

SECTION TWO

**WHY DO BRILLIANT PEOPLE BELIEVE NONSENSE?
BECAUSE THEY'RE COMFORTABLE WITH EXISTING
BELIEFS**

CHAPTER 3

THEY'RE MARRIED TO BRANDS

“Most people are other people. Their thoughts are someone else's opinions, their lives a mimicry, their passions a quotation.”

— Oscar Wilde

Imagine that someone invented a device which, when installed in your store, influenced customers to purchase your most overpriced products, even if they were lower quality, less tasty, and less needed than less expensive products? Well, wait no longer—it's here! Only it's not a device; it's a sales strategy based upon powerful psychological forces. It sways both the wise and the foolish, the informed and the uninformed. It's called "branding," and it threatens to bypass objective reasoning to separate the unaware from their money.

The Poor, Poor Lawyer

It was my first time to feel sorry for a lawyer.

As we walked toward his Lexus in the parking lot, he explained, "I felt pretty smart when I bought it. I'd completed law school, passed the bar exam, and joined a firm. It seemed natural to finance a car commensurate with my new status. Then came the recession and I was let go. Today I'm stuck with outlandish payments, no salary, and I owe far more than I could sell it for. Now I feel pretty dumb."

I never felt so smug as I hopped into the reliable used car I'd bought with \$2,500 cash. (It had seemed commensurate with my status as a starving artist and wannabe intellectual. It even came pre-dented so that I wouldn't lose my cool when family members would later bang it up a bit.)

A Lexus, depending on the model, sells at a wide variety of prices. Imagine that his was median priced—about \$60,000. Since he wasn't a starving artist, let's grant for a moment his premise that, as a lawyer, his clients may expect him to have a nice car, indicating that he's smart and successful.

Granted, a Lexus is incredibly reliable.¹ But why not save \$30,000 by purchasing one of the

more economical Lexus models, or purchasing it used to avoid losing the thousands of dollars in value the moment you drive it off the lot? (After all, once you've purchased and driven a brand new car, isn't it now "used"?) If you simply must get a brand new car, why not consider purchasing a low mileage Toyota Avalon, virtually the same luxury car as the Lexus ES350, for \$7,000 less, made by the same company that makes Lexus?²

Or, how about a three year old Toyota Camry, one of the most reliable and popular used cars, for \$12,000? Many of the lawyer's clients who read personal finance literature would see the long-term wisdom of this economical purchase. (This lawyer had plenty of good company. The recent recession found many doctors and lawyers rethinking their lifestyle and dumping their exorbitant car payments.)³

Why did a lawyer, presumably equipped with a high bandwidth frontal lobe, make a mistake that's so elementary to personal finance—purchasing an expensive, unnecessary, depreciating asset with credit, when we can never be certain of a healthy economy and a steady and increasing income?

What can we learn to avoid similar mistakes?

The Power of Brands*

Often, our decisions are driven largely by powers that have nothing to do with personal happiness, practicality, and successful living. Let's imagine that this lawyer had not lost his job and planned to retire in 30 years at age 60. If, in five years of heavy business travel he figured on running each car into the ground and buying or financing a new one every five years, he'd likely save \$10,000 per year by purchasing a used Camry over a new Lexus. If he invested that money each year in a mutual fund that achieved an average rate of return on stocks for 30 years, he'd have almost two million dollars to retire on, *just from his savings on cars*.⁴

***Brand = An association of positive qualities with a widely recognized product. Examples: Nike or Coke.**

How can brands drive smart people to sacrifice over two million dollars for something that they don't need, and that might (in the case of job loss, illness, etc.) cause long-term misery?

Think!

Some brands are truly worthy of their following and worth the extra expense. Others aren't. So let's apply our critical thinking to our favorite brands. Write down some of the brands and services you regularly choose by default: perfume, makeup, cell phones, computers, mechanics, cars, soft drinks, coffee, food, clothing, etc.

As we continue, keep these brands in mind and try to evaluate them objectively through critical thinking. In which cases does your marriage to these brands make sense? In which cases does a similar product look more attractive? What research might inform your decisions?

How Brands Short-Circuit Critical Thinking

Brands pose special challenges to those who wish to make rational decisions. Understanding how brands influence us can weaken their grip.

1. They Harness the Power of Peer Pressure.

Even if the car salesman's pitch isn't argued with sound evidence, my lawyer acquaintance, though skilled in logic and evidence, is predisposed to believe the pitch, since owning the car might enhance his image. It's not so much that peer pressure temporarily suspends reasoning. Rather, despite having the academic intelligence to pass the dreaded bar exam, the pressure to appear successful hijacks his brain, employing his mental powers to justify an unnecessarily risky purchase.

"But the Lexus is so reliable! I'll save so much in repairs!" his mind argues. But with a bit of research he could find a survey of mechanics that found the economical Toyota Corolla to have fewer and less expensive repairs than the Lexus.⁵

When professor Thomas Stanley studied first generation, self-made millionaires, he found that one of their dominant characteristics was independent thinking, particularly on material purchases. He went to the ritzy neighborhoods to survey the wealthy, but was amazed to find that while the residents had the *appearance* of wealth (big house, cool car), they had overspent, and possessed little *real* wealth. As they say in Texas, "Big hat, no cattle."

He found those with *real* wealth in normal neighborhoods with the middle class. Their conservative tastes allowed them to accumulate wealth. Their favorite vehicle? A rather humble Ford F-150 pickup truck. Thus Sam Walton, once the wealthiest man in America, wasn't

eccentric at all by driving about Bentonville in his old truck. First generation millionaires prefer *real* financial success over the *appearance* of financial success. To resist spending and accumulate wealth, they see through the ads, resist the peer pressure, and make decisions in line with their financial goals.⁶

Of course, peer pressure similarly influences smaller purchases, which add up over time. Are those \$150 tennis shoes significantly better than the \$40 pair? If so, where are the objective studies that provide evidence? Are you paying the extra \$110 for a brand name, or for real quality?

And lest you think I'm unfairly picking on jocks and preppies, take a Goth who swears he's not impacted by peer pressure and suggest that he wear a Justin Bieber t-shirt to the upcoming death metal concert. Won't happen. For most of us, image and peer pressure drive our decisions more than practicality and function.

Think!

Reflect on your purchases. If these weren't considered cool among your peers, would you still purchase them? In these cases, is peer pressure inordinately influencing you? Granted, image can be important; it can be tied to your reputation. But are there compromises you can make with your favorite brands to preserve your image without paying exorbitant amounts for certain brands?

2. They Make You Swear They're Truly Better

One of the most fascinating and revealing business blunders of recent times was the Coca Cola company's decision to replace Coca Cola, their signature product, with the "New Coke." Here's how it unfolded.

Pepsi ran an extremely successful ad campaign in the 1980s—the "Pepsi Challenge"—in which they dared people to do a blind taste test: Coke vs. Pepsi. Those who took the challenge typically preferred Pepsi and many switched to Pepsi, resulting in panic at Coke headquarters. The charts showed that Coke was dying, so their scientists worked feverishly until they developed the "New Coke." They did their homework, spending \$4 million on blind taste tests with 190,000 people to confirm that people liked New Coke better than both the old Coke and Pepsi.

So in 1985 they dropped the old Coke, replacing it with the new. Problem solved. After all, it's all about the taste, isn't it? So they thought.

The result? Coke's sales dropped to a new low. Why? Apparently they failed to consider the power of the Coke *brand*. Hordes of customers *thought* they liked the old Coke better, even if they didn't. So Coke reintroduced the old Coke as Coca-Cola classic. By 1986, New Coke held only 2.3 percent of the entire soft drink market, with Coke classic at 18.9 percent and Pepsi at 18.5 percent.

The point here is really quite astounding. The majority of the population, more than adequately tested on 190,000 people, liked the taste of New Coke better than both Pepsi and Coke classic. So why don't they buy the better tasting soft drink? Apparently the public's reasoning, and perhaps even the perception of their taste, had been supplanted by years of successful marketing.

In 1987, the *Wall Street Journal* ran its own blind taste test of Pepsi, Coke classic, and New Coke. New Coke won, underscoring Coke's earlier testing. Yet interestingly, only two of the 100 participants said that they preferred New Coke before the taste test. Seventy of the participants mistakenly thought they had picked their favorite brand. Even more interesting, some of the mistaken tasters became indignant:

- From a Coke classic drinker who chose Pepsi: "I won't lower myself to drink Pepsi. It is too preppy. Too yup...Coke is more laid back."
- From a Pepsi drinker who chose Coke: "I relate Coke with people who just go along with the status quo. I think Pepsi is a little more rebellious. And I have a little bit of rebellion in me."

Note that these comments have nothing to do with taste, which we'd think would be why people choose a soft drink. New Coke did what it was designed to do—win taste tests. What it failed to do was to wean people from their almost fanatical loyalty to the old Coke.⁷

Lesson learned: It's not just about the taste. It's what advertisers *tell us* that we should like better.

While teaching on personal finance to a group of college students, I did a blind sampling of a name brand cola to Walmart's cheaper imitation. Although the Walmart brand won out, I've got to wonder how many would change brands if bringing it to a party might cause their peers to think they were either dirt poor or boringly cheap.

Or, perhaps when they know what they're drinking, they actually *think* they like their favorite brands better. This was confirmed in a study where college students were asked to sample Pepsi and Coke. Yet, the researchers had secretly switched the products, so that they were actually drinking Coke from a Pepsi bottle and Pepsi from a Coke bottle. The result? Students were "significantly influenced by the label of the product they preferred and not by taste differences between these products." The bottom line? In the war of taste versus brands, brands prevail.⁸

Think!

So you're convinced that your brand is truly the best. Have you objectively researched the evidence? If the research isn't available, is there a way to do your own research, like a blind taste test on food and drink items?

3. The Temptation to Trust Implicitly Rather than Research Adequately

When we see a brand, we tend to trust that it's the best product rather than weighing the evidence. So writers looking for a publisher may find a company claiming "We lead the industry in helping new authors market their books." If the company throws in 50 blurbs from happily published authors, why compare with other publishers? With an unsubstantiated claim and all the blurbs they could muster, the company quickly branded itself as the safest publishing option.

I researched about 50 such publishing companies, several of which claim to "lead the publishing industry" in some way. It stands to reason that they can't all be leading. And if a wannabe author digs a bit further, like searching the name of the publisher, plus "sucks" or "complaints," she'll typically find a host of dissatisfied customers.⁹

Yet many authors think, "I've spent years writing this book. I just want somebody to print it and get it out there." Often, they're looking for an easy decision and are satisfied with the company's claims and blurbs. After publication many regret their poorly researched decision.

Publishing is one of those "Wild, Wild West" industries that's undergone radical change in the past decade. Remember, in times of rapid change, it's the learners who win, not the learned. Don't let company claims and select customer testimonies establish instant respect and short-circuit your research.

Conclusion

Why do brilliant people believe nonsense? Because they're fooled by the power of branding.

Successful brands short-circuit our thinking, or urge us to employ our reasoning to justify trusting them. Wise consumers question their attraction to brands, looking for objective evidence that the brands are worthy of their allegiance. Following are some tips, exercises, and further reading that might help.

Action Points

Break through the Brand Barrier

1. Let evidence, rather than emotions driven by ads and peer pressure, drive your decisions.

It may indeed be wise for a lawyer or doctor or realtor to drive a nice car. But how nice? And what do you and your clients define as "nice"? Some people prefer a doctor or lawyer with a modest car. I do. Otherwise, I may consider them materialistic and thus overpriced. ("I'm paying for his luxury car and fancy house with this outrageous bill!")

Do you even know what your clients expect? Have you ever studied research in your profession on the issue? Responding to the question of what lawyers drive, someone responded, "I work in an office with 52 lawyers. I am looking at the parking lot right now. I see Honda, Toyota, BMW, Ford, GM, Nissan, one ancient Mercedes, a Lexus, Jeeps." One lawyer responded that he drives a PT Cruiser; his secretary drives a Lexus.¹⁰

For car purchases, compare the true value of brands with *Consumer Reports*, *Kelly Blue Book*, and *Edmunds.com*. Find similar reports and review articles for other purchases.

2. Understand what you're actually paying.

In major purchases, dealers often distract us from the total cost by focusing on the upfront cost or seemingly "affordable monthly payments." But those payments often include interest, so that you may pay \$5,000 extra over time for a \$20,000 car. To include other cost factors, such as repairs, gas mileage, resale, etc., play with the "True Cost to Own" calculator at www.edmunds.com.

In minor, daily purchases, we often fail to consider the long-term cost. Purchasing a four dollar Latte each morning doesn't seem like a major splurge. But over time, that little habit costs \$120 per month, \$1,440 per year, \$14,400 per decade, or \$72,000 in 50 years. If that \$1,440 per year had been invested for 50 years at eight percent interest, you'd end up with about \$900,000. So is a daily latte worth \$900,000 to you?

Seeing today's purchases in light of their future worth, if wisely invested, helped Warren Buffett to resist ads, brands and peer pressure throughout his grade school and college years. Looking at frivolous purchases beyond just \$5 for a meal out, \$50 for a sweater or \$40,000 for a new luxury car, he foresaw what that money could grow to (future money) if invested for a lifetime. In this way, Buffett overcame the power of the brand.¹¹

3. Begin to Reflect More Deeply on Your Own Reasoning Processes (Meta-cognition)*

While all of us *think*, few people seem to think very deeply about *how* they think. In this chapter, as well as

***Metacognition = thinking about your thinking processes.**

Why Brilliant People Believe Nonsense

the following chapters in this section, we're examining common forces (such as brands) that hijack our thinking, often without our permission or awareness.

So you absolutely *know* that Nike is the best tennis shoe on the market. But *how* do you know that? (Reflect on your thinking!) Were you subtly convinced by athletes' testimonies in the media? Have you actually done a blind test of many brands to see which feel better? Have you read objective studies of various brands that give evidence as to which are the best? By thinking about our thinking, we can often overcome the forces that seek to hijack our reasoning.

The following questions engage our meta-cognition.

Flex Your Neurons!

