CHAPTER 11

Navigating Uncertainty

The learned dependency and blind obedience described earlier in the book has been amplified by the increasingly obvious uncertainty that plagues our daily lives. Given our deep discomfort with uncertainty and the promise of expert-led optimal decision making (even in the face of such ambiguity), we are increasingly drawn to experts. Noreena Hertz, the woman who earlier encouraged us to push back against experts and ask questions, described the current predicament of expert dependency in a TED talk:

In a world of data deluge and extreme complexity . . . in an age that is sometimes nowadays frightening or confusing, we feel reassured by the almost parental-like authority of experts who tell us so clearly what it is we can and cannot do. But I believe that this is a big problem, a problem with potentially dangerous consequences for us as a society, as a culture and as individuals. It's not that experts have not massively contributed to our world, they have. The problem lies with us. We've become addicted to experts. We've become addicted to their certainty, their assuredness, their definitiveness, and in the process, we've ceded our responsibility, substituting our intellect and our intelligence for their supposed words of wisdom. We've

surrendered our power, trading off our discomfort with uncertainty for the illusion of certainty that they provide.¹

Rather than fear uncertainty, we should learn to embrace it and develop the skills to navigate through it. And in this regard, it's worth looking to the work of futurologists and scenario planners. Just as Bob Woodward wonders what the bad guys are doing right now, we can and should consider alternative future possibilities for how the world may unfold. Doing so can help us navigate the overwhelming complexity and uncertainty we all face in virtually every segment of our lives. But it's important to note that scenarios are not predictions or extrapolations of trends.

The Futility of Predictions

Morgen Robertson was a former cabin boy in the merchant marine, had tired of sea life, spent a decade as a diamond setter, and eventually turned to writing stories about life at sea. He never made much money and died at the age of fifty-three from an overdose.²

Before he died, Robertson wrote a novel about "the largest craft afloat the greatest of the works of men," a novel he titled *Futility*. The vessel was the embodiment of "every science, profession, and trade known to civilization" and was a modern-day technological marvel.³ The boat was deemed unsinkable, and it attracted famous people from around the world to journey across the Atlantic in unrivaled comfort and style. Nineteen water-tight compartments assured the boat's buoyancy, as she could continue to sail with nine of them flooded. And because the vessel was deemed indestructible, it carried an inadequate number of lifeboats—enough to only handle one-sixth of the passengers aboard. The name of the ship was the *Titan*.

In Robertson's tale, on a voyage through the North Atlantic one April, the ship struck an iceberg and sank. The story goes on to describe the drama associated with a disgraced naval officer who worked as a deckhand on the *Titan*, John Rowland. Rowland ends up rescuing a young

girl but is later accused by the girl's mother (who happens to have been his former lover) of kidnapping her. A true Hollywood-esque drama, for sure! And given that authors often look to historical events for inspiration, you might dismiss Robertson's novel as being in the same vein as James Cameron's blockbuster 1997 movie Titanic.

Don't!

Why's that? Because Futility was written fourteen years before the actual Titanic sank. Aside from the similarities of name and method of demise, consider the facts in the following table:

TABLE 11-1

The Titan versus the Titanic

	Futility (1898)	Titanic (1912)
Vessel name	Titan	Titanic
Ship length	800 ft	882 ft
Ship displacement	45,000 tons	46,000 tons
Ship speed	22.5 knots	25 knots
Popular description	"Unsinkable"	"Unsinkable"
Lifeboats	24	16
Passengers and crew	2,500	2,200
Cause of accident	Iceberg impact	Iceberg impact
Location	North Atlantic	North Atlantic
Precise location	400 nm from Newfoundland	400 nm from Newfoundland
Date	"April"	April 14, 1912
Survivors	13	705
Propellers	3	3

After the sinking of the actual Titanic, Robertson was celebrated by many as a clairvoyant, as possessing extraordinary skills of precognition. He dismissed these claims, suggesting it was his knowledge of maritime matters that gave him the ability to write about ships with detail. Yet the world refused to give up on the possibility that he had in fact seen the future.

