the front” before making decisions—not always relying on advisors, maps, and reports, all of which can be either faulty or biased. The Map/Territory model illustrates the problem with not seeing the front, as does the incentive model. Leaders of any organization can generally benefit from seeing the front, as not only does it provide firsthand information, but it also tends to improve the quality of secondhand information.

5. Two-Front War

The Second World War was a good example of a two-front war. Once Russia and Germany became enemies, Germany was forced to split its troops and send them to separate fronts, weakening their impact on either front. In practical life, opening a two-front war can often be a useful tactic, as can solving a two-front war or avoiding one, as in the example of an organization tamping down internal discord to focus on its competitors.

Numeracy

1. Algebraic Equivalence

The introduction of algebra allowed us to demonstrate mathematically and abstractly that two seemingly different things could be the same. By manipulating symbols, we can demonstrate equivalence or inequivalence, the use of which led humanity to untold engineering and technical abilities. Knowing at least the basics of algebra can allow us to understand a variety of important results.

2. Bayesian Updating

The Bayesian method is a method of thought (named for Thomas Bayes) whereby one takes into account all prior relevant probabilities and then incrementally updates them as newer information arrives. This method is especially productive given the fundamentally non-deterministic world we experience: We must use prior odds and new information in combination to

arrive at our best decisions. This is not necessarily our intuitive decision-making engine.

3. Bell Curve/Normal Distribution

The normal distribution is a statistical process that leads to the well-known graphical representation of a bell curve, with a meaningful central “average” and increasingly rare standard deviations from that average when correctly sampled. (The so-called “central limit” theorem.) Well-known examples include human height and weight, but it’s just as important to note that many common processes, especially in non-tangible systems like social systems, do not follow the normal distribution.

4. Churn

Insurance companies and subscription services are well aware of the concept of churn— every year, a certain number of customers are lost and must be replaced. Standing still is the equivalent of losing, as seen in the model called the “Red Queen Effect.” Churn is present in many business and human systems: A constant figure is periodically lost and must be replaced before any new figures are added over the top.

5. Compounding

It’s been said that Einstein called compounding a wonder of the world. He probably didn’t, but it is a wonder. Compounding is the process by which we add interest to a fixed sum, which then earns interest on the previous sum *and* the newly added interest, and then earns interest on that amount, and so on *ad infinitum*. It is an *exponential* effect, rather than a linear, or additive, effect. Money is not the only thing that compounds; ideas and relationships do as well. In tangible realms, compounding is always subject to physical limits and diminishing returns; intangibles can compound more freely. Compounding also leads to the time value of money, which underlies all of modern finance.

6. Fat-Tailed Processes (Extremistan)

A process can often look like a normal distribution but have a large “tail”— meaning that seemingly outlier events are far more likely than they are in an

actual normal distribution. A strategy or process may be far more risky than a normal distribution is capable of describing if the fat tail is on the negative side, or far more profitable if the fat tail is on the positive side. Much of the human social world is said to be fat-tailed rather than normally distributed.

7. Law of Large Numbers

One of the fundamental underlying assumptions of probability is that as more instances of an event occur, the actual results will converge on the expected ones. For example, if I know that the average man is 5 feet 10 inches tall, I am far more likely to get an average of 5'10" by selecting 500 men at random than 5 men at random. The opposite of this model is the law of small numbers, which states that small samples can and should be looked at with great skepticism.

8. Multiplying by Zero

Any reasonably educated person knows that any number multiplied by zero, no matter how large the number, is still zero. This is true in human systems as well as mathematical ones. In some systems, a failure in one area can negate great effort in all other areas. As simple multiplication would show, fixing the "zero" often has a much greater effect than does trying to enlarge the other areas.

9. Order of Magnitude

In many, perhaps most, systems, quantitative description down to a precise figure is either impossible or useless (or both). For example, estimating the distance between our galaxy and the next one over is a matter of knowing not the precise number of miles, but how many zeroes are after the 1? Is the distance about 1 million miles or about 1 billion? This thought habit can help us escape useless precision.

10. Permutations and Combinations

The mathematics of permutations and combinations leads us to understand the practical probabilities of the world around us, how things can be ordered, and how we should think about things.