Pursuing the Point of Know Return

1. Why do I trust my plumber, bank, grocery store, mechanic, or food label? Out of habit? Because my parents trusted them?
2. Have I shopped around recently and compared reviews on my favorite brands?
3. Do I know how to find true value for the products that most concern me?
4. What's my total cost over a lifetime for purchasing this product instead of a less expensive one?
5. Is peer pressure (opinions of my relatives/friends/neighbors/associates) unnecessarily influencing my purchases?
6. Will changing my purchasing habits impact my happiness either positively or negatively?
7. Spontaneity can be the spice of life. How can purely logical decision-making take the fun out of life? How can we find a balance that's both wise and fulfilling?
8. How do my personal values impact such decisions? After all, there's more at stake than just money and quality. One might very well say that, to her, the pleasure brought by that daily Latte is worth the cost. Another may argue that, to him, spending \$20 thousand more for a car "that girls think is cool" is well worth the price, if the alternative is a reliable, but boring car, which attracts equally boring girls. How would you respond to each of them?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. For understanding brands, see *Married to the Brand: Why Consumers Bond with Some Brands for Life*, by William J. McEwen (Gallup Press, 2005). This book can help us understand how companies build brands, so that we can both resist poor purchases and brand our own products.
2. For understanding how first generation (they earned their money, didn't inherit it) millionaires think differently about brands and status in their big purchases, such as homes and cars, see *The Millionaire Next Door: The Surprising Secrets of America's Wealthy*, by Thomas Stanley and William D. Danko (New York: Pocket Books, 1996) and *The Millionaire Mind*, by Thomas Stanley (Kansas City: Andrews McMeel, 2000).
3. A good starting point for exploring meta-cognition: <http://cft.vanderbilt.edu/guides-sub-pages/metacognition/> .



CHAPTER 4

THEY'RE BLINDED BY PREJUDICES, PRECONCEPTIONS, AND BIASES

"The myth of neutrality is an effective blanket for a host of biases."

— David Byrne, *Bicycle Diaries*

"I have yet to see a piece of writing, political or non-political, that does not have a slant. All writing slants the way a writer leans, and no man is born perpendicular."

— E.B. White

A Costly Oversight

In the early days of Rock & Roll, the popular Isley Brothers band toured Europe with a young keyboard player. "A great keyboardist," remarked Ronnie Isley. "He had a briefcase of songs that he had written, and we said one day we'd listen to them. But we never did. We figured this guy with the big glasses, how could he write something that would be funky* enough for us? I regret that."

***Funky** = unconventionally stylish or cool.

No wonder he regretted it. Elton John, the "guy with the big glasses," struck out on his own, producing seven consecutive albums that hit #1. He went on to sell over 300 million records, making him one of the top five best-selling music artists ever.¹

Why would the Isley Brothers—savvy and successful artists—let such a ludicrous bias lead them astray? Their nonsensical notion that "people who don't look cool can't produce cool music" led to an embarrassing and costly error.

A Deadly Mistake

Between the world wars, anti-Semites began to exert influence in Germany, but ran into a bit of an embarrassing quandary concerning their Jewish citizen Albert Einstein. Imagine the difficulty of spreading propaganda about the Jews being an inferior race when their most famous scientist, the very poster child for the word "genius," was teaching at one of their universities.

To deal with the Einstein issue, engineer Paul Weyland and experimental physicist Ernst Gehrcke formed the "Study Group of German Scientists for the Preservation of a Pure Science." They attacked Einstein with articles and speeches claiming that his theory of relativity was a "big hoax," being Jewish by nature. Nobel Prize winner Philipp Lenard, who would later become a committed anti-Semite and Nazi, joined the movement, attacking what he considered absurdities inherent to relativity. Adolf Hitler, not yet in power, lent his voice to the cause in a newspaper article, lamenting: "Science, once our greatest pride, is today being taught by Hebrews."²

As the anti-Semitic movement grew, Einstein backed out of speaking at the annual convention of German scientists because 19 scientists published a "Declaration of Protest" to bar him from the meeting. Soon thereafter, he fled to America.

It's surely one of the great ironies of history that a member of a supposedly inferior race would help to convince President Franklin Roosevelt that his theory of relativity suggested the feasibility of an atomic bomb. Had the Nazis developed it first, they might have ruled the world. As a result of Einstein's urging, America won the race to develop the weapon that would help end World War II.

Before the war, Einstein had prophetically stated, "If and when war comes, Hitler will realize the harm he has done Germany by driving out the Jewish scientists."³

Reflections

The first blunder I related was made by seasoned musicians, the second by brilliant scientists. Their common tie is that both made grave errors based on unfounded prejudices: people who don't look cool can't write cool music; Jews are inferior.⁴

Yet, no matter how acutely we feel the sting of prejudice when it attacks us, no matter how much we study it in school, no matter how ugly it looks when we see it in others, it's mindboggling how it keeps reappearing in different forms. For example, if any group knew the horrors of prejudice, it was the Jews during Einstein's time. Yet Einstein had to chide some of his fellow German Jews for looking down on Jews from Eastern Europe.⁵

This tendency also surfaced in America, with Jews from Western Europe looking down upon Jews from Eastern Europe.⁶ And it wasn't always subtle. According to a biographer of Steven Spielberg, Cincinnati Jews from Germany "held Eastern European Jews in utter contempt."⁷

What power could be at once so pervasive and yet so irrational? How can we keep it from poisoning our thinking and influencing our decisions?

Broadening the Landscape

Before readers yawn off this tendency as a problem for others, but surely not us, let us take a few steps back to view the larger landscape. Observe your own mind sizing up people. (Again, we're practicing meta-cognition.) What unwarranted labels do you pin on people the moment you see them? Admittedly some in each category exhibit common characteristics, but why do

we so quickly label *all* in a group, before getting to know them as individuals?

Do you find yourself (consciously or subconsciously) throwing people into the following categories? If so, are your preconceptions founded on sufficient evidence?

- Obese people are undisciplined.
- Skinny people are anorexic or on meth.
- White people think they're superior.
- Short people can't be taken seriously.
- Goths are evil.
- Religious people are closed minded hypocrites.
- College professors are liberal.
- Women wreck cars more than men.
- Athletes are dumb.
- Preppies are snobs.
- Other _____.

Think!

What blanket judgments do you make that are supported by insufficient evidence? What led you to such beliefs? How can we fight this all-too-human tendency?

Preconceptions are Alive and Well in Academia

As we saw in the opening illustrations, smart people can fall into prejudices and preconceptions just like everybody else. Since this book puts the spotlight on brilliant people who believe nonsense, let's see how academics often size up their students.

Celia Popovic and David Green set out to discover if professors' preconceptions of their students were accurate. So they studied over 1,200 students and their professors, representing 14 subject areas, in both British and American universities. They began by asking professors to identify the characteristics of students who were typically more successful. Then, they followed the students to see if the professors' preconceptions were correct.

Their conclusion? The professors were typically wrong.

Professors thought that the following types of students would academically outperform other groups:

- certain ethnic groups (typically white)
- "independent thinkers whose parents encouraged debate"
- those with at least one parent who completed college
- those who spoke English at home
- those who came from specific states
- those who were not student athletes
- those who showed an interest in current events and politics

Yet none of these categories of students performed better than the others. Most of the faculty were dead wrong.

Think about it. These professors are professionals who have completed at least a master of arts degree, taught at the college level, read widely, exposed themselves to diverse people and ideas, worked with many students, and prided themselves on objectivity. Yet it's another case of smart people believing nonsense.⁸

The Psychology of Prejudice

Perhaps grappling with the roots of prejudice can help us to combat it.

Some people are taught from birth to look down on certain groups. Others find themselves convinced by intolerant propaganda. And it's much easier to believe such teachings if we're facing economic crises (such as Germany at the time of Hitler) or insecurity and feel compelled to assign blame somewhere.

But even those taught tolerance from birth develop unwarranted biases. David Green notes two primary theories as to how we develop preconceptions, such as those held by the above professors:⁹

1 - The Economy Model

Our minds can't process everything we experience, so we notice only the characteristics that stand out to us and quickly organize groups of people and things by characteristics. This is useful when a three-year-old burns himself on a space heater. He reasons, "That thing burnt me last night. Avoid anything that looks like it." That's useful information, but probably fails to distinguish between a space heater and a humidifier, or a heater that's on from one that's off.

Imagine a professor who knew athletes from his high school days who cared nothing for grades.

No wonder his mind automatically, to this day, throws athletes into the "unmotivated student" category. It's a quick and easy way to organize data, but often leads us astray.

2 - The Differentiation Model

This has two aspects:

- a) We understand things by putting them into groups.
- b) We like to raise the status of our own group.

It's easy to see how these two aspects combine to produce prejudices. We meet some PhDs and our minds automatically place them in a group. But since PhDs can make us feel dumb, we look for faults and notice that some of them are very impractical, unable to manage their money or carry on successful relationships. By noting those characteristic and assuming they describe all PhDs, we've raised the status of our own less-educated group.

Whatever may be the most accurate model, it's safe to say that our minds automatically put things in categories. It's not always a bad thing; it's a part of how we make sense of our world, and works wonderfully to help us avoid burning ourselves repeatedly on space heaters. But realizing that our minds automatically categorize data long before we've analyzed it sufficiently, we should question our assumptions and be willing to subject them to more rigorous analysis.

"The Ultimate Attribution Error"

However professors might *initially* categorize athletes, it's easy to see how they may *reinforce* their conception. Midway through a semester, an athlete falls asleep in his class, which our professor attributes to his being an athlete, probably worn out from two hours on the soccer field. But even if later in the day he grades the midterm and discovers that a jock made the highest grade on the midterm, he won't likely revise his preconception. Rather, he views the bright athlete as an exception to the rule, attributable to some extraneous factor such as having attended a superior prep school.

Psychologists call this "The Ultimate Attribution Error," and it plagues us all. When we see *good* behavior in our ingroup (a group we're a part of), we typically attribute it to innate characteristics of our group members. When we see *bad* behavior in our ingroup, we typically attribute it to other influences or circumstances. For an outgroup (a group outside our own), we attribute behaviors the opposite way. It's easy to see how this tendency fools our minds and reinforces unfounded prejudices.¹⁰

Breaking Free from Prejudice

So we find ourselves stuck with brains that continually reinforce a bundle of misconceptions. Obviously, this skews our reasoning, leading to unfounded prejudices and a resistance to learning from members of other groups we deem inferior. How can we fight this tendency

toward prejudice?

1. Question Your Preconceptions.

Let's imagine that a female driver crashed into your family car during your childhood. You can still hear your dad mutter under his breath, "Women drivers!" In your teen years, friends complained in the locker room about women drivers, so that consciously or subconsciously, you assume women have more wrecks than men. Since then, every time you see a woman putting on makeup or texting while driving, your mind reinforces the belief.

But have you ever subjected that belief to rigorous analysis? Did you ever tally up the number of traffic accidents you've seen caused by women as opposed to men? If not, how do you know that your mind isn't playing tricks on you, reinforcing your prior belief every time you see a woman make a driving error, while ignoring the number of times you see men making driving errors?

One way to test preconceptions would be to consult relevant studies. After all, insurance companies are vitally interested in such statistics. One recent study found 80 percent of all serious accidents being caused by men. It didn't claim to know why. Perhaps men are overconfident, or there are more men than women driving, or they take more chances, or high testosterone leads to higher risks, or men drink more often than women while driving, or something else. But this jives with the fact that, on average, men pay more for car insurance than women.¹¹

Hey, it's just one study. But it's a start as we try to critically examine our prejudices.

As Popov and Green concluded in their study of professors with preconceived ideas of their students, the best idea is for teachers to try their best to presume absolutely nothing about their students. Wouldn't that be a great idea for people outside academia as well? Is it really so difficult to not presume anything about women drivers if you haven't gathered sufficient data and rigorously thought it through?

So the next time you size up someone before getting to know her, ask yourself, how many instances of the expected behaviors have you actually seen? If you accumulated evidence from other sources, did you include a variety of reliable sources, or only sources tied to a niche view?

2. Get to know diverse people.

Over 500 studies, involving a quarter of a million people in 38 nations, show overwhelmingly that getting different racial or social groups together leads to less prejudice.¹² There may be many reasons for this, but three of the most tested and confirmed are:

- a. We learn more about each other.
- b. Our anxiety about getting together is relieved.
- c. We grow in our empathy and perspective (able to view life from the other group's perspective).

Of these three, the last two appear to be the most important for diminishing prejudice.¹³

Diverse groups make the most positive impact on prejudices when they work together on common goals, such as a group project for school, building a company, or competing as an athletic team. So why not, when you're choosing a group for a project or social diversion, intentionally choose members who represent different groups from your own? Go out of your way to mingle with, work with, study with, play sports with, and play video games with people from diverse backgrounds and cultures.

The Payoff: Locally and Globally

Following-up on Elton John, it's relevant that his long-time lyricist, Bernie Taupin, is quite different from John. Among many other differences, Taupin lives on a ranch in California, raising bulls and doing outdoorsy, cowboyish things. John often lives in a high rise apartment in downtown Atlanta.

But what a collaboration! Taupin writes the lyrics; John writes the melodies. They met in 1967 when both answered an ad from a record label looking for talent. Although the label rejected them, the A&R (artists and repertoire) scout introduced them to one another and the rest is history. Taupin wrote the lyrics to *Candle in the Wind* (John's most popular single) and they have collaborated on 30 albums so far.¹⁴

You don't have to agree with everybody. You don't have to like everything other people do. But I have profound respect for the U.S. president who noted that he'd never met a person who wasn't his superior in some way.¹⁵ With that attitude, he could learn from everybody he met.

The John/Taupin collaboration of two diverse people doesn't seem to be a fluke. In fact, a major reason students get a college education is to one day land a good job. If that's important to you, consider the importance of doing business across borders, which means relating to people of different colors and cultures.

In my home state of Georgia,

- We exported \$36 billion worth of products in 2012.
- Companies in Georgia that export are 20 percent more likely to grow faster and are nine percent less likely to go out of business.
- Exporting to new markets expands product life cycles and brings global market intelligence to businesses.
- International trade can help diversify a business and reduce risks.
- Exports contribute to the community and state economy. According to the U.S. Department of Commerce, exports create twice as many jobs as domestic trade. For every job created in making a product, another job is created to get that product to market.