It's such an intriguing story that the 1990s American TV series Beyond Belief: Fact or Fiction featured the Titan-Titanic story in an episode, high-lighting during the short segment that "the only difference between fiction and nonfiction is that fiction hasn't happened yet." Host Jonathan Frakes (yes, the one of Star Trek fame) tells the story from the perspective of a struggling author, and ends the story by asking viewers if the coincidence was "another example of art foreshadowing life? The same way Jules Verne wrote of submarines long before their invention? Or DaVinci sketched flying machines centuries before the Wright brothers?" At the end of the episode, he reveals the story was in fact true.⁴

Coincidences happen, for sure. And anyone prognosticating on the future has likely heard the clichés, "even a broken clock is right twice a day" or "every now and then a blind squirrel will find a nut," statements that might suggest mere luck as the reason for Robertson's supposed ability to see the future. In fact, Robertson's title hints at the primary criticism regularly hurled at those thinking about the future—it's an act of futility. And as the common saying goes, "It's dangerous to make predictions, especially about the future."

One need only look to expert predictions to see just how inaccurate predictions can be. Consider *The Great Depression of 1990* by Southern Methodist University economist Ravi Batra (which stayed on the best-seller list for ten months in hardcover and over nineteen months as a paperback). It totally missed the technological developments that made the 1990s among the most productive decades ever.⁵ Numerous other examples exist of similarly mistimed or wrong predictions. Yet despite this mixed (at best) track record of those in the predictions business, we humans seem to have an insatiable appetite to consume their prognostications about the future. Nobel Laureate Ken Arrow captured the desire for predictions quite eloquently in recalling his work for the US Army Air Force. Despite concluding that the weather predictions upon which the superiors relied were entirely useless (i.e., statically random, no better than a guess), he was rebuffed, told that "The Commanding General

is well aware that the forecasts are no good; however, he needs them for planning purposes."6

As comical as that statement sounds, I find it quite useful—and help-ful. The blunt reality is that accuracy cannot and should not be the criteria upon which to evaluate thinking about the future. Usefulness, I propose, is a far better standard. Just as it's impossible to evaluate the quality of a decision process by its outcome, so too is it unproductive to evaluate the quality of a prediction by its accuracy. Good processes sometimes result in bad outcomes, something known colloquially as a bad break. Likewise, bad processes sometimes result in good outcomes, also known as dumb luck. But over time, good processes should result in a higher probability of good outcomes and bad processes should result in a higher probability of bad outcomes.

If we apply this logic to predictions about the future, we quickly learn to appreciate the value they may provide in helping us to think differently. They can help nudge us away from our default position and widen our view of the possibilities ahead.

Think in Futures

Mechanical as it may be, thinking about various scenarios of how the future may unfold may be the most useful way to support decision making in the face of radical uncertainty. Scenarios are stories of possible futures. They may be high or low probabilities associated with each scenario, but the act of articulating scenarios can help us appreciate our assumptions about the future and give us a map of the terrain that we may encounter.

There is a long and storied history behind the use of scenarios as a means to navigate uncertainty. The practice really began with Herman Kahn, who took military scenario planning from the US Air Force and tried to adapt it to the business context. A systems thinker, Kahn founded the Hudson Institute and gained prominence as a strategist at the RAND Corporation thinking about nuclear war. In 1967, he and colleague Andrew Wiener penned *The Year 2000: A Framework for Speculation on the*

Next Thirty-Three Years. In 1976, he and some colleagues wrote a book entitled The Next 200 Years: A Scenario for America and The World.

One of the stories Kahn painted, which at the time might have seemed a bit far-fetched, was that South Korea—one of the poorest countries in the world in the 1970s—would emerge as an economic powerhouse by the turn of the century. Kahn was an optimist, and in 1983 as the United States was emerging from an economic contraction, wrote *The Coming Boom* which suggested Ronald Regan's reform agenda would unlock tremendous economic, political, and social progress.