11. Power Laws

One of the most common processes that does not fit the normal distribution is that of a power law, whereby one quantity varies with another's exponent rather than linearly. For example, the Richter scale describes the power of earthquakes on a power-law distribution scale: an 8 is 10x more destructive than a 7, and a 9 is 10x more destructive than an 8. The central limit theorem does not apply and there is thus no "average" earthquake. This is true of all power-law distributions.

12. Randomness

Though the human brain has trouble comprehending it, much of the world is composed of random, non-sequential, non-ordered events. We are "fooled" by random effects when we attribute causality to things that are actually outside of our control. If we don't course-correct for this fooled-by-randomness effect—our faulty sense of pattern-seeking—we will tend to see things as being more predictable than they are and act accordingly.

13. Regression to the Mean

In a normally distributed system, long deviations from the average will tend to return to that average with an increasing number of observations: the so-called Law of Large Numbers. We are often fooled by regression to the mean, as with a sick patient improving spontaneously around the same time they begin taking an herbal remedy, or a poorly performing sports team going on a winning streak. We must be careful not to confuse statistically likely events with causal ones.

14. Stochastic Processes (Poisson, Markov, Random Walk)

A stochastic process is a random statistical process and encompasses a wide variety of processes in which the movement of an individual variable can be impossible to predict but can be thought through probabilistically. The wide variety of stochastic methods helps us describe systems of variables through probabilities without necessarily being able to determine the position of any individual variable over time. For example, it's not possible to predict stock prices on a day-to-day basis, but we can describe the probability of various distributions of their movements over time. Obviously, it is much more likely that the stock market (a stochastic process) will be up or down 1% in a day than up or down 10%, even though we can't predict what tomorrow will bring.

Physical World

1. Activation Energy

A fire is not much more than a combination of carbon and oxygen, but the forests and coal mines of the world are not combusting at will because such a chemical reaction requires the input of a critical level of “activation energy” in order to get a reaction started. Two combustible elements alone are not enough.

2. Alloying

When we combine various elements, we create new substances. This is no great surprise, but what can be surprising in the alloying process is that $2+2$ can equal not 4 but 6—the alloy can be far stronger than the simple addition of the underlying elements would lead us to believe. This process leads us to engineering great physical objects, but we understand many intangibles in the same way; a combination of the right elements in social systems or even individuals can create a $2+2=6$ effect similar to alloying.

3. Catalysts

A catalyst either kick-starts or maintains a chemical reaction, but isn't itself a reactant. The reaction may slow or stop without the addition of catalysts. Social systems, of course, take on many similar traits, and we can view catalysts in a similar light.

4. Inertia

An object in motion with a certain vector wants to continue moving in that direction unless acted upon. This is a fundamental physical principle of motion; however, individuals, systems, and organizations display the same effect. It allows them to minimize the use of energy, but can cause them to be destroyed or eroded.

5. Laws of Thermodynamics

The laws of thermodynamics describe energy in a closed system. The laws cannot be escaped and underlie the physical world. They describe a world in

which useful energy is constantly being lost, and energy cannot be created or destroyed. Applying their lessons to the social world can be a profitable enterprise.

6. Leverage

Most of the engineering marvels of the world have been accomplished with applied leverage. As famously stated by Archimedes, “Give me a lever long enough and I shall move the world.” With a small amount of input force, we can make a great output force through leverage. Understanding where we can apply this model to the human world can be a source of great success.

7. Reciprocity

If I push on a wall, physics tells me that the wall pushes back with equivalent force. In a biological system, if one individual acts on another, the action will tend to be reciprocated in kind. And of course, human beings act with intense reciprocity demonstrated as well.

8. Relativity

Relativity has been used in several contexts in the world of physics, but the important aspect to study is the idea that an observer cannot truly understand a system of which he himself is a part. For example, a man inside an airplane does not feel like he is experiencing movement, but an outside observer can see that movement is occurring. This form of relativity tends to affect social systems in a similar way.

9. Velocity

Velocity is not equivalent to speed; the two are sometimes confused. Velocity is speed plus vector: how fast something gets somewhere. An object that moves two steps forward and then two steps back has moved at a certain speed but shows no velocity. The addition of the vector, that critical distinction, is what we should consider in practical life.