- Employees of exporting firms generally make 13 to 18 percent higher wages than those of firms that don't export.¹⁶

To meet the demands of an increasingly global economy, we need a labor force that's cross-cultural savvy. Those who fail to understand the subtle differences between cultures will lose customers due to embarrassing snafus.

Think Different! Cross-Cultural Challenges Intrigue our Greatest Minds

Before moving to Slovakia, I was challenged in my cross-cultural training to think: "It's typically not about right or wrong, it's just different." Thus, when confronted with differences, rather than assume other cultures are backward or just plain wrong, first try to understand the culture.

That sounds easy, but it's deceptively difficult to engage other cultures, and fraught with opportunities for disaster. Perhaps it takes a special kind of mind—adept at patient observation, flexibility, and emotional intelligence—to see past prejudices and "the way we've always done things." No wonder our university offers a PhD in International Conflict Management!

Here are a few (we could list thousands!) examples of cross-cultural differences that trip up intelligent people.

Communication Assumptions:

- A writer for a local machine company, communicating with his headquarters in Japan, studied a technical manual when he kept coming across the strange phrase "hot rock." Eventually, he realized his Japanese counterparts had translated the American company Firestone literally, so that their translation back into English came out quite different than expected!
- You're doing business with a Slovak company and want to honor the CEO by speaking some Slovak. Your host asks if you need anything. It's quite warm in the room, so you search Google Translate on your i-Phone for "I'm warm." It translates literally "Som teplo," which you say to your host with excellent pronunciation, and a twinkle in your eye for having identified with his world. Your host hesitates a bit, not sure how to respond. Later, you discover that although the literal, word for word translation was correct, when used as a phrase in popular Slovak lingo, it means "I'm gay."

Tip: Literal, word for word translations often give inaccurate meanings. Even communicating in the same language with different subcultures and age groups can be challenging. For example, in today's use, the word "sucks" typically refers to something that's bad, poorly done, or a disappointing circumstance." Pretty innocent. Yet, during the 1960s and early 1970s; it had quite a different meaning. Back then,

many considered it the most offensive word in the English language.

People would do well to remember this sordid history when using the term among baby boomers. The Urban Dictionary (<http://www.urbandictionary.com/>) can be helpful to suggest a variety of English meanings often absent from traditional dictionaries.

Social Assumptions:

Americans often tap out the rhythm to an old ditty: "Shave and a Haircut, Two Bits." (It's one tap, slight pause, four taps, longer pause, then two taps.) In America, it's totally innocent, with one person tapping the first five taps in one room and a friend answering from another room with the final two taps. Just don't do it in Mexico. It's a very offensive insult.

Aesthetic Assumptions:

In America, as I write, thin is in. While we like to imagine that we're objective in our assessment of beauty, our culture (as seen through the eyes of Hollywood) tells us what is beautiful, and we believe it. In other cultures, thin isn't in.

For example, in certain areas of Nigeria, engaged women isolate themselves for months in tents, gorging themselves to make themselves attractive and marriageable. In their culture, it's intuitively obvious that fat is beautiful and thin is ugly. (Perhaps a creative entrepreneur could set up cultural exchange programs to help match those deemed unattractive in one culture to those who seek them out in other cultures!)

Body Language Assumptions:

After the walls to Eastern Europe came down, lecturers began travelling from the West to give talks. Some made the mistake of keeping a hand in one of their pockets while speaking. In America, it communicates informality. Little did they know that in Eastern Europe, movies portrayed shady and conniving characters chatting with hands in their pockets. It's not the image speakers wanted to give!

"Weird," you may say. But remember, we seem just as weird to others when we cross their borders. In locations such as Slovakia, a small country bordering five other countries, people are used to looking for and respecting cultural differences. But in more isolated countries with large land masses such as America, people can live their entire lives isolated from other cultures. It's called provincialism, and can easily lead to dysfunction when we deal with people different from ourselves.

Travel writer Bill Bryson once said that he relished crossing borders because in each new country, he had to become a child again. He no longer knew how to do the simplest of tasks—cross a street, eat a meal, purchase groceries. Why not relish that feeling of adventure? Get to

know people from different groups, trying your best to set aside all preconceptions, except for the assumption that you're probably doing something today that would look quite silly to those who grew up with a different set of cultural norms.

Conclusion

Relish Diversity and Go Global!

Increasingly, my work with collaborators and markets is global. This week, from my office in *Georgia*, I received a call from *Peru* to book me on a nationally syndicated, *Los Angeles* based radio station. An author acquaintance from *Louisiana*, whom I've never met personally but know through email, had recommended me for the interview.

Earlier this month, I received a copy of one of my books that's hot off a *German* press. Later this year, *Croatian* and *Russian* editions will hit their markets. I get international connections through my international agent who grew up in *Holland*, speaks several languages, but currently lives on America's West Coast. I rely on her because she understands cultural nuances and cultivates international contacts.

To my neighbors, I'm just a middle-aged guy in a modest neighborhood, tucked back into a cul-de-sac in the small town of Acworth. But being digitally connected from my home office to the world, my learning and my connections and my audiences are increasingly global. I don't ask the color of the researcher whose journal article I'm studying. Neither do I care whether she's a jock, Goth, steam punk enthusiast or Trekkie.

I *am* concerned that my sources and partners are diverse, informed and have integrity. I need diversity. In an increasingly global world, ideas from everywhere and everybody are valued. Diverse people have different experiences and perspectives than my own. That's a part of what makes them so valuable. Thank goodness they're not all Acworthians!

Flex Your Neurons!

Pursuing the Point of Know Return

1. Why do we often shy away from getting to know people in other groups?
2. What groups do you typically avoid when choosing a seat for class? Why?
3. How might intentionally diversifying a business help it to succeed?
4. If done in the wrong way, how might intentionally diversifying a business lead to failure?
5. A friend tells you to beware of certain areas in downtown Chicago. Is this prejudice, or just common sense? How do we tell the difference?
6. If you're into online gaming with role playing games such as World of Warcraft, have you noticed how cultural differences make a difference in how people play the game? Do Chinese players seem more team oriented and Americans more individualistic? How can such insights help you in your gaming?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. For understanding prejudice in academia, students going into teaching may want to read *Understanding Undergraduates: Challenging our preconceptions of student success*, by Celia Popovic and David Green (Routledge, 2012).
2. For those pursuing cross-cultural ventures and relationships and especially foreign policy, read the classic book, *The Ugly American*, by Eugene Burdick and William J. Lederer (W.W. Norton & Company, first published in 1958). It's a collection of about 20 fictional stories, based on the real experiences of the American authors and people they knew who were working with Asians after World War II.
3. Learn more by Googling such phrases as "the psychology of prejudice," "cross-cultural communication," or "the ultimate attribution error."



CHAPTER 5

THEY BELIEVE WHAT THEY WANT TO BELIEVE

"The moment we want to believe something, we suddenly see all the arguments for it, and become blind to the arguments against it."

— George Bernard Shaw

"If you can read only one newspaper, read the opposition's."

— anonymous¹

What Killed Steve Jobs?

Jobs possessed many qualities and competencies that helped him to build a truly great company. His brilliance dazzled the world in several areas:

- He was passionate about his products, obsessing over every detail of their design.²
- He put intense energy and focus into his work, setting the pace for the Apple workforce.³
- He possessed remarkable marketing instincts, which allowed him to build a passionate following around his brand.⁴
- His mantra "Simplify!" insured that his products were insanely easy to operate.⁵
- He had a strong aesthetic sense, blending artistry and technology to create beautiful products.⁶

Yet, for all his great strengths, he also had profound weaknesses. One likely killed him.

Apple software engineer Bud Tribble borrowed a phrase from the *Star Trek* series to describe one of Jobs' idiosyncrasies—"the reality distortion field." Tribble explained: "In his presence, reality is malleable."

Jobs would often express his version of the truth—truth as he wanted it to be—and refuse to accept any facts to the contrary.⁷ Sometimes the distortion field worked in his favor, such as setting unrealistic deadlines for seemingly impossible tasks. When people met with Jobs to

discuss a project, they entered his distortion field and would typically come out convinced it could happen. And sure enough, sometimes his engineers accomplished what they first deemed impossible.

According to his close associates, the reality distortion field wasn't merely a technique he adopted to manipulate others. Rather, when Jobs wanted to believe something, he'd manipulate facts and memories to deceive *himself* into believing it was true.

Take the matter of personal hygiene.

Jobs was convinced that his vegan diet would eliminate body odor, so he passed on the deodorant and skimped on baths. No matter how much his associates told him that he stunk, he never seemed convinced. According to associate Mike Markkula, "We would have to literally put him out the door and tell him to go take a shower."⁸

So it's no shock that when a routine kidney screening found a highly treatable, slow-growing type of pancreatic cancer at a very early stage, Jobs ignored his doctor's advice and the advice of many wise and concerned associates. Removing the tumor was the obvious and only accepted medical option, but to the horror of his wife Laurene and their friends, he decided to delay treatment and try a hodgepodge of unproven herbal remedies, juice fasts, acupuncture, etc. While Jobs chose to believe what he wanted to believe, the cancer continued to grow. Nine months later he would relent to have surgery; but by then it had spread to the liver. It took his life at 56 years of age.⁹

Why do brilliant people believe nonsense? Because they believe what they want to believe.

Jobs wasn't the only person to live in a "reality distortion field." To a certain extent, we all do. Unless we learn to see through the field, the results can be just as disastrous for us.

Motivated Reasoning:* How Our Desires Impact Our Beliefs

Our brains naturally resist changing opinions. Actually, studies show that it's even worse than resisting—we skew unwelcome data to make it bolster our opinion.

***Motivated Reasoning = allowing our emotions to bias our decisions and attitudes.**

Let's say we've followed a political candidate enough to decide we like him. Then we hear some negative information about him. You'd think that, being rational people, our assessment of the candidate would go down a notch, even if it's a tiny notch. Yet, multiple studies have found that our assessment of the candidate actually tends to go *up*. How's that?

Apparently, that negative information causes a bit of anxiety, leading us to reflect upon all the reasons we liked the candidate in the first place. In this way, we find reasons to explain away the negative information and come out believing in him more strongly. This tendency has been

demonstrated in regard to not only our opinions of political candidates, but other beliefs as well.¹⁰

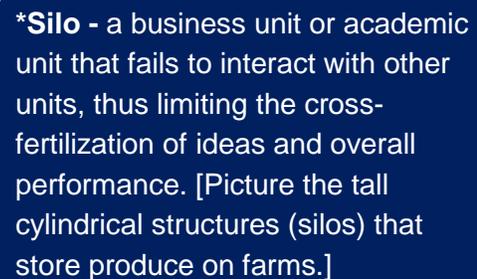
Fortunately, our views don't have to be skewed forever. Other researchers found that if we keep hearing negative information, mounting anxiety can lead us to a tipping point, where we finally change our opinion.¹¹

Lesson Learned

My takeaway from these studies? Without sufficient input from alternative viewpoints, we continue to reinforce our original beliefs and whitewash contrary evidence. So let's ensure that we're not limiting ourselves to that data that defends our current opinions. If we limit our input to a mere smattering of input from the other side, we'll likely reinforce our prior beliefs rather than allow them to be challenged by new data.

Yet, many people do the opposite. They either choose or naturally gravitate toward filling their minds with messages they want to hear, so that they never have their views challenged. If they're missing the truth, they're unlikely to find it by isolating themselves in a cozy silo* where everyone agrees with their opinions.

Here are a couple of areas where I see people insulating themselves from the whole truth in order to keep believing what they want to believe. The first is positive thinking taken to an extreme; the second is choosing exclusively news sources that reinforce our ideology.



***Silo** - a business unit or academic unit that fails to interact with other units, thus limiting the cross-fertilization of ideas and overall performance. [Picture the tall cylindrical structures (silos) that store produce on farms.]

How We Isolate Ourselves from Contrary Data

Many people accomplish great things when they set aside their negative thinking and start believing in themselves. We could give examples all day long, with an overwhelming amount of self-help books providing inspiring examples.

Example: Fifteen-year-old John fell in love with his guitar, playing it night and day. His Aunt Mimi, who was raising him, couldn't see the point of his obsession and would try to discourage him. She said,

"To me, it was just so much waste of time. I used to tell him so. 'The guitar's all very well, John, but you'll never make a living out of it.'"

But little John Lennon didn't believe the naysayers. He kept right on playing, putting his heart into the music he loved, until he and the other Beatles established themselves as the most popular band on earth.¹²

I love illustrations like this! They inspire me to move forward after a serious setback. And there's no doubt that many people with poor self-esteem, who believe the naysayers implicitly, could use a good dose of positive thinking to bring balance.

But surely some take mind over matter too far. Read enough inspiring examples, reinforce them with some pop science and cherry-picked psychological studies, and it's easy to form the dangerous habit of hearing only what we want to hear and ignoring the rest. In Steve Job's case, it was a recipe for disaster. After all, to "believe it and receive it," according to the literature, we need to believe it totally, without a doubt. To maintain this level of belief, it's often necessary to block out naysayers (contrary data) who may introduce doubt. This can lead to self-deception. In effect, like Jobs, aren't some people setting up their own "reality distortion field," putting themselves at risk for similar disasters?

In order to see the limits of "limitless thinking," and mind over matter, I like to think of extreme examples that don't seem to fit the model.

Imagine that you want to be a pro quarterback. Here are some qualities that would not only come in handy, but are typically required:

- A rote memory sufficient to have instant recall of an ever-changing roster of up to 50 running plays and 200 passing plays, distilled into code for calling audibles at the line of scrimmage
- A profound visual memory for film study and recognizing defensive schemes at a glance
- Exceptional mobility to scramble and avoid tackles
- A strong arm for long passes
- Tall (average 6'5" to 6'7") to see the field over the offensive and defensive line.
- Large hands for ball control
- Leadership
- Excellent peripheral vision to spot attacking defenders while eyes are focused downfield to find open receivers.
- Excellent figure/ground perception to hit a rapidly moving target 50 yards downfield, while scrambling to avoid a blitz
- Excellent muscle coordination
- A profound sense of time to manage the game clock with strategic time outs, avoiding delay of game, and alternately scheming to run the clock down or get maximum yardage out of limited time

There's only one obstacle to reaching your dream of becoming a pro quarterback. You're an Oompa Loompa. Vertically challenged at three and a half feet tall, you can't see over the line. Your tiny hands can't control the football. And with such short arms, no matter how much you strengthen them, you'll never throw long distances.

