

BRILLIANT MISTAKES

Finding Success on the Far Side of Failure

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Preface

Mistakes...are the portals of discovery.

—JAMES JOYCE¹

If you have ever flown in an airplane, taken an antibiotic, or used electricity from a nuclear power plant, you have first-hand experience with the power of mistakes. Each one of those innovations resulted from a flash or two of brilliant insight and many, many years of wrong answers, dead ends, and missteps.²

The ill-fated flight at Kitty Hawk showed how an idea that seems impossibly wrong can be achieved by two Wrights. Alexander Fleming's accidental discovery of penicillin, the world's first and most successful antibiotic, involved a sloppy lab, keen perception, and an exceptionally well-prepared mind. Scientists labored for decades to harness nuclear power, beginning with Einstein's landmark 1905 article in the *Annals of Physics* arguing that mass (m) can be converted into energy (E) via the formula $E = mc^2$ (where c is the speed of light).³ Even though Einstein's articles were brilliantly original, they contained numerous mistakes, at least 23 according to one careful study (see appendix A). However, many of these errors were actually helpful, and some even necessary, to sustain Einstein in developing his revolutionary theories about mass, energy, gravity, time, and space.⁴

It would take several more decades before another brilliant scientist, Enrico Fermi, provided irrefutable empirical evidence in support of Einstein's famous formula. Using a converted squash court at the University of Chicago, Fermi

was able to achieve the first-ever controlled release of nuclear energy in 1942. He later joined Oppenheimer's Manhattan Project in Los Alamos, where they developed the world's first atomic bomb, building on the earlier experiments in that converted squash court. The atom bomb shows Einstein's formula that $E = mc^2$ with a big bang and brought the Second World War to a quick end. It also shows that mistakes can be beneficial to discovery and may be necessary to arrive at deep new insights. Even a genius like Einstein could not do without them.

Brilliant Mistakes examines the beneficial side of error by considering mistakes as “portals of discovery.” Through stories and analysis, I show that it's possible to design for brilliant mistakes—those that accelerate learning and lead to breakthrough innovation—and to avoid tragic ones. I also argue that all mistakes are not created equal. Some have high cost and offer little learning value, while others cost little and produce deep, valuable insight. These are the brilliant mistakes, the ones to embrace rather than avoid. This book will teach you how to recognize, foster, and reward them in yourself and others.

Think about the last time you tried something new, whether it was acquiring a language, learning a new sport, or starting a company. Did you make errors along the way? Did those errors help or hinder your progress toward your goal? The path from insight to discovery is seldom a straight line. Most groundbreaking achievements in science, technology, economics, and the arts represent long, meandering paths of misjudgments and false turns. Indeed, our very existence as humans relies on the error mechanism of random mutation; we would not exist if our evolutionary process had not included a few hiccups and false turns. But it isn't enough just to accept that mistakes are part of progress. We can do better than simply rely on random error to eventually point

the way. We can, and should, learn to be strategic about the errors we allow.

Unfortunately, the systems that surround us make this a difficult proposition. Our schools and organizations are designed for efficiency and order. These are fine principles but rarely encourage mistakes, either brilliant or foolish. Students are graded on how much they know, not on the degree to which they learn from helpful errors. Similarly, companies strive for error elimination, hiring advisers and relying on sophisticated management tools such as Six Sigma.⁵ It's little wonder, then, that most decision-making books follow suit, encouraging you to focus narrowly on mistake avoidance today rather than provoking you to plan for the stream of decisions that you will face tomorrow.

Ironically, the University of Chicago, that bulwark of rational economic thinking propelled by Milton Friedman and other Nobel laureates in economics, launched the first academic center among business schools to study our less rational side. As a faculty member at the business school's Center for Decision Research, I spent twelve years among colleagues doing research on subjects that seemed, to some at the time, esoteric and off-kilter. We studied how experienced executives could be blinded by their frames of mind or why numerous traps and biases might cloud their judgment and choices. At first, most esteemed economists looked askance at our studies and findings.⁶ Paradoxically, it turned out to be a brilliant mistake for the University of Chicago's business school to encourage a small group of intellectually diverse scholars to challenge basic tenets underlying the rational economic model.