Systems

1. Algorithms

While hard to precisely define, an algorithm is generally an automated set of rules or a “blueprint” leading a series of steps or actions resulting in a desired outcome, and often stated in the form of a series of “If → Then” statements. Algorithms are best known for their use in modern computing, but are a feature of biological life as well. For example, human DNA contains an algorithm for building a human being.

2. Backup Systems/Redundancy

A critical model of the engineering profession is that of backup systems. A good engineer never assumes the perfect reliability of the components of the system. He or she builds in redundancy to protect the integrity of the total system. Without the application of this robustness principle, tangible and intangible systems tend to fail over time.

3. Black Swan

Also popularized by Nassim Taleb, a Black Swan is a rare and highly consequential event that is invisible to a given observer ahead of time. It is a result of applied epistemology: If you have seen only white swans, you cannot categorically state that there are no black swans, but the inverse is not true: seeing one black swan is enough for you to state that there *are* black swans. Black Swan events are necessarily unpredictable to the observer (as Taleb likes to say, Thanksgiving is a Black Swan for the turkey, not the butcher) and thus must be dealt with by addressing the fragility-robustness-antifragility spectrum rather than through better methods of prediction.

4. Chaos Dynamics (Sensitivity to Initial Conditions)

In a world such as ours, governed by chaos dynamics, small changes (perturbations) in initial conditions have massive downstream effects as near-infinite feedback loops occur; this phenomenon is also called the butterfly effect. This means that some aspects of physical systems (like the weather more than a few days from now) as well as social systems (the behavior of a group of human beings over a long period) are fundamentally unpredictable.

5. Complex Adaptive Systems

A complex adaptive system, as distinguished from a complex system in general, is one that can understand itself and change based on that understanding. Complex adaptive systems are social systems. The difference is best illustrated by thinking about weather prediction contrasted to stock market prediction. The weather will not change based on an important forecaster's opinion, but the stock market might. Complex adaptive systems are thus fundamentally not predictable.

6. Criticality

A system becomes critical when it is about to jump discretely from one phase to another. The marginal utility of the last unit before the phase change is wildly higher than any unit before it. A frequently cited example is water turning from a liquid to a vapor when heated to a specific temperature. "Critical mass" refers to the mass needing to have the critical event occur, most commonly in a nuclear system.

7. Emergence

Higher-level behavior tends to emerge from the interaction of lower-order components. The result is frequently not linear—not a matter of simple addition—but rather non-linear, or exponential. An important resulting property of emergent behavior is that it cannot be predicted from simply studying the component parts.

8. Feedback Loops (and Homeostasis)

All complex systems are subject to positive and negative feedback loops whereby A causes B, which in turn influences A (and C), and so on—with higher-order effects frequently resulting from continual movement of the loop. In a homeostatic system, a change in A is often brought back into line by an opposite change in B to maintain the balance of the system, as with the temperature of the human body or the behavior of an organizational culture. Automatic feedback loops maintain a "static" environment unless and until an outside force changes the loop. A "runaway feedback loop" describes a situation in which the output of a reaction becomes its own catalyst (auto-catalysis).

9. Fragility – Robustness – Antifragility

Popularized by Nassim Taleb, the sliding scale of fragility, robustness, and antifragility refers to the responsiveness of a system to incremental negative variability. A fragile system or object is one in which additional negative variability has a disproportionately negative impact, as with a coffee cup shattering from a 6-foot fall, but receiving no damage at all (rather than 1/6th of the damage) from a 1-foot fall. A robust system or object tends to be neutral to the additional negativity variability, and of course, an antifragile system benefits: If there were a cup that got stronger when dropped from 6 feet than when dropped from 1 foot, it would be termed antifragile.

10. Gresham's Law

Gresham's Law, named for the financier Thomas Gresham, states that in a system of circulating currency, forged currency will tend to drive out real currency, as real currency is hoarded and forged currency is spent. We see a similar result in human systems, as with bad behavior driving out good behavior in a crumbling moral system, or bad practices driving out good practices in a crumbling economic system. Generally, regulation and oversight are required to prevent results that follow Gresham's Law.