My advice to Oompa Loompas? Frankly assess your present and potential strengths and look beyond quarterbacking a professional football team to make your mark. I hope I'm not going out on a limb here, but even without a detailed assessment, I'd suggest ruling out professional basketball as well.

But what if Mr. Loompa puts in the number of hours that some have determined it takes to make for success? I'm sorry to be so frank, but no matter how many hours he puts in, holding onto his

aspiration would lead to a painfully frustrating life.

Success literature often ignores the solid science that supports our varying strengths and multiple intelligences. While some weaknesses can be overcome or at least strengthened; others, such as we've seen for our Mr. Loompa, have set boundaries. While it's easy to see that some physical assets and liabilities may pose limitations, we resist applying this to mental potential.

While coming to terms with our limitations is often seen as rather demoralizing, I've found it quite freeing. Surely the Oompa Loompa who convinces himself that he'll one day be the next Tom Brady has set himself up for a life of broken dreams and disillusionment. Similarly, in the mental sphere, I am colorblind and have a very poor visual memory. Put me in a warehouse where other workers effortlessly remember the locations and colors of boxes and I'd be known as the village idiot. My strengths include analytical thinking. Once I accept some of my inherent strengths and weaknesses, I'm free to concentrate on the areas in which I can more easily excel.

My point? The "unlimited potential" movement, although it may help some who need a boost to their self-esteem, can actually *limit* the potential of others by motivating them to focus myopically on what they *want* to believe and achieve rather than candidly assessing their strengths and weaknesses and interests, and setting their goals appropriately. By ignoring contradictory evidence, they may make poor decisions about their vocations, business goals, and personal goals, leading to a frustrating life.

Now I must admit that I haven't studied out this area thoroughly. So if an Oompa Loompa becomes the next Michael Jordan in basketball, please let me know. I'll purchase a ticket.

How Locking Ourselves into Silos Leads To Information Age Provincialism

According to Mark Twain,

"A person who won't read has no advantage over one who can't read."

How true. But let's add a corollary which seems especially useful for the information age:

"A person who won't read *widely* may have no advantage over the one who can't read."

In fact, the narrow reader who reads only writers who agree with him may be *worse* off than the illiterate, since no matter how obsessively he reads, he merely reinforces his prejudices. This leads us to another Mark Twain insight that we've already considered:

"It's not so much what people don't know that hurts them, it's what they do know that ain't so."

In the information age, it's increasingly easy to isolate ourselves with the opinions of those who think like us and insulate ourselves against all else. If we set our news feeds to receive the views of our choice we may never have our views challenged. The narrow reader risks

accumulating greater and greater amounts of spin and misinformation, leading to conclusions that can be as dangerous as they are erroneous. We have only to look as far as those who immersed themselves in Nazi propaganda to see where this can lead.

So let's explore our sources of current news and politics. Could we be exclusively listening to what we want to hear, thus reinforcing our prejudices rather than truly learning?

Think!

How do you get your news? Do your sources promote a certain political position? How can you find out? Are your sources biased or balanced?

The Challenge of Getting Objective News (Tip: It's not easy!)

How can we insure that we're accurately informed about candidates and wars and discoveries and job markets and other important news?

1. Understand where news sources stand.

Some of us are being indoctrinated without our consent, since we're unaware of the ideological bent of our sources.

Historically, America began with highly partisan newspapers that openly held competing political positions. To find the truth behind the bias, people had to read at least one paper from each viewpoint. But in the 1800s and early 1900s news sources shifted from taking positions to striving for neutrality (in part because advertisers wanted to reach a larger audience through a smaller number of papers with a wide appeal).

While this at first sounds noble, asking a journalist to always present both sides of a controversial issue isn't always the best path to objectivity. What if a journalist decides that all the facts point to one conclusion? Must she still, in the name of balance, devote a paragraph to argue for an opposing position that she deems worthless?

Dr. Jay Rosen at New York University argues that rather than putting a straightjacket on journalists, asking them to report from the unrealistic perspective of the "view from nowhere," why not let them express their viewpoint if they think it best fits the facts? In this manner, as technology commentator David Weinberger suggests, transparency becomes the new objectivity. Whether you're a convinced, diehard Democrat, or just as staunch a Republican, simply disclose your position in your bio so that readers can judge whether or not your biases are coloring your columns. If you're a business writer and a pharmaceutical company owns your newspaper, disclose it so that we'll know you may not be entirely objective when reporting on the medical industry.¹³

But while transparency helps, it doesn't solve all the objectivity issues. Here are two shortcomings of transparency.

First, news sources and their reporters don't necessarily believe they're presenting a niche viewpoint. The convinced Republican and equally convinced Democrat both believe they're presenting the objective truth. Thus, they're unlikely to openly disclose their slant to potential readers/viewers. And news sources that lean one direction or the other are unlikely to display this kind of branding:

Fox News: A Great Place to Get a More Conservative Viewpoint

MSNBC: Where Liberal Listeners Can Reinforce Their Political Opinions

Instead, below Fox News' logo on their website is the phrase "fair and balanced." They see themselves as giving the factual alternative to liberal bias. For MSNBC, I see no prominent wording to explain their position on their website. Yet, in other places they describe themselves as "News, Video and Progressive Community," with "progressive" apparently meaning "sympathetic to a liberal ideology."

Second, transparency falls short because we may receive reports, not from a single source, but from an aggregator of many sources, like the Drudge Report or Google News. Thus, we may not know where a report originated.

Especially with the advent of the Internet, news sources represent every view imaginable. In India, 81 satellite stations vie for listeners, with each typically claiming an ideology and reporting from that viewpoint. Each of Italy's three state-sponsored television stations represent a different political party.

In America, as I write (things change), my research revealed the following characteristics of popular news sources:

- CNN strives for political neutrality. It excels at breaking news.¹⁴
- Fox News was created to give voice to a more conservative position. Yet it also employs some distinctly liberal voices to provide helpful debate.¹⁵
- MSNBC has moved to a more liberal slant, seeking to provide an alternative to Fox News's conservative slant.¹⁶
- While the *New York Times* has high standards for both writing and research, studies find it leaning to the liberal side, although not exclusively. It also employs some conservative columnists for balance.¹⁷
- The *Wall Street Journal* tends to lean liberal in its news, conservative in its opinion pieces.¹⁸

Again, be aware that news sources keep shifting. They are constantly looking at their markets, with their fingers in the wind to see what large audiences want to hear. Thus, it's not easy to find

objective reporting.

So much for transparency as a cure all. At present, the burden rests upon viewers/readers to learn the leanings of various news sources and their writers/editors. So occasionally study the recent history of a news source; keep abreast of research that sniffs out bias, and take into account the market each station is trying to reach. Concerning the latter, a public editor* for the *New York Times* explained its liberal slant as a desire to appeal to New Yorkers, who purchase about half of their papers.¹⁹

***Public Editor =** an employee of a newspaper who seeks to ensure a high standard of journalism ethics by bringing to light errors or omissions, and acting as a liaison to the public.

If you consult watchdog groups which report bias in the media, don't assume neutrality in the watchdog groups! For example, *Media Matters for America*, while at first glance appearing to be nonpartisan, is actually dedicated to "monitoring, analyzing, and correcting conservative misinformation in the U.S. media." Alternately, *Accuracy in Media* and the *Media Research Center* exist to disclose liberal bias in the media.²⁰

Another way to detect bias is to understand and look for indicators of bias in articles/programs as you read them, which brings us to our second recommendation.

2. Learn how to detect bias in a news source.

Bias impacts reporting in many ways, and it's not always easy to detect. As you read and view the news, ask yourself the following questions to see if it's promoting a certain viewpoint.²¹

- *Do they employ spin?* The president approves a plan to allow more people to qualify for food stamps. Here are two reports, written from different perspectives:

"President Approves Plan to Help the Poor"

"President Plunges Country into Deeper Debt"

Although they're reporting the same event, the first article focuses on the benefit to the poor, while the second focuses on the potential damage to our economy. Both titles, while they may be technically accurate, spin the words to either praise or condemn the president.

- *Do they unfairly assign motives?* What motive does this title assign:

"State Budget Committee Unconcerned for Education: Votes Down Funding for New Technology in Schools"

Do you think it's fair? I doubt the committee claimed they were unconcerned about education. Perhaps they felt the new technology would actually hinder education, or

would take money from more needful educational projects.

- *Are they balanced?* Do they present all legitimate sides of the issue?
- *Do they cite sources that agree with their view, while excluding others?*
- *Do they fail to report news that puts their view in a bad light?*
- *Do stories favorable to their agenda receive prime placement* (e.g. early pages of a newspaper, prominent links from the home page of their website)?
- *Do they label people in order to either vilify or justify them?* "He's a liberal, just speaking the party line." "Of course he voted against the program! As a libertarian, he has no concern for the poor."

Warning! In looking for signs of bias, studies show that it's much easier to perceive bias in articles that don't agree with your position than those that support your position.²² Psychologists call it the "hostile media effect." So look extra hard at news sources that tend to agree with your positions. They may be more biased than you think!²³

3. Choose a variety of reliable sources.

Remember, our purpose here is to save us from our tendency to believe what we want to believe. But we're very unlikely to overcome this tendency if we habitually hear what we want to hear. How can we break from that comfortable information silo that reinforces our prejudices?

Many people listen to exclusively one news source. Instead, especially on important issues, explore other sources.

But remember, sources from your country will likely, consciously or subconsciously, paint your country in a more favorable light. So consider international publications as well. During the Cold War, many Eastern Europeans listened to Western News to get another view. Many Americans like to listen to the British Broadcasting Corporation (BBC) for a view from abroad.

4. If reports disagree on an important issue, consult a nonpartisan fact check site, such as <http://www.factcheck.org/>.

A week or so following a presidential debate, Google "fact check presidential debate" to find how researchers compare candidates' claims to the facts.

These tips on news sources can help protect us from the danger of listening to only the news we want to hear, thereby reinforcing our biases rather than leading us to truth.

Action Points

How to Protect Ourselves from the Tyranny of Our Preferences

Moving from the news media to our more general task of seeking truth, how can we break outside our preferences to seek the truth more objectively?

1. Recognize that our desires impact our beliefs.

Surely none of us are exempt. In fact, those who claim to seek truth from a totally objective, dispassionate framework are probably deceiving themselves. Here are a couple of scholars who seem aware of their passions and consider their possible influence on their beliefs.

Dr. William Lane Craig, one of today's most popular and respected theistic philosophers, tells of his upbringing with no spiritual roots, and the adolescent angst that resulted from his secular outlook on life. In high school, he read H.G. Wells' novel *The Time Machine*, in which a time traveler journeys far into the future to discover the destiny of mankind. He discovers that all human and animal life have perished. His most astonishing sensation is the resulting silence. "All the sounds of man, the bleating of the sheep, the cries of birds, the hum of insects, the stir that makes the background of our lives—all that was over."²⁴ When the traveler returned to present times, he was keenly aware that everybody's rushing to and fro will ultimately come to nothing.

After reading this, young Craig was horrified. He thought. "No, no! It can't end that way!" But he concluded that if there was no God and no afterlife, then there was no ultimate purpose in life, no great importance to mankind.

Obviously, those who long for an ultimate purpose will be more open to spiritual answers than those who rarely think of such things. While Craig would go on to study religion and philosophy professionally, we can see how such longings can impact beliefs. Many religious testimonies relate initial longings that were fulfilled in their conversions.

But just as the religious should consider their longings in justifying their beliefs, so should the irreligious. Thomas Nagel, an outspoken atheist, professor of law and philosophy at New York University, once wrote:

"I want atheism to be true and am made uneasy by the fact that some of the most intelligent and well-informed people I know are religious believers. It isn't just that I don't believe in God and, naturally, hope that I'm right in my belief. It's that I hope there is no God! I don't want there to be a God; I don't want the universe to be like that."²⁵

Both Craig and Nagel hold PhDs in their fields from respected universities. Both have keen minds. Yet, as humans, they also have wants and desires. Fortunately, both are aware enough of their longings to admit them and take them into account as they search for truth.

"But scientists are much more objective than philosophers," some might object. Perhaps. But

the history of science reveals similar passions at work among scientists to both aid and hinder discovery. We'll discuss that in chapter nine. Surely it's safest, in our search for truth, to examine our hearts and make sure they're leading us to an open minded search for truth, rather than to merely justify our passions.

2. Doubt yourself.

Knowing that we have a tendency to believe what we want to believe, wouldn't it be wise to routinely question our positions and hold them with a bit less dogmatism? The more I mature, the more comfortable I am with phrases like "It seems to me..." over phrases like "This is the way it is...."

3. Read widely, outside of your sympathetic silo.

Listen exclusively to Nazi propaganda if you want to believe like Nazis. Read only about alternative medicine if you want to discount traditional opinions. But if you're searching for the truth, read more widely.

It's cozy living in our comfort zone. Everything's warm and soft. Relieved of the terrible duty of objectively examining evidence, many listen exclusively to radio stations that reinforce their existing beliefs. By way of contrast, one of my favorite thinkers and theologians, Robertson McQuilkin, used to say that his intellectual enemies were often his best friends, because they challenged his beliefs.

4. Put checks and balances into effect.

At Microsoft, founding president Bill Gates expected people to stand up to him and argue their points if he disagreed with them. That's healthy. Those who surround themselves with "yes men" and "yes women" isolate themselves from a host of great ideas.

Flex Your Neurons!