If Kahn is the father of modern scenario planning, Pierre Wack is the son who took its usefulness to new heights in the business community. Wack and his colleagues in the group planning department at Royal Dutch/Shell understood the price of oil was critical for their business, but because the price had been relatively steady for long periods of time, few worried about it. The planners thought this was a flawed way to think about the future and in the early 1970s began developing stories of possible scenarios that might affect the oil price. One scenario involved the newly formed Organization of Petroleum Exporting Countries (OPEC) flexing its muscles, with huge ramifications for the oil price. And after the Yom Kippur War led to an oil price shock, Shell was more prepared than most because its managers had already thought through how to act in such a world. Peter Schwartz, who also served in the group planning department at Shell, summarized the value of the scenarios used by Shell in The Art of the Long View, "The end result . . . [was] not an accurate picture of tomorrow, but better decisions about the future."7

We can all learn from the success of Shell navigating the 1970s oil shocks. The world is uncertain; we all know that. But we need not be surprised by developments within it. In fact, by hiding from the uncertainty rather than embracing it, we might miss obvious risks and forego tremendous opportunities. After all, we're all capable of imagining scenarios that may or may not transpire. It's a skill that children exercise regularly. Author, educator, and creativity expert Ken Robinson gave one of the most eloquent stories illustrating this natural power of imagina-

tion during his TED talk titled "Do Schools Kill Creativity?" He tells a story of a little girl in a drawing lesson:

She was six, and she was at the back, drawing, and the teacher said this girl hardly ever paid attention, and in this drawing lesson, she did. The teacher was fascinated. She went over to her, and she said, "What are you drawing?" And the girl said, "I'm drawing a picture of God." And the teacher said, "But nobody knows what God looks like." And the girl said, "They will, in a minute "8

This creativity and open-mindedness is natural to the young. Children tend to speak their minds, free and clear of filters. In fact, the Robinson story reminds me of a Thanksgiving celebration years ago. Over the course of the prior year, I had lost a noticeable amount of weight. When we finally all sat down to eat, the topic of conversation somehow drifted to my waistline. "Wow . . . you've lost so much weight. . . . How did you lose the weight? I'd like to lose that much weight!" and so on. In the midst of this casual banter, one of my children (to protect the innocent, I won't say which) decided to interject a bit of commentary during a lull in the conversation: "Haha! Daddy lost a lot of weight. Mommy found it."

Oops! Sure, my wife Kristen had gained a little weight . . . but nothing noteworthy. After the initial giggles, the silence that followed was deafening and both my and Kristen's faces turned bright red. We were both embarrassed. But it kinda serves her right, because years earlier (before I had lost the weight), I had announced I was going to be doing a triathlon . . . and when my family asked, "Which race?" I replied, "A sprint distance race, maybe the Wells Kennebunk triathlon or the Pumpkinman race in New Hampshire." Kristen's reaction: "Pumpkinman? Sounds about right. Definitely not an Ironman."

Hmmm . . . come to think about it, maybe some filters are useful.

But back to the point about natural creativity. This imagination tends to get slowly trained out of us over time . . . but it need not happen. We can and should regularly think about possible futures. Not doing so can be tragic. The 9/11 Commission, chaired by former governor of New Jersey Thomas Keane, concluded in its final report that the terrorist attacks of 9/11 on the United States were a "failure of imagination." (Relatedly, no one has suggested that Pearl Harbor was a failure of imagination, because thirty-six years earlier the Japanese had conducted an almost identical surprise attack on the Russian Pacific Fleet based in Port Arthur.)

Consider the (Seemingly) Irrelevant

There are lots of examples where a broad perspective that connects the seemingly irrelevant yields surprising and powerful insights. In my work as a roving global generalist, I've managed to find a plethora of surprising and powerful connections between ideas and topics that might not naturally be linked. In fact, for two years, I wrote a weekly piece (posted to my LinkedIn account and also on my personal website) in which I connected seemingly irrelevant topics and then discussed the implications of what is meant.

In one piece, I considered how the American obsession with guacamole could be linked with marginal impacts on climate change and organized crime in Mexico. After all, when one looks at the data, you can see that around 80 percent of the Haas avocadoes consumed in the United States come from the Michoacan state in Mexico, home to some of the most intense gang warfare in the country. The connection of economic incentives to deforestation is also clear when you empathize with local landowners as they make decisions about what to plant and why.