11. Irreducibility

We find that in most systems there are irreducible quantitative properties, such as complexity, minimums, time, and length. Below the irreducible level, the desired result simply does not occur. One cannot get several women pregnant to reduce the amount of time needed to have one child, and one cannot reduce a successfully built automobile to a single part. These results are, to a defined point, irreducible.

12. Law of Diminishing Returns

Related to scale, most important real-world results are subject to an eventual decrease of incremental value. A good example would be a poor family: Give them enough money to thrive, and they are no longer poor. But after a certain point, additional money will not improve their lot; there is a clear diminishing return of additional dollars at some roughly quantifiable point. Often, the law of diminishing returns veers into negative territory – i.e., receiving too much money could destroy the poor family.

13. The Lindy Effect

The Lindy Effect refers to the life expectancy of a non-perishable object or idea being related to its current lifespan. If an idea or object has lasted for X number of years, it would be expected (on average) to last another X years. Although a human being who is 90 and lives to 95 does not add 5 years to his or her life expectancy, non-perishables lengthen their life expectancy as they continually survive. A classic text is a prime example: if humanity has been reading Shakespeare's plays for 500 years, it will be expected to read them for another 500.

14. Margin of Safety

Similarly, engineers have also developed the habit of adding a margin for error into all calculations. In an unknown world, driving a 9,500-pound bus over a bridge built to hold precisely 9,600 pounds is rarely seen as intelligent. Thus, on the whole, few modern bridges ever fail. In practical life outside of physical engineering, we can often profitably give ourselves margins as robust as the bridge system.

15. Network Effects

A network tends to become more valuable as nodes are added to the network: this is known as the network effect. An easy example is contrasting the development of the electricity system and the telephone system. If only one house has electricity, its inhabitants have gained immense value, but if only one house has a telephone, its inhabitants have gained nothing of use. Only with additional telephones does the phone network gain value. This network effect is widespread in the modern world and creates immense value for organizations and customers alike.

16. Pareto Principle

Named for Italian polymath Vilfredo Pareto, who noticed that 80 percent of Italy's land was owned by about 20 percent of its population, the Pareto Principle states that a small amount of some phenomenon causes a disproportionately large effect. The Pareto Principle is an example of a power-law type of statistical distribution—as distinguished from a traditional bell curve

—and is demonstrated in various phenomena ranging from wealth to city populations to important human habits.

17. Preferential Attachment (Cumulative Advantage)

A preferential attachment situation occurs when the current leader is given more of the reward than the laggards, thereby tending to preserve or enhance the status of the leader. A strong network effect is a good example of preferential attachment; a market with 10x more buyers and sellers than the next largest market will tend to have a preferential attachment dynamic.

18. Renormalization Group

The renormalization group technique allows us to think about physical and social systems at different scales. An idea from physics, and a complicated one at that, the application of a renormalization group to social systems allows us to understand why a small number of stubborn individuals can have a disproportionate impact if those around them follow suit on increasingly large scales.

19. Scale

One of the most important principles of systems is that they are sensitive to scale. Properties (or behaviors) tend to change when you scale them up or down. In studying complex systems, we must always be roughly quantifying—in orders of magnitude, at least—the scale at which we are observing, analyzing, or predicting the system.

20. Spring-loading

A system is spring-loaded if it is coiled in a certain direction, positive or negative. Positively spring-loading systems and relationships is important in a fundamentally unpredictable world to help protect us against negative events. The reverse can be very destructive.

21. Tragedy of the Commons

A concept introduced by the economist and ecologist Garrett Hardin, the Tragedy of the Commons states that in a system where a common resource is

shared, with no individual responsible for the wellbeing of the resource, it will tend to be depleted over time. The Tragedy is reducible to incentives: Unless people collaborate, each individual derives more personal benefit than the cost that he or she incurs, and therefore depletes the resource for fear of missing out.

22. *Via Negativa* – Omission/Removal/Avoidance of Harm

In many systems, improvement is at best, or at times only, a result of removing bad elements rather than of adding good elements. This is a credo built into the modern medical profession: *First, do no harm*. Similarly, if one has a group of children behaving badly, removal of the instigator is often much more effective than any form of punishment meted out to the whole group.