Pursuing the Point of Know Return

1. When you read/listen to news, what are your sources? Read evaluations of your sources to see if they are biased toward a certain political position. How could you get a less biased take on the news?
2. Read the titles of twenty or so news headlines reporting on recent initiatives/statements by the current president. Do some of the headlines show bias? In what way?
3. W.C. Fields once said, "If at first you don't succeed, try, try again. Then quit. There's no point in being a damn fool about it." How does this relate to the "I can do whatever I put my mind to" movement? In what cases might this be good advice? When might it be poor advice?
4. In my critique of "mind over matter," did I actually disprove the theory, or did I merely use an extreme position to illustrate limits to mind over matter?
5. How could our tendency to believe what we want to believe impact the results of drug companies running clinical trials to test the effectiveness of their products? According to one source,

"Extensive evidence shows that industry-funded trials systematically produce more favorable outcomes than non-industry sponsored ones."²⁶
6. Study how the government's recommendations for a healthy diet have shifted over time. Read this recent Wall Street Journal article to see how researchers can skew evidence to coincide with what they want to believe: Nina Teicholz, *The Questionable Link Between Saturated Fat and Heart Disease*, WDJ, updated May 6, 2014. Do you believe Teicholz's evidence and line of argument, or do you still have remaining questions?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. In the section on mind over matter, we talked about the need to discover our strengths. For more on how our strengths and styles of thinking should impact our decisions, see chapters 13 and 20 of this book.

2. Here are a couple of good books on the need to identify our strengths: *First, Break All the Rules*, by Marcus Buckingham and Curt Coffman (New York: Simon & Schuster, 1999) and *Next, Discover Your Strengths*, by Marcus Buckingham and Donald Clifton (New York: The Free Press, 2001).

3. For more on Steve Jobs and how his style of thinking impacted his leadership at Apple and Pixar, see *Steve Jobs*, by Walter Isaacson (New York: Simon & Schuster, 2011).

4. Google these phrases if you're interested in pursuing them further: "motivated reasoning," "media bias," and "hostile media effect."



CHAPTER 6

THEY'RE TRAPPED IN TRADITIONS

*"At the crossroads on the path that leads to the future,
tradition has placed against each of us 10,000 men to guard the past."*

— Belgian philosopher Maurice Maeterlinck

"The past is a different country. They do things differently there."

— From the novel, *The Go-Between*

"Someone's got to take a stand!" the wealthy churchman must have thought. "The church should be a place of purity and holiness, separate from the world and its secular entertainment. How could good people welcome this worldly instrument into God's house?"

He did all that he could to thwart the efforts of the "misguided" group that had conceded to accept the sinister gift, beseeching them with tears and even offering to refund the entire price if someone would only dump the ill-fated cargo overboard during its transatlantic voyage.

Just what was this instrument of such vile associations and shady history? The electric guitar or drums? Hardly. The churchman's pleas were left unheeded; the instrument arrived safely in an American harbor, and the Brattle Street Church of Boston made room for the controversial instrument: the organ.¹

Wouldn't you like to crawl inside that guy's head to try to understand what led to such backward thinking? I mean, an *organ*? Controversial? Really?

But let's give him a break. Times were different in early America. Instruments had different associations in people's minds. Had we lived during his time, sharing his experiences, we might have been devoted members of the "Destroy the Damn Organ Committee." I doubt today's civic and business leaders are immune to precisely the same tendencies that hijacked the mind of the misguided churchman.

Traditions develop so subtly and establish themselves so strongly that all of us, no matter how smart, can allow them to stifle our creativity and innovation.

Lessons from History

A study of the history of religious music reveals much about how traditions set in and how difficult they are to break out of.² A similar cycle could probably be found in such fields as education or business. Here's how it played out in church music.

Period #1: Authentic - People worship to musical styles that are congruent with their heart music—the tunes they sing in the shower, hum as they go to work, and listen to in their most relaxed moments. Thus, when outsiders visit their services, the music resonates with them.

Period #2: Separation - While music styles in secular society continue to morph, the church allows their styles to fossilize. After all, the older folks have fond associations with their church music and if the younger generation were spiritually attuned, surely they'd prefer it as well. The church justifies its exclusive use of older music with many arguments, such as "The church should be different from the world. Why should we bring secular music into the church?"

Period #3: Integration - Bold innovators, convinced that outdated forms are stifling heartfelt worship, experiment with styles popular among the larger culture.

Period #4: Conflict - Diehard traditionalists bitterly oppose the "secularization" of the church with "worldly" music. Churches split. Innovative pastors are ousted.

Period #1 (Reprise): Authentic - Many churches that adopt newer forms of music thrive, ushering in a time of renewal, which continues until churches refuse to adapt to the continued morphing of music in the larger culture. Thus history repeats itself.

Resulting Experimentation and Ferment

In the first half of the 1900s American churches typically played hymns set to the tunes of popular music of the 1800s. Over time, these had become the accepted music of the church. But during the social unrest of the 1960s and 1970s hippies began searching for God in what became known as "The Jesus Movement." Rather than purchasing organs for their meetings, they kept their guitars and drum sets and penned their own songs, which eventually revolutionized music in the church. Many churches that adapted to this new generation's music experienced explosive growth.³

Experimentation with musical styles has become one of the most salient characteristics of the modern church. Walk into a worship service at random and you may find styles from classical to traditional hymns, hip hop to rock, minimalist to full orchestration. In the language of ethnomusicology, many churches employ the music indigenous* to the local people (their "heart music") rather than impose styles that are foreign (or repugnant to) their experience.

***Indigenous** = originating in and characteristic of a particular region or country.

Applications to Business

Wise businesses and service organizations can learn from church history, as well as the history of the rise and fall of great businesses. If the preferences and culture and traditions of customers are out of sync with the culture and products promoted by the business leaders, customers will go elsewhere.

Last week, my wife Cherie and I visited a new restaurant. The food was great, but they assaulted us with loud 1980s' rock. We're more into 1970s' music and recent niche styles. While their clientele seemed mixed—older, younger, families—I'll bet their staff grew up in the '80s and considered that era of music "good music." They assumed that what sounded good to them (volume as well as style) would sound good to their customers. The atmosphere told us on a gut level that it wasn't our kind of restaurant. I doubt we'll return.

Traditions that Threatened Starbucks

Unlike church music styles, which may take a generation to set in, other traditions set in quickly, or are established from the start. Take Starbucks, one of the most successful business stories of our time. Starbucks opened its first store in Seattle in 1971. In 43 years, Starbucks has become "the premier roaster and retailer of specialty coffee in the world," serving customers in 18,000 stores in 62 countries. Not bad for a company that found incredible difficulty overcoming its early traditions.⁴

After Howard Schultz joined Starbucks in 1982, he travelled to Italy and caught a vision for bringing the Italian coffeehouse tradition back with him to the United States. He envisioned a place for conversation and community, "a third place between work and home." He also envisioned the type of coffee they would be drinking—the kind of coffee that Schultz was passionate about.

As Schultz put it,

"Starbucks stood not only for good coffee, but specifically the dark-roasted flavor profile.... That's what differentiated it and made it authentic.... You don't just give the customers what they ask for. If you offer them something they're not accustomed to, something so far superior that it takes a while to develop their palates, you can create a sense of discovery and excitement and loyalty that will bond them to you. It may take longer, but if you have a great product, you can educate your customers to like it rather than kowtowing* to mass-market appeal."⁵

***Kowtow = to act in an excessively subservient manner.**

Well, that all sounded wonderful to the leadership, being coffee connoisseurs who somehow knew what customers would like if you trained them. But what if their customers disagreed, deeming Schultz's ideas about "good coffee" as nothing more than dark roast elitist snobbery? What about the customers who didn't want to be "educated" about "real coffee," but simply wanted a medium roast decaf diluted with cream and caramel flavoring? Is that really so heretical? It was certainly unthinkable to Schultz and the rest of the leadership, and questioning Starbucks' orthodoxy was no easy matter.

In that first store, they learned that while you can bring Italy to Seattle, you can't make Seattle-ites like every aspect of it. Schultz played exclusively Italian opera. Customers got tired of it. There was no seating (In Europe, many coffee bars are stand up only.) Customers wanted to sit down. The rub with the leadership was that "integrity to the vision" thing—they were in love with their original vision and strongly resisted diluting it. They wanted Seattle to share the Italian experience. In the end, they reluctantly changed the music and brought in chairs.⁶

But the coffee was another matter.

Schultz and the other leaders were purists about their coffee and their distinction of offering the undiluted Italian experience. That is, until they hired Howard Behar. Behar didn't hold any purist notions of "great coffee." Rather, he held to strong principles about how to run a business. According to Behar, great companies listen to their customers. In fact, those who fail to listen die.

So right from the start, Behar gathered customer input by reading comment cards and talking to their baristas and customers. Their main message? They wanted nonfat milk. So Behar confronted Schultz as to why he wasn't listening. Schultz replied that coffee with nonfat milk didn't taste good.

"To whom?" asked Behar.

"To me..." replied Schultz.

"Well, read the customer cards," replied Behar.

"We will never offer nonfat milk," replied Schultz. "It's not who we are."

To Schultz and his store managers, even the mention of nonfat milk implied treason. But it was the late 1980s and people were trying to cut down on their fat intake. Behar wouldn't let go of it. According to Schultz, it was "one of the biggest debates in Starbucks' history."⁷

Early one morning, after a restless night, Schultz drove to a Seattle Starbucks, his mind struggling with the debate. He ordered a double espresso and took a seat, paying attention to the people ordering. A young woman, dressed in sweats, apparently fresh from her morning run, ordered a double tall latte with nonfat milk. The barista politely explained that they carried only whole milk. Frustrated, she said that she could get one from a nearby shop and left.

For Schultz, it was an epiphany. They tested low fat milk in a few stores, then extended it to the rest, resulting in a whopping 50 percent of lattes and cappuccinos being ordered with low-fat milk.⁸

From our vantage point, these decisions appear obvious. But at those points in Starbucks' history, they weren't clear at all. After all, businesses must differentiate themselves. If Starbucks were "just another of the scores of coffee shops in Seattle," what would set them apart, making them special? Once they branded themselves with that Italian distinction, wouldn't catering to the whims of customers eventually obliterate that distinction?

As Schultz put it,

"In hindsight, that decision [introducing low-fat milk] looks like a no-brainer. But at the time, we weren't sure what impact it would have on our brand and our identity. When a Caffè latte is made with nonfat milk, is it still an authentic Italian drink? Most Italians wouldn't recognize it...."

"We had to recognize that the customer was right. It was our responsibility to give people a choice."⁹

It's easy to see how we get set in our ways and resist change. It's not entirely irrational. The guardians of tradition always have arguments for their positions.

Why do brilliant people believe nonsense? Because they allow traditions to blind them to the truth.

And we're not just talking about restaurants, coffee shops and churches. The same principles apply to the music you play in your store, the décor in your university classroom, the culture you're trying to develop in your technology company, your style of teaching in your middle school class, and the unique musical style of your band.

Surely all of us could use an infusion of creativity to blow the traditional dust out of our organizations. How can we do it?

Action Points

Especially in today's fast-moving world, the mantra of successful businesses I study is "Innovate or die!" What's working today may not work tomorrow. How can we resist the tight grip of tradition?

1. Reexamine your roots.

What line of reasoning originally led your organization to adopt its traditions? Is that line of reasoning still valid? If so, perhaps the tradition is still of value. Don't change traditions just for the sake of change!

But often, with time, the original reasoning no longer makes sense.

I heard of a lady who was teaching her daughter how to cook a roast when her daughter asked, "Why do you cut it in half?" Mom responded, "Well, your granny always did it this way, so I assumed it had something to do with making sure it cooked thoroughly in the middle." But her curiosity got the best of her and the next time she talked to granny, she asked about it. Granny responded, "I cut it in half because my pan was too short!"

In this case, as well as others, it helps to revisit the decision making process that originally led to adopting the tradition.

In the case of church music, where did those old hymns originate? Why did they choose them?

It turns out that the old hymns were typically put to the tunes of popular secular ballads of their day. No wonder the new songs resonated with the people of their time. And no wonder they often failed to resonate with so many in later generations. This fact also helps to refine a relevant question. In light of the history of hymns, instead of asking, "Is it okay for churches to use the world's music," the more accurate question would be, "What era of the world's music should we use?"

The church examining its roots may discover that the tradition it wants to preserve is *the methodology* that led to its adopting hymns in the first place. Perhaps those churches during the times of Isaac Watts (adopting the popular poetry of his time) and the Wesleys (adopting the popular tunes of their time) succeeded, not because the music was in itself superior to the styles of other cultures and ages, but because it resonated with the specific culture they were trying to reach.

Back to business, if you own a retail store and your present product line was chosen based upon trends five years ago, have those trends changed enough to warrant tweaking your product line?

Again, don't dismiss traditions because they're traditions. Revisit your original reasoning that led to the adoption of the tradition. It just might still make good sense, or may need a good tweaking rather than trashing.

2. Periodically reexamine your vision, mission, and core values.

Does your vision need to change? In the case of Starbucks, their vision of the Italian experience was such a part of their DNA that they couldn't see outside of it. In a sense, their mission became more important than their customers.

3. Reassess your target culture, either here or abroad.

If you were starting the first Starbucks in Costa Rica, you'd naturally study Costa Ricans to fine tune your store to fit their culture. If certain symbols or colors would align the store with a certain political party, or if certain flavors that Americans love are despised there, you'd certainly want to know. Since cultural nuances are typically invisible to foreigners, your best bet would be to not only read up on culture, but to engage Costa Ricans in conversations about your store, *especially those who enter your store for the first time*, since they've yet to be acculturated into Starbucks' ways.

Ask questions such as:

- Does anything offend or annoy you about the store décor or service?
- What products appeal to you or disgust you?
- Are the products named appropriately?
- If you were to start a coffee shop, what would you do differently from us?

Much can be lost in translation. I recall a fine restaurant in Bratislava, the capital of Slovakia, that had a menu translated into English (perhaps from Slovak to German to English). One of the entrees was titled something to the effect of "Sheep Shit with Goat Cheese." Not too appealing. Apparently the translator lacked fluency in English and could have used an English-speaking informant to better appeal to his English-speaking guests!

While all this cross-cultural sensitivity may seem pretty obvious in starting a Starbucks in a foreign culture, it's often less obvious when starting one in our own culture. We assume that we know our own culture thoroughly.