In another piece, I explored how the weather may have affected the outcomes of polls and elections in both Colombia and the United Kingdom. In 2016, the people of Colombia rejected a proposed peace agreement that would have ended more than fifty years of fighting. Likewise, the referendum regarding whether Britain should remain in or leave the European Union resulted in a surprising victory for the Leave camp. Could these two outcomes be related? Well it does turn out that the weather may have played a role in both referendums. In Colombia, Hurricane Matthew barreled through many "yes" strongholds on the day of

voting, resulting in low turnouts. Similar dynamics transpired in the United Kingdom, where very heavy rains (a typical month's worth) fell in areas that were overwhelmingly polling in favor of Remain. Could it be that seemingly irrelevant factors like weather could be playing a big role in major policy decisions? Might our focus on surface explanations obscure underlying dynamics?

Or what about the domain of financial bubbles? Might it be possible to glean insights on the nature of likely bubbles by looking at architecture? It turns out that the world's tallest skyscrapers tend to telegraph financial bubbles because they are literal embodiments of hubris, easy money conditions, and speculative tendencies. After all, we've been around long enough that we don't need to have the world's tallest anything. It's not rational! Secondly, because skyscrapers are rarely built without borrowed money, banks and money conditions need to be easy (or the buildings wouldn't be built). And lastly, the world's tallest skyscrapers are usually built by a developer adopting a speculative philosophy of "build it, and the tenants will come."

The skyscraper indicator seems to work. In 1929, three NYC buildings competed for the status of the world's tallest tower-40 Wall Street, the Chrysler Building, and the Empire State Building. The Great Depression followed. In 1973 and 1974, NYC's World Trade Center and Chicago's Sears Towers took the titles, as the economy entered a decade of stagflation and suffered multiple oil price shocks. In 1997, the tallest tower status moved to Malaysia, where the Petronas Tower claimed the title just as the region succumbed to the Asian Financial Crisis. Likewise, Taipei 101 (Taiwan was the home of the hardware/semiconductor side of the tech boom) foretold the story of the internet/technology bubble, and the Burj Dubai (later renamed Burj Khalifa) took the title of the world's tallest freestanding structure in 2007, shortly before the global financial crisis.

So what are we to make of the fact that Saudi Arabia had plans to build a 1-kilometer-high tower, one that would claim the title of world's tallest building? Or that Dubai does not want to be outdone by their Arabian peer and has since proposed the 1.3-kilometer-tall Dubai Creek Tower? These plans may never come to fruition, but the mere announcements are enough to catch my attention! For those wanting to read more specifically about the Skyscraper Indicator and its theoretical logic, I'd encourage you to read *The Skyscraper Curse* by Mark Thornton.

Imagine Alternatives

If not thinking about possible developments is risky, might doing so reveal opportunities? Unadulterated imagination will produce some whacky thoughts, for sure, but some of them may prove to be revolutionary. After finishing school, my job dominated my life and I had very little time to read. With the time I did read, I always felt the pressure to read the latest nonfiction books about topics related to investing, business, or economics. But in the past decade, I've taken to regularly reading fiction to help me imagine different worlds, possible scenarios, and alternative futures. I highly recommend it. And in fact, whereas I once felt guilty about watching movies in the middle of the day, I've done so (without remorse!) a couple of times when I find my thinking in a rut. Stories tend to help us get out of our own heads and to think about scenarios that may not naturally enter our frame of view. For as Jessamyn West once said, "fiction reveals truths that reality obscures." 12

One of the more powerful novels I've read was *One Second After*, published in 2009. The book, written by military historian William Forstchen, explores the possibility of the United States being crippled by an electromagnetic pulse (EMP) attack that knocks out the electrical power infrastructure. In the foreword, former speaker of the house Newt Gingrich describes the book as a 'future history' that might come true." I've even used the book in the class I teach on systems thinking to illustrate the dependency we have on critical infrastructure and how many of our social, cultural, economic, and political systems might break down. The book paints such a visceral image of what life might be like in the event of an EMP attack that I would never have understood or imagined the full impact without reading the detailed scenario as presented in the novel.