The field of behavioral decision theory has since gained great momentum across multiple academic disciplines. The principles that underlie it—such as the idea that humans are error-prone, that consumers exhibit predictable biases, and that markets are not always efficient—have gained wide

attention and infiltrated popular thought. In 2002, the Nobel Prize in Economics was awarded to Daniel Kahneman, a psychologist who was then at Princeton University. Such lofty recognition for research done by someone outside of economics is quite unusual, although not unprecedented.⁷ Kahneman's groundbreaking work in prospect theory as well as heuristics and biases, research he conducted mostly with another brilliant cognitive psychologist, the late Amos Tversky, showed that people's decisions are strongly influenced by psychological factors.

The mantle of behavioral decision theory has been worn by many others and has spawned an active research community. The Society for Judgment and Decision Making counts over 1,000 academic members, many of who conduct research.⁸ Popular books drawing on the field, with such titles as *Freakonomics*, *Predictably Irrational*, and *Nudge*, fill book shelves and e-readers.⁹ This new behavioral discipline is also embraced by government leaders, including advisers in the Obama administration who wish to explore new approaches to health care, education, and other thorny policy issues.¹⁰

In this book, I build on the strong theoretical foundation of decades of research in decision psychology as well as behavioral economics and go even a step further. I offer a practical plan for separating destructive from constructive mistakes and for learning to make more of the brilliant kind. By exploring how to access mistakes for their learning potential, I will encourage you to challenge cherished assumptions and improve your future prospects. I will even, at times, suggest that you make mistakes on purpose—all in the spirit of challenging false beliefs and accelerating learning. I will not simply encourage you to accept that you, like every other person on the planet, are error-prone—I will encourage you to embrace this quality, to milk it for all of its evolutionary and learning potential.

The stories, frameworks, and insights of this book emphasize the following key messages:

1. It is important to embrace the learning potential of mistakes—first, by overcoming the shame and fear that lead us to overlook the covert messages they carry about how we think.
2. To learn from a mistake, it's critical to separate the decision process—the part that you own—from the outcomes, which are usually influenced by external factors.
3. There is a difference between silly errors and brilliant mistakes, and it all hinges on the relative costs and benefits of what is at stake. Designing for, and learning from, a mistake can make it brilliant.
4. In some cases, it's advisable to allow room for mistakes to be made. Just as random mutations have advanced evolution, clever, well-designed mistakes can further human progress by opening new vistas.

For most people, the problem is not that they make too many mistakes but too few. Ask a few elderly people you know about their areas of greatest regret, and most will recount errors of omission rather than commission—what they failed to do rather than what they did. People are quick to agree that in retrospect, one can learn much from mistakes, and that some mistakes therefore can have great value. When I ask experienced managers in executive programs what they have learned from most in life, they usually say mistakes. When I reply, “Since mistakes have been so valuable to you, why don't you make a few more?” they tend to look back at me with puzzled faces. The idea of purposeful mistakes runs counter to the zero-tolerance management approach of reducing error whenever and wherever possible.

Brilliant Mistakes provides a road map for designing for and learning from error. It helps you assess your own decision-making process and clear through the brush of the emotional and cognitive reactions, like shame or the deflection of blame, that tend to cloud your ability to learn from your own mistakes. I provide insights about how and why you make decisions, and I offer processes to improve your judgment and choices. I also go further and explore a controversial question: if a few mistakes can be good, wouldn't a few more be even better? To learn maximally from mistakes, we need to commit more errors than we deem optimal as judged within the bounds of our limited rationality. This idea may be hard to swallow. Yet it is the quintessential insight of this book, made practical through example, exposition, and advice on when and how to make smart mistakes.