We don't. Remember, Starbucks' leadership had difficulty adjusting their store to their own culture in Seattle, because they *assumed* that everyone would react the way *they* reacted to Italian coffee shops. They were wrong. They also failed to consider that Starbucks' customers in Southern California might have their own preferences, distinct from Seattleites.¹⁰

The goal should be to start a store that's truly indigenous to the local culture. You do that by starting conversations with the locals and listening intently, even if you consider the culture your own. Cultures change, and companies that pass the tests of time recognize and assess those changes.

4. Study the relevant data and reason from it with precision.

In other words, employ your skills in research and critical thinking.

The wealthy churchman wasn't arguing that tradition in itself was sacred. A body of evidence typically arises to protect traditions. I'm sure he could have listed many arguments for shunning organs, which needed to be tested by asking questions such as:

From Psychology: Do certain instruments/styles negatively impact our thoughts, regardless of personal associations?

From History: Were the instruments we presently use developed by the church, or imported from the world? Does it matter?

From Theology: Does "worldly" mean anything invented by and used by the world? If so, to be consistent, are the pastor's stylish clothes "worldly"?

From Ethnomusicology: Do instruments/styles carry the same meaning in different cultures and different generations?

Religious leaders, as well as leaders of innovative companies such as Microsoft, Google and Apple often find themselves embroiled in highly charged debates about changes and new directions. But the path to the future is paved with difficult decisions that require thought, study, candor, debate, new data, and still more thought before reaching decisions.

In the end, we dare not destroy traditions merely for the sake of constant innovation. Set them aside only if they no longer make sense. Many educational institutions have wonderful traditions that continue to reinforce their vision and goals. Treasure them!

5. Encourage small scale innovation before a major overhaul.

Another Starbucks debate erupted concerning their southern California shops pushing to offer something to compete with the cold, sugary, blended coffees that they saw selling briskly at competing shops in hot weather. Schultz resisted, arguing that it wasn't a true coffee drink. It would dilute their integrity.

Finally, a renegade store, without permission, bought a blender and started experimenting. They eventually got upper management on board and continued to experiment until they developed the Frappuccino, an icy blend of dark-roast coffee and milk. Schultz still thought it was a mistake, but allowed 12 stores to test it. It was a sensation. They rolled it out nationally and the first year sold \$52 million worth of Frappuccinos, representing seven percent of their total revenue.¹¹

As Sam Walton said of his success with Walmart:

"I think my constant fiddling and meddling with the status quo may have been one of my biggest contributions to the later success of Walmart."¹²

"After a lifetime of swimming upstream, I am convinced that one of the real secrets to Walmart's phenomenal success has been that very tendency."¹³

6. Set in place mechanisms that force you to regularly reevaluate traditions.

Someone said that the seven last words of the church were, "We never did it that way before." Those could also be the seven last words of businesses. What mechanisms might ensure that we keep innovating?

Several studies, one of them examining over 90 prominent creatives in various fields, found great ideas coming, not typically from isolated eureka moments, but from a process.¹⁴

Typically, innovators have been researching and thinking about a question for some time. For example, the theory of gravity didn't come to Newton in full bloom when the apple dropped from the tree (if we can trust this story). Rather, he'd been reflecting on the question of what holds the universe together for some time and had a strong background in math and science.¹⁵

In the same way, we're much more likely to innovate if we've ensured a constant flow of data to fuel our thoughts. If you're in business, do you read publications in your field? Edison and his team saw breakthrough after breakthrough, resulting in over 2,300 U.S. and foreign patents. But his ideas didn't come out of nowhere. He read widely, urged his staff to do the same, and kept abreast of many scientific journals. This study helped to guide their experiments.¹⁶

7. Beware of enthroning traditions.

Soichiro Honda revolutionized the motorcycle industry and then disrupted the automobile industry by introducing some of the most reliable, emissions-efficient, popular cars ever. He

succeeded largely by thinking differently. To keep his company innovating, he outlawed the use of the word "tradition" at Honda Motors, considering it alien to the principles he'd established.¹⁷

8. Learn from outside your field.

We most eagerly learn from within our own field of specialty, where we feel the most comfortable and where we get so many relevant ideas. But it often pays to look outside our field.

When leaders at the Mayo Clinic wanted to improve the efficiency of their scheduling, they felt the need to look outside the medical community. If their scheduling methods could account, for example, for the fact that an elderly patient or wheel-chair bound patient would need more time to get an MRI, they could help more patients get through the process without waiting. So in the 1950s Mayo leadership learned from the Pullman Train schedulers. By the 1970s Mayo was an early adopter of computers for scheduling, adapting software used by Boeing and NASA.¹⁸

Flex Your Neurons!

Pursuing the Point of Know Return

1. You're teaching English as a Second Language in another country. How will you decide what kind of music to play as people enter?
2. You're starting a new restaurant. What kind of music will you use? What kind of décor? Concerning your menu: How will you keep tweaking it to make sure tradition doesn't calcify after people's tastes have evolved?
3. How would you evaluate your high school, or your department in your university? What aspects seem more based on tradition than function? In your opinion, which traditions help the goals of the school and which ones hinder the goals? Is there a system by which traditions are evaluated to see if they still serve a useful function?
4. If your business or service organization is thriving, have you set in place ongoing evaluation to make sure it doesn't get too set in its ways?
5. Are you in love with your traditions? Are you letting personal preferences interfere with getting candid input?
6. You did a study abroad to Sao Paulo, Brazil and fell in love with Brazilian steak houses. You want to replicate the experience in America with your own steakhouse. How will you decide which traditions to import and which to leave behind?
7. You cook the same meals for your family every week. Might it help to try at least one new dish every week? Is there a way you could solicit regular input from your family without it becoming a gripe session? How could you overcome the inertia that keeps you in your traditional, comfortable rut?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. For more on creativity and innovation, I profited from reading *The Myths of Creativity: The Truth about How Innovative Companies and People Generate Great Ideas*, by David Burkus (San Francisco: Jossey-Bass, 2014.)
2. Here's a good article by Burkus on implementing creative support groups: <http://99u.com/articles/21521/in-praise-of-the-creative-support-group>.
3. Many writers and artists who experience writers' block have been set free by *The Artist's Way*, written by journalist and screen-writer Julia Cameron (New York: Tarcher/Putnam, 1992). In part, she recommends that blocked artists write three pages of stream-of-consciousness writing each morning, plus take an "artist's date" (you and your inner artist) each week to nurture your creativity. Could adopting (or adapting) such practices increase your creative output?
4. Other well respected books on creativity and innovation include *Uncommon Genius: How Great Ideas Are Born*, by Denise Shekerjian (Penguin Books, reissue edition 1991); and *Creators on Creating: Awakening and Cultivating the Imaginative Mind*, Barron, et. al., editors (Tarcher, 1997). The former is a study of 40 creative people to see how great ideas are born. The latter is a collection of essays by famous creative people, describing their own creativity. *Exploring the Nature of Creativity*, by Jon Michael Fox and Ronni Lea Fox (Dubuque, Iowa: Kendall/Hunt Publishing Company, 2000), gives an accessible introduction to the subject for students. Those wanting a more academic introduction to creativity, summarizing what scholars in various fields are researching and discovering about creativity, written more for academics than for creative individuals looking for inspiration, consider the *Handbook of Creativity*, by Robert J. Sternberg, editor (Cambridge University Press, 1998). If you need a more up-to-date handbook, see *The Cambridge Handbook of Creativity*, by James Kaufman and Robert Sternberg, editors (Cambridge University Press, 2010).



CHAPTER 7

THEY FAIL TO IDENTIFY HIDDEN ASSUMPTIONS

*"Your assumptions are your windows on the world.
Scrub them off every once in a while, or the light won't come in."*

— Isaac Asimov

Assumptions in Entertainment (or How to Fool Intellectuals)

It was talent night at Kennesaw State University. An international student took the stage and baffled both students and faculty by apparently defying the laws of time and space. He appeared on the stage, in clear view of the audience, announcing that in a moment the lights would black out for two seconds, after which he would appear elsewhere. Sure enough, after a moment of darkness, the lights returned to find he'd disappeared from the stage. But no. Someone opened a box that appeared securely chained shut and out climbed the student.

Great minds wrestled with the seeming impossibility. How could he have rushed to the box, jumped inside, and shut it so quickly? Even if he made it, it seemed securely chained. Could it have been some kind of smoke and mirrors? Perhaps he wasn't originally on the stage at all—projected as some kind of hologram. But he looked so real, so really there.

For his grand finale, he announced that in the next two seconds of darkness, he'd once again disappear from the stage and the lights would reveal him walking in the back door of the auditorium—obviously a distance that couldn't be travelled in two seconds, even if he sprinted the shortest distance, straight down the middle aisle, in complete darkness.

The lights flipped off. They flipped on. He was walking in the back door. The audience was astounded.

After the applause, he revealed his secret. Unknown to the audience, he had an identical twin brother, who joined him on the stage to take a bow.

One faculty member said he couldn't believe that it never occurred to him that the student had a twin brother. That's what happens when we unconsciously limit our thinking with unwarranted assumptions. In this case, the assumption was revealed in the very wording of people's

thoughts: "How did *he* do that?" "How did *he* move so quickly?" "Was *he* really where we thought *he* was from the start?"

It wasn't *he*; it was *them*. Their very questions limited the range of possible answers.

Assumptions in Warfare: How False Assumptions Lost a War and Changed the World

The year was 1776. The setting was the North American British colonies. The big event was a rebellion against the mother country by some troublemakers who were discontent with British rule. The outcome would reshape the modern world.

The question I'd like to answer is not whether the British or the Americans were right in their cause—many American colonists sided with their mother country and fought for the British. Similarly, many British argued in their Parliament against the war. I'd like to pose a different question:

"Why did the most powerful, well-trained army on the planet lose a war to an army that seemed inferior in every way?"

To set the stage, let's first grasp just how superior the British forces were.¹

- The British leaders were trained in the art of warfare in the top schools of their time. None of the American leaders had been trained in military schools. They picked up what they could from reading books. General George Washington had seven or eight years of schooling by a private tutor, just enough to learn to "express himself on paper with force and clarity." General Nathanael Greene and Colonel Henry Knox would become two of his most important leaders. Green was a thirty-three year old self-educated Quaker; Colonel Henry Knox was a twenty-five year old self-educated bookseller.
- The British leaders had vast experience. Neither General Washington nor any of his leaders had ever led an army.
- The British troops were well-trained and well-disciplined. The American troops were largely young farmers, schoolteachers, shoemakers and the like, learning as they went along.
- The British were well-clothed and equipped with the best cannons and guns, not to mention having the world's dominant fleet of warships. The Americans had little artillery and were woefully short of gunpowder. Their clothing was often inadequate to the point of marching barefoot. Sickness often ravaged the camps.
- The American troops were far outnumbered. To make matters worse, large numbers of soldiers considered going home and deserting the cause. They were often miserable, missed their families, and had plenty of reasons to believe they could never defeat the

British. And besides, many of their own countrymen were Loyalists, siding with the British.

So why didn't the British forces obliterate the American troops early in the conflict? Many reasons could be discussed, but I'd like to suggest one that stood out to me in reading David McCullough's respected book on the beginnings of the Revolutionary War, titled simply *1776*.

Here's my key observation:

The Revolutionary War was a contest between *the learned* (the British) and *the learners* (the colonists). The British were overconfident because they far outnumbered the American army, were well-equipped, well-trained, and knew how to fight. They *assumed* they knew much more than they'd ever need to know to defeat the pitiful American army, deriding them as "the country people," "the rebels," "a preposterous parade," or a "rabble in arms."²

Being learned can be a great thing, but it can also lead to false assumptions.

The American leaders, by contrast, were avid learners. They in no way assumed they would win this contest against a formidable power. They knew they didn't know everything about warfare and were thus hotly pursuing whatever wisdom they could pick up from anyone and anywhere.

Here's how "the learners versus the learned" played out in a couple of critical, early battles.

The Battle for Boston, March, 1776

The British troops, under the command of General Howe, had taken Boston, fortifying it to the extent that many felt it could never be successfully attacked. Howe was one of the most respected, distinguished officers in the King's service.³ He was fully assured that he had nothing to fear from the ragtag American army. As General Howe wrote to his superiors, "We are not under the least apprehension of an attack on this place from the rebels by surprise or otherwise."⁴ The British officers lived comfortably in Boston, where the officers and their ladies were entertained by plays and balls and held feasts where they drank wine and ridiculed the pathetic American troops.⁵

The American army wasn't faring so well. It was January, miserably cold, and most lived in makeshift tents without winter clothing.⁶ They had little gunpowder, inadequate money to pay the troops, and there weren't even enough guns for the new recruits.⁷ Washington feared that if the British discovered their dire situation, they would attack immediately and end the war.

Fortunately for the Americans, the British failed to gather adequate intelligence. Thus, they failed to catch wind of a daring two month journey led by twenty-five year old Colonel Knox to snatch over 120,000 pounds of weapons, including mortar and cannon, from Fort Ticonderoga in Upstate New York and transport them through blizzards, over mountains and freezing lakes, to arrive just in time for an attack.⁸

The British leaders were educated in military studies, both in formal classrooms and in live combat. But they saw no need to continue their education on this field, assuming they were superior in every way. Howe took no interest in General George Washington. Typically, military

leaders gather all available information on their enemies. They want to know how they think, in order to predict their next moves. But their degrees and experience made them comfortable, overconfident, and smug.⁹

By contrast, Washington and his forces were avid learners. With no assumptions of superiority, Washington gathered wise people around him, as he put it, “to have people that can think for me.”¹⁰ They decided to occupy the strategic twin hills of Dorchester, from which they could threaten both the British soldiers in Boston and their ships in the harbor. Cannons shot from the hills could reach both.

Washington learned from spies that Howe had sworn that if the American army occupied Dorchester, he would retaliate by attacking them, which is precisely what Washington wanted. Then Washington could battle from the advantageous positions of Dorchester, rather than directly attacking the fortified city of Boston.¹¹

But one problem remained—a big one. If the British saw the Americans clamoring up Dorchester’s hills, they’d attack before the Americans had a chance to fortify the hill. How do you fortify a hill overnight in the middle of winter? You can’t even shovel frozen ground to make your fortifications.