Another novel that left me with an indelible image of a possible future was Oryx and Crake, written by Margaret Atwood, acclaimed author of the Handmaid's Tale. It's a story of how large corporations unleash bioengineered innovations that ultimately overcome their creators. The story describes how pigoons, genetically engineered pigs, are used to grow bespoke organs for humans, but they ultimately come to think for themselves and eventually come to hunt humans. What I find fascinating about the story is that Atwood refuses to call her novel science fiction because, as she wrote in 2004, the "label denotes books with things in them we can't yet do or begin to do." In essence, the scary world she describes is not one that needs future technological innovations to transpire, because it's based on currently possible developments. By describing her work as "speculative fiction," Atwood is forcing us to think differently about the trends emanating from today's world of existing technologies.¹⁴ If that's not the essence of getting someone to adopt a different perspective, I'm not sure what is!

I've also enjoyed watching movies to help me envision worlds and perspectives different than my own. Just think about how the opening lines of the movie Armageddon fundamentally force the viewer to think differently. It begins with an image of the earth from afar, and the voiceover begins: "This is the Earth at a time when the dinosaurs roamed a lush and fertile planet . . ." and the scene then shows an asteroid heading toward it. The voice continues, "A piece of rock just six miles wide changed all that."15

After showing the asteroid colliding with Earth, the narration explained: "It hit with a force of 10,000 nuclear weapons . . . a trillion tons of dirt and rock hurled into the atmosphere, creating a suffocating blanket of dust the sun was powerless to penetrate for a thousand years." As the image shows the entire Earth covered from the blast generated by the asteroid impact, the music turns ominous and the voice warns: "It happened before. It will happen again. It's just a question of when."16

If you think this is just Hollywood dreaming up fantastic stories to help us escape the reality of life, consider the fact that the Economist on August 1, 2015, proposed a scenario for consideration entitled "What If an Asteroid Heads for Earth?"¹⁷ Published as part of the magazine's annual set of scenarios called *The World If*, the collection is meant to accompany their heavily read "The World in XXXX" set of predictions. Yet the scenarios have enormous standalone value in forcing readers to think. As you can probably tell, I'm a fan and read them religiously.

Other topics explored in their 2015 edition of *The World If* included the possibility of Russia breaking up, India's monsoon failing, and the building of a canal in Nicaragua that rivals the Panama Canal. The following year's scenarios, published in July 2016, led with a story that many dismissed as highly unlikely: "What if Donald Trump Was President?" The story they wrote, fictionally dated April 2017, reads as eerily predictive and foreshadows much of what actually transpired during the first one hundred days of the Trump administration. Other 2016 scenarios include the collapse of the North Korean regime and a mass hacking of the financial system. And the 2017 *The World If* raised the prospect of an EMP attack on the United States (uh-oh, *One Second After* doesn't seem so fictional anymore) that brings down the entire electricity grid, the emergence of a true fiduciary standard, and drumroll please . . . that Donald Trump's popularity surges, leading to his reelection in 2020. 19

And it's not just reading scenarios that helps jar us from the normal rhythm of our thoughts, it's also seeing them. Hollywood is great at the storytelling business, and stories tend to be more effective at having a lasting impact on thoughts than does text. So let's consider another scenario: the possibility of California disconnecting from the mainland of the United States. Probably sounds as far-fetched as an asteroid hitting the Earth, right? What if I told you there were serious thinkers focused on this exact possibility?

Just watch the movie San Andreas. Yes, the human drama was an emotional hook around which the story is told, but the part that struck me as really jarring was the scene of boats driving through downtown San Francisco. Is this a possibility? How real is it? Aren't we just wasting precious brain-processing power and limited attention on a very remote possibility? Maybe, but maybe not.

Kathryn Schulz is a writer for The New Yorker and author of a book called Being Wrong: Adventures in the Margin of Error. In addition to penning a fabulous book about handling error (a book that Drew Faust, president of Harvard University, recommended every freshman read before they begin classes), she also wrote an article about the possibility of an earthquake that completely transforms the Pacific Northwest. The subheading for her June 2015 New Yorker piece titled "The Really Big One" was "An earthquake will destroy a sizable portion of the coastal Northwest. The question is when."20 Sure resembles the opening of Armageddon to me!