Appendix D:

Resources

Over the years, I have read and reviewed many books that have been integral in helping me to improve my decisions. Here's a list of thirty-nine books I recommend you read as you continue your journey toward better decision making:

Decisive: How to Make Better Choices in Life and Work

By Chip & Dan Heath

How to Measure Anything: Finding the Value of Intangibles in Business

By Douglas Hubbard

How to Make Sense of Any Mess: Information Architecture for Everybody

By Abby Covert

Wiser: Getting Beyond Groupthink to Make Groups Smarter

By Cass Sunstein & Reid Hastie

The Surprising Power of Liberating Structures: Simple Rules to Unleash A Culture of Innovation

By Henri Lipmanowicz & Keith McCandless

Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers

By Dave Gray, Sunni Brown & James Macanufo

The Righteous Mind: Why Good People are Divided by Politics and Religion

By Jonathan Haidt

“Yes” or “No”: The Guide to Better Decisions

By Spencer Johnson

The Little Book of Talent
By Daniel Coyle

The Worry Solution: Using Breakthrough Brain Science to Turn Stress and Anxiety Into Confidence and Happiness
By Martin Rossman

Shantaram: A Novel
By Gregory David Roberts

The Art of Living
By Epictetus

The Education of a Value Investor
By Guy Spier

Devil Take the Hindmost: A History of Financial Speculation
By Edward Chancellor

Click: The Art + Science of Getting from Impasse to Insight
By Eve Grodnitzky

The Dictator's Handbook: Why Bad Behavior Is Almost Always Good Politics
By Bruce Bueno de Mesquita

The Back of the Napkin: Solving Problems and Selling Ideas with Pictures
By Dan Roan

Crossing to Safety
By Wallace Stegner

The Paradox of Choice: Why More is Less
By Barry Schwartz

Streetlights and Shadows: Searching for the Keys to Adaptive Decision Making
By Gary Klein

The Social Animal: The Hidden Sources of Love, Character, and Achievement
By David Brooks

The Laws of Simplicity: Design, Technology, Business, Life
By John Maeda

Nudge: Improving Decisions about Health, Wealth and Happiness
By Richard H. Thaler & Cass R. Sunstein

Reminiscences of a Stock Operator
By Edwin Lefèvre & Roger Lowenstein

This Will Make You Smarter: New Scientific Concepts to Improve Your Thinking
By John Brockman

A More Beautiful Question: The Power of Inquiry to Spark Breakthrough Ideas
By Warren Berger

Red Notice: A True Story of High Finance, Murder, and One Man's Fight for Justice
By Bill Browder

The Man Who Mistook His Wife for a Hat: and Other Clinical Tales
By Oliver Sacks

Imprudent King: A New Life of Philip II
By Geoffrey Parker

Seeking Wisdom: From Darwin to Munger
By Peter Bevelin

Mastery
By Robert Greene

Synchronicity: The Inner Path of Leadership
By Joseph Jaworski

The Culture Map: Breaking Through the Invisible Boundaries of Global Business

By Erin Meyer

Ubiquity: Why Catastrophes Happen

By Mark Buchanan

Family Fortunes: How to Build Family Wealth and Hold on to It for 100 Years

By Bill Bonner

Influence: The Psychology of Persuasion

By Robert Cialdini

Antifragile: Things That Gain from Disorder

By Nassim Nicholas Taleb

Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger

By Peter D. Kaufman & Charlie T. Munger

The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science

By Norman Doidge

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About Sam Kyle

Sam Kyle is today's Everyman. A passionate adventurer, he has spent years trying to figure out the anatomy of a good decision in order to understand why some were spectacular and others have completely blown up in his face.

His experiences, from getting kicked out of university to finding purpose at a medical clinic at the base of the Himalayas, are not the content of a usual author bio. He hasn't won any awards, and he doesn't know any famous people. But he is committed to sharing what he's learned, and he put together *The Decision Checklist* based on his desire to help others learn from his mistakes.

If you want to know what decision-making strategies can help you go from being the confused and underachieving family disappointment to being fulfilled and in control of your life, Sam Kyle is your guy.

He regularly writes for Medium, and *The Decision Checklist* is his first book. Find out more at www.samkyle.com.