It's my hope that this book will help you be a little less perfect—and a little wiser about and tolerant of mistakes. If you follow its guiding principles, you will gain new insight about different types of errors we make, and you'll learn how to recognize situations in which mistakes could be beneficial. Along the way, you'll come to accept the counterintuitive notion that we sometimes should deliberately commit errors, as they may be our only chance to move to greater understanding. I look forward to guiding you to your own portals of discovery, knowing that these portals will help you in business and beyond.

Introduction

When Wrong Is Right

On a frigid New Year's morning, an obscure music group auditioned for an executive at one of the world's leading record companies. After years of modest success playing local clubs, this band was looking for their big break. In order to make it to this audition, they had braved a ten-hour ride through a blinding snowstorm. Their driver had gotten lost, but they had still arrived before the executive, who had been toasting in the New Year the night before. This band was one of many he would audition that year, including at least one other audition later that same day. Band and executive were both exhausted. The band's equipment was dilapidated from months on the road; the studio executive substituted his own amplifiers. It was not an auspicious beginning.

Once in the studio, the band spent an hour taping a dozen songs. This tape ended up in the hands of the seasoned head of the artist and repertoire (A&R) department for Vox Music, a prominent label. He turned it down. The style of the band's music, he felt, was on the way out. He was in good company. A few weeks earlier, the general marketing manager of Epsilon Records, another top recording company, had also checked out this same band and come to the same conclusion. In a letter to the group, Epsilon's general marketing manager made the following curt assessment: "While we

appreciate the talents of this group, we feel that we have sufficient groups of this type at the present time under contract. It would not be advisable for us to sign any further contracts of this nature.” Around the same time, two other recording companies listened to the band, and the reply was the same: a polite or impolite but emphatic no. In total, the band was turned down by at least four respected recording companies after getting a fair hearing at each.

“With Every Mistake We Must Surely Be Learning”

That should have been the end of the story. One card, however, remained in play. The head of A&R for one of Epsilon’s smallest labels was out of town during the general manager’s deliberations. His absence seemed a small matter at the time, since this label was—according to one Epsilon insider—the “joker in the pack, and not just because it released many comedy records. In terms of budget, hits, and prestige it was the poor relation of the company’s powerful labels.” With the exception of a label devoted to Salvation Army Bands, it was Epsilon’s poorest performer. What could this manager possibly add to the evaluation of an up-and-coming rock band? More respected executives, closer to this genre of music, had already rendered a verdict of thumbs-down.

But six months later, the band’s persistent manager brought its audition tapes through the back door of Epsilon and appealed to the head of this small label. This young maverick was both passionate and ambitious. After a stint in the navy, he had joined Epsilon as an assistant to the manager. He sought out new and untapped bands and developed niche markets, such as comedy records, into profitable businesses. Five years later, at age 29, he would assume leadership of the label, making him the youngest label chief in Epsilon’s history. He had a prescient understanding of how new recording technologies would have an impact on the future of the music

industry. Because he was forced to feed on the scraps of the corporation's artists, he developed close working relationships with talent, in contrast to the typical arm's-length relationships of most managers. He was eager to change the world.

This manager was intrigued by what he heard on the band's demo. He decided to invite them back for another audition. During the audition, he was more impressed by their wit and potential than by the music they played for him, but he decided to sign them nonetheless. All this happened just six months after the best minds of the very same recording company had turned the band down. There had always been independent decision making at Epsilon labels, but this reversal came as a bit of a surprise to Epsilon's general manager, who was responsible for multiple labels. After the contract was inked, he wrote to the band with a hint of embarrassment to explain "what may appear to you to be an anomaly in our Organization. I can assure you that the artist managers did hear the record but I know you will appreciate that even artist managers are human and can change their minds!" How could a comedy album executive be signing a rock band, against the better judgment of senior colleagues who truly had their fingers on the pulse of the industry? This was surely a mistake, right?

What's Your View?

- Was the comedy album manager wise to sign the band through the back door?
- Should Epsilon's general manager have blocked signing the band a second time?
- Was the band at fault for showing up late for the audition, without all equipment?
- Was the band smart in reapproaching Epsilon Records through the back door?