Once again, continuing education came to the rescue, in the form of Rufus Putnam, a farmer and surveyor by trade, who read of a useful scheme in an artillery text by a British professor. Putnam showed the plan to his superiors, who in turn took him to Washington. The scheme involved building the fortifications and transporting them up the hills overnight by oxen and massive manpower, so that the next morning the British would awake to find Dorchester’s hills fully fortified, occupied with 3,000 men, armed with guns and cannons.¹²

Four days prior to the attack, a spy warned the British of an impending attack from Dorchester, but nobody took the warnings seriously. They would be warned again, but to no avail—more evidence they were more learned than learners, captives of their false assumptions.¹³

So Saturday evening, March 2, the American army bombarded Boston with cannons. The British responded with cannon fire. On Sunday, the firing resumed, but it was all just a distraction, so that when the cannons roared once again on Monday night, they covered the sound of 800 oxen, hundreds of carts and wagons, heavy cannons, and fortifications moving quickly and orderly up the hills. Fortunately or providentially, they were aided by the light of a full moon, unseasonably mild weather, and a foggy haze that covered the thousands of soldiers in the low lands before they ascended.¹⁴

The British awoke the next morning to behold what appeared to be a miracle, or from their perspective, a nightmare. They were completely and utterly astonished. General Howe exclaimed, “My God, these fellows have done more work in one night than I could make my army do in three months.” One British officer wrote that “This is, I believe, likely to prove as important a day to the British Empire as any in our annals.” Referring to the fortifications, he marveled, “They were all raised during the night, with an expedition equal to that of the genie belonging to Aladdin’s wonderful lamp.”¹⁵

The British tried to attack, but were turned back by a furious storm of snow and sleet. The storm gave them time to rationally assess their dire situation. Attacking the well-fortified Americans would likely be suicidal. But remaining in Boston would make them sitting ducks. Their

cannonballs couldn't reach the top of the hill. And their ships couldn't risk staying in the harbor. The weather eventually calmed, but by then panic had replaced the Redcoats' complacency. Their only choice was to tuck tail and sail, giving the American army extremely needed confidence that they could eventually defeat the British.¹⁶

The Attack on Trenton, December, 1776

The British didn't take this defeat lightly. In August, a British armada of 400 ships arrived at New York City, delivering 32,000 troops to Staten Island.¹⁷ It was "the largest expeditionary force of the eighteenth century, the largest, most powerful force ever sent forth from Britain or any nation."¹⁸

Outmanned and outgunned, Washington decided that wisdom was the better part of valor. He and his 9,000 troops wisely sneaked out of New York City during the night and the British followed close behind.

Washington's troops grew weaker and weaker. Thirty to forty soldiers at a time defected to the British. Many had no shoes.¹⁹ The American Congress fled Philadelphia. Two former members of Congress defected to the enemy.²⁰ On December 1, with the British army two hours behind, two thousand American soldiers deserted the army and returned home—their enlistment was up.²¹ Washington's 9,000 troops had dwindled to about 3,000. By all reasonable calculations, the war was over.²² How could Washington's pitiful band of 3,000 troops ever survive a battle with 32,000 seasoned soldiers? A Loyalist newspaper in New York described the American army as "the most pitiable collection of ragged, dispirited mortals that ever pretended to the name of an army...."²³

But instead of attacking and finishing the war then and there, General Howe decided to return to New York until spring, leaving sufficient forces in Trenton, New Jersey, to hold the ground they'd gained. Since cold weather had set in and the outcome seemed inevitable, he saw no reason to subject his troops to a harsh winter campaign. That one assumption—underestimating the American army—may have ultimately lost the war for the British.²⁴

General James Grant, the commander of the British holding forces in New Jersey, assumed that the troops in Trenton were as safe as if they were wintering in London.²⁵ But on Christmas night, during a vicious, blinding, snowstorm (two of Washington's men froze to death on the march) Washington and his troops marched on Trenton, attacking the unsuspecting troops the next morning, defeating them in a mere 45 minutes.²⁶

The news of the American victory spread rapidly and had a remarkable effect.²⁷ Hope replaced despair; confidence replaced fear and dread—the rebels had boldly confronted the enemy and won a stunning victory. Although it would be another six and a half years before the war ended, the battle of Trenton was a decisive turning point. As one classic study of the American Revolution concluded,

"It may be doubted whether so small a number of men ever employed so short a space of time with greater and more lasting effects upon the history of the world."

Thus, on the battlefield, false assumptions can spell doom for even highly trained and well-equipped troops; learners have strong advantages over the learned. Let's see what advantage

the learners might have in business and technological innovation.

Assumptions in Technology: How False Assumptions Lost the Battle of the Search Engines

Early search engines such as Yahoo!, AltaVista, and Ask Jeeves didn't know what hit them.²⁸ Everybody who was anybody in technology assumed that these search engine powerhouses couldn't be unseated from their dominant positions, especially Yahoo!, which in 1998 attracted 75 percent of all web searches. The common assumption was that Yahoo! had already won the search engine wars.²⁹

The mindset of Yahoo! executives reminds us of the British leadership in Boston and Trenton. Overwhelmingly dominating the world's searches, they rested confident that their search techniques were adequate. Why obsess on trying to improve them?³⁰ While the learned assumed the best, the learners—a couple of Stanford students—quietly but feverishly forged a search engine that would rule them all.

Larry Page and Sergey Brin aspired to take searching to where it had never gone before, "to organize and make available all the world's information," making them "the world's librarians." Yahoo! failed to notice Google's rapidly rising traffic, as Page and Brin stealthily won over influential early adopters so that the word quickly spread without bold advertising—Google offered a superior search.

Today Forbes ranks Google as the fifth most valuable brand in the world.³¹ It employs almost 54,000 people and brought in \$58 billion in revenues in 2013.³²

Overcoming False Assumptions

Whether you're waging a war, running a business, or watching an illusionist, pay attention to your assumptions. They can be trickier than the traditions we discussed in the previous chapter in that we're typically less conscious of our assumptions. Like the professor watching the twins, we're often clueless that we're being fooled by the power of a false assumption. In this case, false assumptions produced entertainment on the positive side, mild embarrassment ("Can't believe I didn't see that coming!") on the negative side. But when it comes to business, warfare, or any important decision, such as choosing who to marry, assumptions can be tragic.

Why do brilliant people—including army generals and college professors—believe nonsense? Because they fail to recognize their false assumptions.

Fighting Assumptions*

So how do we learn to recognize and analyze our assumptions? And beyond guarding ourselves from costly errors, how can we free ourselves and our organizations to think beyond our assumptions and imagine innovations that revolutionize not only our businesses, but our world?

***Assumption** = something accepted as true, without sufficient evidence.

***Presupposition** = something assumed to be true at the beginning of an argument.

Think Different

1. Create cultures of candor.

Recall from chapter one Jack Welch's observation that lack of candor is a huge problem in modern businesses. Now we're beginning to see candor's value for recognizing and overcoming false assumptions.

Nobody likes criticism, and most of us avoid conflict like a plague. But I find many successful companies embracing and nurturing candid input and criticism, even when it hurts, even if it produces seemingly incessant arguments.

- General Washington created a rather flat organizational structure, so that ideas from all ranks could quickly reach the leadership.
- The British generals neither sought ideas widely nor took them seriously when they were voiced.
- Bill Gates, when running Microsoft, wanted people to argue for their ideas against his criticisms. His arguments with his co-leaders were legendary.³³
- Steve Jobs and his colleagues at Apple argued fervently for what they believed.³⁴

They argued because they cared about their decisions and wanted to get them right. By allowing people to candidly voice their concerns, many companies get all the facts on the table and make better decisions.

Fresh Leadership Stirs Up Starbucks

As we saw in the last chapter, Starbucks' leadership struggled greatly with reconciling their vision (an authentic Italian coffee shop experience) with listening to customers and giving them what they wanted. Sometimes it takes a new person with a fresh perspective to shake things up.

For Starbucks, that person was Howard Behar. According to CEO Schultz, Behar "hit Starbucks like a tornado."³⁵ For Behar, customers trumped the company vision. In his mind, if enough

customers want their coffee diluted, sweet, caramel flavored, low fat, or on ice, who are we to deny them for the sake of some silly "commitment to the Italian experience?" I think Behar saw "The Italian Experience" as not just a tradition to be questioned, but an assumption to be tested. The assumption was that if Starbucks veered too far from "The Italian Experience," they'd lose their distinction, water down what they stood for, and lose their hard-earned customers. Behar wanted to test that assumption.

When "the tornado" hit Starbucks, he went straight to the customers. Rather than making decisions based on the leadership's vision, he wanted to see decisions based on data. That data would come from customer input and be tested in individual stores.

So he read customer comments. He talked to customers. He talked to baristas about the customers. He discovered what the customers wanted. Then he candidly took the information to the management. When they reacted and balked and stalled and argued, he argued back, until they began to listen and experiment, in the end taking Starbucks' profitability to new heights.

Behar's stubborn candor forced Starbucks to rethink their mission and their practices. He also forced them to ask deeper questions:

- What if the bottom line for the customer isn't "integrity to the Italian experience," but enjoying a cup of coffee prepared in the way she likes it?
- What if Starbucks' myopic focus on the quality of the coffee blinded them to the needs of the customer?
- What if many customers don't want to learn to appreciate dark roast coffee?
- In fact, what if many customers aren't even, on a deeper level, looking for coffee at all, but a friendly barista and a warm place in a cold world—a place where people care and listen? Thus Behar began to preach, "We're not filling bellies; we're filling souls."

Behar was confrontational. Schultz by nature avoided confrontation, and had inadvertently created a culture where store managers were reluctant to share and push for changes that the leadership might find offensive. Such a culture minimized arguments, but stifled candor. It took a tornado to clear the air and open up the company to a more candid sharing of ideas.³⁶

Think!

In your family or business or creative endeavor or social work, do people feel free to express their opinions? Why or why not? Would a move toward candor likely enhance or hinder your goals?

2. Unblock the flow of ideas.

In both the battles of Boston and Trenton, the British leadership had been warned more than once about the impending attacks, but ignored them because of their assumptions. Their arrogance blocked the flow of ideas.

By contrast Washington actively sought ideas from everywhere, even if they came from an ordinary farmer named Rufus with his idea of transportable fortifications. Washington also listened to Knox's wild plan to haul guns and cannons from Upstate New York. As historian David McCullough summarized the latter:

"That such a scheme hatched by a junior officer in his twenties who had had no experience was transmitted so directly to the supreme commander, seriously considered, and acted upon, also marked an important difference between the civilian army of the Americans and that of the British. In an army where nearly everyone was new to the tasks of soldiering and fighting a war, almost anyone's ideas deserved a hearing."³⁷

From reading stories of successful companies, I find that they're typically more idea-driven than expert-driven. They take ideas wherever they can find them and encourage a culture that does the same. The leaders listen, often poking fun at their own mistakes, rather than carrying around the burden of being the sole fount of great ideas.

Think!

What hinders the flow of ideas in your home or business?
Does the leadership believe that only PhDs, or only the executives, or only the managers are smart enough to generate the best ideas?

As I write, a newly established pizza business in my community is beating out the entrenched competition and spinning off franchises. I heard the leadership describe some of their best practices, one of which was to get their workers sharing their ideas. While they were encouraged to share ideas at any time, they met together once a month with the owners specifically to share their ideas, whether they be gripes, frustrations, or positive tips. It didn't seem to bother the leaders at all that they were getting advice from workers in their early 20s. In fact, perhaps their youthfulness and inexperience was an asset.

As obvious as this sounds when speaking of *other* businesses, for some reason it's not nearly so obvious to us in *our own* work. Does your church or service organization get input from newcomers and those newly acquainted with your work? (New folks haven't yet become acculturated to your way of doing things.) Does your band get regular input from your audiences? Do you get regular input from your children on your meals? (As the primary chef in my family, I allow no griping during the meal. But afterward, I ask what they liked and didn't like, so that I can keep improving.)

3. Allow people to follow their ideas.

Leaders often assume they know what's best for the company. But allowing workers to follow their own ideas pays off in many companies.

By 1994, Hewlett-Packard was selling almost \$20 billion worth of computer and related products. Thirty years earlier, they didn't sell computers at all. Embarrassingly, they didn't immediately see their potential in the computer industry and plan for it. Instead, computer enthusiasts at HP took matters in their own hands.

HP started a project code-named Omega, building what would have been the first 32 bit computer, which in the early 1970s would have run at twice the speed of the fastest existing computers. But top management cancelled the project, due to concerns about expense, taking on debt, marketing, and competing with IBM.

But some of the Omega enthusiasts wouldn't take no for an answer. They kept the project alive in a back room. Later, when some key engineers and managers reversed their decision, they discovered that the secret skunk works* operation had made progress. In 1972, they rolled out their hugely successful HP3000, staking out their claim in the burgeoning computer industry.³⁸

***Skunk Works®** = a small group of people who work on a project in an unconventional way, streamlining the process to minimize interference by management.

Think back to Starbucks' highly profitable Frappuccino. It was created because of a similar skunk works initiative. Upper management didn't want to pursue it, so a renegade store took it upon themselves to pursue it.

How to Design and Build Your Very First Fighter Jet in Under Five Months

In 1943, the U.S. Army approached the Lockheed Aircraft Corporation (now Lockheed-Martin) with a problem. Hitler's growing power was posing a threat through the air. We needed to develop a fighter jet...and fast.

But large organizations aren't typically good at "fast," when it comes to developing a new product. Contracts take months to make their way through law offices. Layers of management must sign off on plans. Workers have to sit through long meetings. Part orders make their way through layers of supervisors, some of whom can't make decisions until after next week's meeting of the part-ordering committee.

To build a fighter jet quickly, young engineer Kelly Johnson and his team created a way to avoid red tape and streamline urgent projects. When they were briefed on a project, they began immediately, although the legal department was four months away from delivering a signed contract. They were given space to work (in the case of the fighter jet, under a rented, camouflaged circus tent). They worked largely by their own rules and set their own hours.

The result? America's first fighter jet, the XP 80, took its first flight a mere 140 days after inception, a week ahead of schedule.

They named (and registered) their mysterious division Skunk Works®, after a Snuffy Smith comic strip reference to a moonshine operation ("Skonk Works") and the peculiar smell of the tent.³⁹

Institutionalizing Skunk Works and Personal Time to Create

Some great companies, realizing the potential of a few enthusiasts working on a new idea, found ways to encourage skunk works and creative thinking outside standard assignments.