A word of caution. While it's easy to dismiss San Andreas and Armageddon as mere movies about low-probability natural disasters, doing so would miss their real value. By forcing us to think about radical scenarios, they're expanding our imaginations about what our future might look like. And because good movies need to be realistic enough for us to believe them (else we wouldn't get lost in them), seemingly irrelevant details must be carefully considered.

One movie that I think is particularly good at painting a scenario with realistic details in adjacent areas is Contagion, the 2011 story about a pandemic that creates fear and chaos in much of America. It's such a wonderful example of a scenario that creates feedback loops and throws off an entire system that I've required my students to watch it. We usually spend an entire class discussing it. The movie begins in media res when a woman who returns home from a trip to Hong Kong and develops unexplainable symptoms and dies. Soon others with whom she physically interacted are sick with similar symptoms. As we watch the epidemic unfold, we watch the disturbing breakdowns in political, social, economic, and moral behavior that barrels the society toward chaos. Every time I watch the movie I'm disturbed at these second-order effects-after all, it's bad enough to have a devastating illness spreading rapidly through a population. But the impact of the fear, the breakdown of society's order, the closing of borders, the involvement of the military in containing and controlling the movement of people, and the conflicts of interest which rear their ugly head are downright disturbing. But it's useful to think of these impacts. How might you act if you were militarily contained because your neighbor had been infected with a deadly disease and society determined it necessary to quarantine you with her?

Without ruining the movie for those who haven't watched it, we ultimately learn the cause of the disease is zoonoses, the jumping of a pathogen from an animal to a human. To some extent, the movie's a warning against urbanization and globalization because without development in former jungles, it's unlikely problematic human infringement on animal habitats would have occurred . . . and without the interaction, the pandemic might not have started.

So given that urbanization is marching forward virtually unabated, what can we learn from this scenario? Should the CDC begin stockpiling treatments for rare diseases on the off chance that they may spread through populations so rapidly that manufacturing treatments at that point would be too slow? What about developing contingent coordination plans with multinational organizations like the World Health Organization? Surely such preparedness might prove useful, right? Maybe just-in-time strategies need to be replaced with just-in-case logic?

Because the value of scenario planning can be so high, we need to be careful not to overly define the various situations we're prepping to occur. We need to allow a certain amount of fuzziness when preparing for contingencies. If we're too focused in our preparation, we may not be able to respond well. We want to focus on planning not on the plans, just as famous boxer Mike Tyson has noted, "Everyone has a plan until they get hit." We need to retain the ability to adjust dynamically to accommodate conditions as they emerge.

In April 2017, for instance, after months of training, I boarded a bus in Boston that was taking me to Hopkinton. I was about to run my first marathon, as a charity runner supporting John Hancock and the Torit Foundation. I had a great plan, had prepared to execute on it, and was ready to go. But then, after seventeen miles of running, my legs somehow turned into bricks. I literally had to stop and stretch for minutes as I tried to restore my ability to move. My plan was great, but more

important was my ability to adjust based on the dynamics that emerged as the world unfolded. I'm pleased to say I finished, albeit in more than double the time it took the elite runners to complete the same distance. Oh well!

Four years earlier, the ability to dynamically adjust to shifting conditions proved critical on April 15, 2013, at 2:49 p.m. when an improvised explosive device (IED) detonated near the finish line of the Boston Marathon, killing three and hospitalizing more than 260. The Boston Athletic Association, organizers of the race, had planned on addressing emergencies as they evolved, and was in close coordination with local medical and emergency personnel. But no one had anticipated the set of events that unfolded on that terrible afternoon. Instead, what we witnessed was an amazing and seemingly uncoordinated response that proved effective at assisting the injured to secure appropriate medical attention. All victims needing medical help had left the scene within twenty-two minutes. The immediate response was a success, and the subsequent mission-oriented coordination proved effective at tracking down the Tsarnaev brothers who had planned and executed the marathon bombing.²²

It turns out that Boston responded so well to the marathon bombing precisely because they planned for and practiced disaster response, but without getting bogged down in specific plans. They generically played through several scenarios of scenarios demanding an emergency response. In fact, it's part of their normal preparation for big events like the Boston Marathon.²³

Embrace Ambiguity

It should not come as a surprise that many of the lessons learned in this chapter could easily have appeared in other chapters. That's true because of the highly interconnected society in which we live; it's also why systems thinking is so valuable in understanding the relationship in a dynamic situation. To navigate uncertainty, it's useful to think like a systems thinker and study how feedback loops matter. And systems thinking is more about connecting dots than generating them. How does one variable affect another one? It also forces a big-picture perspective, one in which the normal narrowness is replaced with a zoomed-out overview.