Most people read this case and decide that it was a mistake for the label to sign the band—that is, unless they are fans of music history and recognize the details of the story or pick up the clue in the title to this section. Here’s a hint: it’s a quote from their famous song “While My Guitar Gently Weeps.”

You’ve got it: this story is about the discovery of the Beatles. The young executive was George Martin of the Parlophone label at EMI (disguised as Epsilon Records). By ignoring conventional wisdom and making a move most would deem a “mistake,” Martin helped his company become a dominant player in the recording business. As Beatlemania spread across the globe, the Fab Four became one of the most successful groups of all time, selling over a billion records internationally. They sold more albums in the United States and earned more number one albums on UK charts than any other band. Decca, the recording company that passed on the Beatles after the January 1962 studio audition (disguised, in this anecdote, as Vox), is now famous for what seems the most glaring oversight in music history. Especially ironic, in hindsight, is their declaration at the time that “groups of guitars are on the way out.”¹¹ Instead, they signed Brian Poole & the Tremeloes. How many people still remember *that* group?

The Path to Brilliance

I’ve opened this book with the Beatles’ discovery story because it illustrates one of the central propositions of this book: the degree to which assumptions deeply held by the best and brightest can be wrong and the enormous potential benefit of seeing past them and making a brilliant mistake. Assumptions can be wrong for numerous reasons, ranging from changes in the world in which the assumptions were formed to lack of humility among those at the top. In the case of all of the Vox executives, and all but one of the Epsilon executives, many of these factors were probably in place.

That leaves us with George Martin. What did *he* know that nobody else knew? In truth, we know too little about Martin's inner thought process to be sure. He could have simply been foolish and lucky. As we'll see throughout this book, many stories of great discoveries can be interpreted as entirely reliant on dumb luck. It's also possible that he saw that the world was changing and that the assumptions his industry was built on would not continue to hold in the future.¹² To the extent that the latter is true, he's a great example of someone who was able to understand himself and the world around him well enough to make the risky, high-reward move of a brilliant mistake.

George Martin certainly wouldn't have viewed his signing the Beatles as a mistake. No self-respecting manager would ever knowingly make a mistake. Like Martin, managers view their role as taking calculated risks that yield, on average, a positive payoff. But if the Beatles had indeed been a huge flop, as many in the industry expected, we would now consider Martin's decision a mistake. Luckily for him, the opposite happened. The Beatles rose to global dominance in pop music. In retrospect, Martin is viewed as a visionary who made a brilliant decision. But should our judgment about whether Martin's decision was brilliant or misguided really hinge so much on that remarkable outcome? If someone wins the lottery, was buying that winning ticket a good decision on that occasion (and a bad one most other times when the payoff was nil)? Few of us would scold a friend who won the lottery for having been so wasteful. Instead, we congratulate the person, with perhaps a touch of envy. But shouldn't we, in all fairness, base our assessment on what our friend or someone like George Martin could reasonably have known and predicted prior to the decision? Many theorists would argue that this should be the standard of judgment, without the distortions due to knowledge obtained in hindsight.

Once we adopt this theoretically pure standard, another issue arises. Can we ever judge fairly, in hindsight, whether a decision was smart or dumb? To what extent can we put ourselves in the shoes of someone else and ignore all other information, including what happened after the decision? Before you learned that the band was the Beatles, who did *you* side with: the seasoned executives or the young manager? The challenge in understanding mistakes is that we make decisions looking forward and judge them in hindsight. How do you determine what is a good mistake in light of this? And what is the difference between taking a risk and making a mistake? George Martin intuitively appreciated the difference between a dumb mistake and a brilliant one. In signing the Beatles, Martin minimized his downside risks. As he commented later, “To say I was taking a gamble would be stretching it, because the deal I offered them was pretty awful.” The Beatles received one penny for each record sold. At the time Martin made his offer, the Beatles were happy to take any contract with a major label such as EMI.¹³ Although he wrote a tightwad contract, Martin could have signed another band that would have had a higher likelihood of success, so he took a risk nonetheless.

This book examines why a set of popular views of mistakes may be deeply mistaken and offers a new way of looking at (and benefiting from) mistakes. I begin with the view that there are four different kinds of mistakes (tragic, serious, trivial, and brilliant), and then I turn to the practical question of how we can err our way to success. The main benefit of mistakes is that they speed learning. Martin’s decision changed the music industry. Even though there was already a trend in the making, it might not have flourished quite the way it did if gatekeepers had continued to sign the same acts. Repeating the same formula over and over builds expertise in a narrow field—a form of accretive learning. As

physicist Niels Bohr (1885–1962) said, “An expert is a person who has made all the mistakes that are possible in a very narrow field.”¹⁴ Brilliant mistakes, in contrast, expand the field and accelerate learning beyond the narrow confines of conventional wisdom. This is expansive rather than convergent learning. Sometimes there is no way to reach a destination through incremental accumulation of knowledge, just as you cannot cross a chasm in small steps. You need to take the leap of brilliant mistakes. Mistakes can speed learning in areas from advertising to hiring people to speed dating, as we shall discuss, and you can design mistakes for maximum benefit.

Beyond individual mistakes, it’s also possible to foster ecosystems at an organizational or even a societal level that allow mistakes to have broad benefit. How can we optimize our portfolios of mistakes? How can we make fewer tragic and serious mistakes and not be distracted by trivial ones? How can we recognize and encourage brilliant mistakes? EMI’s Ron White, who had turned down the Beatles personally, created an organization that allowed Martin to sign the band through the back door. This kind of slack, which is largely absent in many companies today, fosters opportunities for creativity and innovation. White appreciated this diversity and the willingness of managers to change their minds about past decisions, even if it meant writing a letter of apology to the Beatles to clarify what might appear to be an “anomaly” in their organization. Diverse thinking and tolerance for mistakes are both critical to innovation since they allow for variation beyond what is normally seen. At times, we need to design ecosystems of mistakes.

Real-life mistakes are complex and messy. Although many autobiographies paint an incomplete and self-serving picture of what led the author to greatness, many successful people have honestly acknowledged the role of mistakes in their own lives. The concluding chapter recounts how leaders

in diverse fields have leveraged mistakes to advantage. From Albert Einstein to Jack Welch, we shall see that mistakes played a crucial role in the success of many remarkable people. Using their stories and other famous successes, we shall offer a practical and very personal view of the principles discussed throughout the book. The key message is that mistakes are essential to success and that most people don't look at mistakes in the right way. Few of us use mistakes as fully as we can. As Eleanor Roosevelt said, "Learn from the mistakes of others. You can't live long enough to make them all yourself."

The first part of the book, "Rethinking Mistakes," examines the meaning of mistakes and their often hidden value. It argues that we need to change our thinking about mistakes in rather fundamental ways to reap their full benefits. The second part, "Designing for Mistakes," examines strategies for making mistakes on purpose to increase the odds of brilliance. Creative industries, from movie production to basic science, are better at tolerating mavericks. Sometimes crazy ideas and unlikely performers become phenomenal successes, as demonstrated by programs such as *American Idol* (or the surprising discovery of Susan Boyle in the British version) that cast a very wide net to turn up some unlikely successes. Even so, as shown by the initial refusal to sign the Beatles, established players often suffer from blind spots and hubris that prevent them from seeing new opportunities. Many industries and professions don't appreciate the full power of mistakes. Unwittingly, they pursue narrow strategies shrouded in tunnel vision.

This book isn't about luck, or coincidences, or gut feel. It's about deliberate, process-driven, intelligent mistakes: presumed errors that challenge the status quo and lead to immeasurably advantageous outcomes. But before we get there—before we play out a strategy for making smart mistakes—we need to establish what mistakes are and why they happen.



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by Paul J. H. Schoemaker, PhD

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