Former Secretary of State Dean Acheson described strategic planning as looking ahead, "not into the distant future, but beyond the vision of the operating officers caught in the smoke and crisis of current battle; far enough ahead to see the emerging form of things to come and outline what should be done to meet or anticipate them." Sounds a lot like adjusting your focus. Strategic planning "can also be about reinterpreting past and current actions through a new analytical lens." Also, speaking of filtering through information and deliberately establishing your area of focus, Secretary of State George Marshall, who led the State Department when the policy planning staff was founded, gave George Kennan, its first director, a concise directive: "Avoid trivia." Sounded, gave George Kennan, its first director, a concise directive: "Avoid trivia."

If that's not the most eloquent expression of the dot connecting, uncertainty navigating, scenario appreciating approach presented in this chapter, I'm not sure anything is! Trivia is, of course, random tidbits of information removed from the context in which they might normally appear. And like I finally did with the 1980s board game Trivial Pursuit, it's best to shelve random disconnected thoughts (i.e., trivia) and replace them with zoomed out, big-picture thinking that connects to things you care about. Doing so allows us to break out of our thinking and consider how developments in one domain might inspire and drive progress in another.

Scatter Your Mind

Many busy professionals feel guilty about having a creative passion, yet they may be doing themselves a professional and personal disservice by constraining their interest. In addition to the personal satisfaction and enjoyment from its pursuit, artistic endeavors may spur the imagination and enable breakthrough thinking. There is evidence to support this claim; some of the most accomplished folks in their fields do exactly that. For instance, research shows that Nobel laureates are much more likely to have been engaged in arts and crafts than other scientists.²⁷ Likewise,

people who have started businesses and contributed to successful patents are more likely to be engaged in the arts.²⁸

But it also means that we should be open-minded to nonlinear thinking and activities in our personal and professional lives. We need to scatter our thinking with lots of experiences so that we have them to draw upon when needed. One great way to think more broadly and to imagine more creatively is to read fiction and watch movies. But another, perhaps more practical way to scatter your mind is to pursue professional opportunities in different functions or geographies. I suspect we'd all be better off thinking of career progress as playing on jungle gyms rather than climbing ladders. Sometimes the fastest way to get from A to B is to go horizontally; or climb down first, then clamber to a different part of the structure before again going up. Who knows, you might even get a different view of the playground!

When facing massive uncertainty it is essential to appreciate both what one does know as well as what one does not know. Such logic is not shocking, but it has significant ramifications for how one should manage his or her career and how organizations should manage their human resources. Specifically, those who possess above-average skepticism and intellectual humility and can think about the possible without being wedded to the supposedly likely are better able to navigate uncertainty. Individuals should therefore seek career paths that constantly put them in unfamiliar roles and through which they can learn what they don't know. The feedback one receives through these roles will likely improve one's intellectual self-awareness and ability to navigate unknown terrains.

Key Takeaways

· When navigating uncertainty, it's best to think in terms of multiple possible futures. Prediction can be productive, even if it isn't accurate. The key is whether the predictions helped you think more deeply about the present and how to make decisions in the face of an ambiguous future.

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- Fiction encourages imagination and helps expand the universe of potential considerations that affect our decisions. Often, busy professionals prioritize nonfiction and documentaries over novels, science fiction, or dramatic movies. But fiction and imaginative stories can help us think more broadly and differently about the future.
 - Rather than shunning ambiguity, embrace it. Thinking through
 possible futures enables one to spot possible opportunities buried
 in the uncertainty as well as to identify lurking risks. Uncertainty
 and ambiguity enable both innovative breakthroughs and spectacular failures. Engage deeply with possible scenarios while retaining
 broad perspectives. Employ systems logics to connect dots and
 consider feedback loops.