Bell Labs, from the 1920s to the 1980s, was arguably the most successful research and development lab the world has ever seen. A technological maternity ward, it oversaw the birth of transistors, communications satellites, lasers, cell phones and thousands of other astounding innovations that revolutionized the modern world. The transistor was arguably one of the top breakthroughs of the century. Concerning its importance to technology, Bill Gates once said, "My first stop on any time-travel expedition would be Bell Labs in December 1947,"⁴⁰ the month the transistor was born. Bell's breakthroughs made possible the age of computers, the Internet, and wireless communications. Our first active communications satellite contained 16 inventions patented by Bell Labs.⁴¹

At Bell, certain creative scientists were allowed amazing freedom to wander about and work on projects that interested them, whether or not they saw any present need or value. They were asked to document their ideas and progress in notebooks; but otherwise, they had freedom to think, explore, and create.⁴²

Fast forward to Google.

"At Google, everyone is a skunk," according to Google historian Richard Brandt.⁴³ Google took innovative freedom to a new level when it instituted its 20 percent rule.⁴⁴ Rather than keeping employees so busy at their tasks that they have no time to dream up new ideas and pursue them, employees are encouraged to spend 20 percent of their time working on a project of their choice, even if it is outside their specialty. At Google, workers can start a project on their own, join an ongoing project, or form their own team. This results in hundreds or even thousands of projects, and regular breakthroughs.⁴⁵ For a company whose lifeblood is constant, cutting edge innovation, this makes perfect sense.

What if Starbucks, instead of instilling in their southern California managers that their goal was to replicate the stores in Seattle, had said,

"Here's your blueprint and here's what differentiates us from other coffee shops. But Southern Californians don't think like Seattleites. A part of your duty is to innovate. Spend time in other shops to see what's selling. Listen to your customers. Let innovation be a part of your DNA."

With this mentality, don't you think they'd have rolled out the nonfat milk and Frappaccinos more quickly?

4. Brainstorm outside the box.

Brainstorming harnesses the power of a group of people saying whatever comes to their minds. Nothing's too stupid; nothing's out of line. Often, we need a good brainstorm to get us out of a rut, thinking outside our assumptions. A crazy idea just might spur thinking in a new direction that yields workable innovations.

5. Learn to uncover common assumptions in your field.

Relentlessly ask the deeper questions when others have stopped shallow. Imagine that early managers at Starbucks had kept asking deeper questions about their decisions. The Socratic Method has a long, successful record of helping us to dig beneath surface issues. Let's imagine how it might have helped early Starbucks' managers:

Store Manager: "Should we serve coffee with nonfat milk?"

Upper Management: "No, it will compromise our vision of the Italian Experience."

Store Manager: "And why do we want to guard the Italian Experience?"

Upper Management: "Because we can train our customers to appreciate dark roast coffee."

Store Manager: "And why do we want them to appreciate dark roast coffee?"

Upper Management: "So that they'll become our loyal customers and we'll have more customers and higher profits."

Store Manager: "But what if serving coffee with skim milk brings in more loyal customers and higher profits? Can't we at least try it in one store?"

Upper Management: "Hmmm...."

6. Ask the same, dumb, "obvious" questions at different intervals.

In the early days of Amazon.com, everybody pitched in to package hundreds of books a day on their hands and knees on a concrete floor. CEO Jeff Bezos complained that the work was backbreaking and rubbed his knees raw. He suggested to his associate Nicholas Lovejoy that perhaps they should get kneepads.

According to Bezos, Lovejoy "looked at me like I was a Martian, but I was serious. That's the solution I came up with." Lovejoy responded, "What about packing tables?" They went with the tables and experienced a dramatic improvement. What was obvious to Lovejoy wasn't obvious

at all to Bezos. Bezos was plenty smart, but perhaps he had no experience packing large quantities of items.⁴⁶

Every now and then, with increasing frequency in the information age, we need to look at the way we do things and ask, "Is this the best way?"

And if you're already successful, you're less motivated to challenge your assumptions. After all, your methods seem to be working.

According to Starbucks' Schultz,

"When you're failing, it's easy to understand the need for self-renewal. The status quo is not working, and only radical change can fix it.

But we're seldom motivated to seek self-renewal when we're successful. When things are going well, when the fans are cheering, why change a winning formula?

The simple answer is this: Because the world is changing. Every year, customers' needs and tastes change. The competition heats up. Employees change. Managers change. Shareholders change. Nothing can stay the same forever, in business or in life, and counting on the status quo can only lead to grief."⁴⁷

In the age of the Internet, I've learned that it pays to ask the same, dumb, basic questions at regular intervals. Every time I publish a new website, I Google "How to build a website," to see what might have changed. In the early 1990s webmasters coded sites from scratch in html. Then I learned Microsoft Front Page, which provided a "what you see is what you get" environment that was much easier to learn than the industry standard Dream Weaver. Later, people used the easy developer tools provided on the web servers. These days I'm using Wordpress, the industry standard blogging software, which typically works for building traditional sites as well as blogs. Every few years, there seems to be a better way, so I keep asking Google the same old question, "How do I build a website?" and I keep getting new answers.

Every time I publish a new book, I ask, "What's the best way to publish a book?" The publishing industry is rapidly changing, and I'd be foolish to assume that what worked last year is the best way to publish this year.

So challenge your assumptions. It's not only good business, but many find it quite exhilarating to live on the cutting edge of the best ideas.

Flex Your Neurons! Pursuing the Point of Know Return

1. Why do you think the British were overconfident in the Revolutionary War?
2. In what specific ways did their assumptions lead to defeat?
3. In what ways did Washington and his army keep learning?
4. We'd often like to know what the future holds for our economy when we make personal and business decisions. To do so, we consult the top economists and government reports. Our assumption is that the economy can be predicted with some degree of accuracy. Search for and read the following article, and similar articles, to test this common assumption: Prakash Loungani, *How Accurate are Private Sector Forecasts?*, (April, 2000, A Working Paper by the International Monetary Fund).
5. Many people assume they can predict the rise or fall of stocks by analyzing their past performance. Their data and analyses are often quite complex and convincing. It's called "technical analysis." But we assume that technical analysis can successfully predict the future of stocks. Read up on this and see if you agree with this assumption.
6. I used to study which companies the most respected stock pickers recommended for growth over the coming year. I assumed that the experts were more likely to choose the right companies. Then I found that it's highly debatable whether their predictions are any more likely to be right than throwing darts at a chart of stocks. Find articles on stock pickers versus the dart throwers and try to draw some tentative conclusions.
7. "Practice makes perfect!" It's assumed by many, but in what ways should this assumption be amended? (First, try to think of situations where it doesn't work. What if someone is practicing the wrong methods? If a professor teaches in a monotone voice for a straight hour, no matter how many times he repeats this, does practice make him a better teacher?)
8. We often assume that the best place to get help to accomplish something in a complex program like Photoshop or Microsoft Word is to consult the program's help files. How could you find out if this is a false assumption?
9. You want to be successful in business; thus, you decide to read stories of how the world's top CEOs made it to the top. What assumptions might you as a reader, and perhaps the author, be making?
10. You need to make more money off your products and your partner assumes that the obvious solution is to raise the prices. But is this necessarily the best and only option? Why or why not?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. For more on the differences in assumptions and leadership during the Revolutionary War, read *1776* by David McCullough, (New York: Simon & Schuster, 2005).
2. For more on Lockheed-Martin's use of skunk works, see: *Kelly's 14 Rules and Practices* at:

<http://www.lockheedmartin.com/us/aeronautics/skunkworks/14rules.html>.

3. For more on how Google allows people to run with their ideas (such as the 20 percent rule), see *The Google Guys*, by Richard L. Brandt (New York: The Penguin Group, 2011).
4. For more on how great companies solicit candid input from their customers, read how one successful company goes way beyond suggestion boxes to actually work with their customers to develop better products: "Managing for Creativity," by Richard Florida and Jim Goodnight, *Harvard Business Review* (July, 2005).



CHAPTER 8

THEY UNDERESTIMATE THE POWER OF THE PARADIGM

"Physical scientists have a healthy attitude toward the history of their subject; by and large we ignore it."

— P.J.E. Peebles, *Impact of Lemaitre's Ideas on Modern Cosmology*

"We're rushing headlong into the future with our eyes firmly glued to the rear-view mirror."

—Anonymous

" Each period [of scientific history] is dominated by a mood, with the result that most men fail to see the tyrant who rules over them." (Brackets mine)

—Albert Einstein¹

A Scientist Resists Change

Scientists can get stuck in their ways just like the rest of us. One scientist didn't like the random behavior of subatomic particles as described by quantum physics. Although the troubling behavior had been confirmed by experiment after experiment, it just didn't sit well with him. One day he exclaimed in frustration:

"I find the idea quite intolerable that an electron exposed to radiation should choose of its own free will not only its moment to jump off but also its direction. In that case, I would rather be a cobbler, or even an employee of a gaming house, than a physicist."²

"Ah, but that's one of those rare emotional scientists" you might object. "If you listen to the truly great scientists, you'd find ruthless objectivity, casting aside their own preferences to follow the evidence wherever it leads!"

I failed to mention that the above hissy fit was pitched by none other than Albert Einstein. And it wasn't a rare lapse into "But I don't want it to be true!" He would never reconcile himself to several aspects of quantum physics, even though his quantum theory of radiation predicted it,

and subsequent experiments validated it.³

Why would a scientist resist the results of math and science?

The main issue for Einstein seemed to be his thoroughgoing determinism.* He believed that every event is *determined* by prior causes, so that free will is an illusion. A rock fell today *because* the soil was loosened, which happened *because* the rain fell, which happened *because* a low pressure system brought clouds, *because...because....*

***Determinism** = the belief that all events are caused entirely by things that happened before them. Thus, free will is an illusion.

Theoretically, according to determinism, a scientist knowing every physical state of a certain day could predict the future with precision. If, one hundred years ago, a scientist knew all the physical states of everything, determinism assures us that he could predict with certainty that on March 25, 2014, at 7:42 AM, the rock would fall. He could have also predicted that I'd be writing this exact sentence precisely at this time.

Determinism makes science a very tidy enterprise. Once you understand all the causes, you're well on your way to fully understanding a phenomenon. That's why Einstein couldn't reconcile himself to subatomic particles not obeying the rules of causation. In his mind, "...if all this is true then it means the end of physics."

Einstein would often declare, revealing his passion for determinism, "I don't believe God plays dice with the universe!" To which his fellow scientist Neils Bohr famously replied: "Einstein, stop telling God what to do!"⁴

Einstein saw the world through deterministic glasses, thus he resisted evidence—even strong evidence—that conflicted with his determinism. His phrase "I find it quite intolerable" seems so unbecoming of a great scientist. The same maverick who dared to question and overturn the mechanics of Newton refused to follow the evidence that led to the next scientific revolution.

As Einstein biographer Walter Isaacson put it:

"Two decades earlier, Einstein had, with youthful insouciance, toppled many of the pillars of Newton's universe, including absolute space and time. But now he was a defender of the established order, and of Newton."⁵

"In one of our planet's little ironies, Planck and Einstein would share the fate of laying the groundwork for quantum mechanics, and then both would flinch when it became clear that they undermined the concepts of strict causality and certainty they both worshipped."⁶

Thus, a prior commitment to a scientific theory or philosophical concept can cause brilliant scientists to resist new data and try to explain it away. In the case of Max Planck and Albert Einstein, some of their scientific colleagues would use the word "tragic" to describe their lifelong

captivity to Newton's mechanics and stubborn resistance to the new quantum discoveries.⁷

And quantum physics wasn't the only object of Einstein's stubborn resistance to evidence.

Einstein's "Biggest Blunder"

Einstein's mathematical equations in his general theory of relativity predicted that our universe was on the move. In fact, according to Isaacson, his equations "screamed out" that the conventional idea of a static universe was wrong.⁸ Yet Einstein continued to believe the then conventional scientific view that the universe was static, neither expanding nor contracting. Instead of letting his equations speak for themselves, he did what would seem unthinkable for an objective scientist. He introduced a fudge factor into his equations, a "cosmological constant" to harmonize his equations with a static universe.

And it wasn't like nobody called him on it.

In 1922, Russian mathematician Alexander Friedmann used Einstein's equations to show they pointed to an expanding universe. Einstein blew it off. Five years later, physicist Georges Lemaître confronted Einstein with his own paper confirming Friedmann's thesis. Although Einstein admitted that Lemaitre's calculations were correct, he found the implication—that the universe was expanding—"abominable". According to John Farrell's history of modern cosmology, Einstein "simply refused to even consider the idea of an expanding universe at that time."⁹

As astronomers continued to make new observations, Lemaitre's expanding universe and the Big Bang that started it all were confirmed to such an extent that they currently reign as the standard scientific view of origins. Einstein eventually relented on the expanding universe and Big Bang, regretting his earlier resistance. Had he only allowed himself to question the status quo view of a static universe; had he only allowed his equations to speak for themselves rather than trying to harmonize them with prevailing views, he would have predicted an expanding universe ten years before the decisive evidence came in. According to Farrell, "This would have been the greatest single prediction in the history of science."¹⁰

No wonder Einstein would years later reflect back and call the fudge factor his "biggest blunder" and speak of having a "bad conscious" about it.¹¹

Other Top Scientists Resist the Big Bang

Was Einstein's resistance to the expanding universe an odd quirk in an otherwise objective scientific community? History would suggest otherwise. Many great scientists, in the face of mounting evidence for a beginning to the universe simply refused to accept it, although the "Big Bang Theory" continued to be validated in observations over the following decades.¹²

From Farrell's research, "...the history of modern cosmology is one of constant doubt, second-guessing, obstinacy, missed opportunities, distraction, and outright denial."¹³ Here are some

scientists expressing their early aversion to the Big Bang:

- "The notion of a beginning is repugnant to me...the expanding Universe is preposterous...incredible...it leaves me cold."¹⁴ (British physicist, astronomer and mathematician Sir Arthur Eddington).
- "To deny the infinite duration of time would be to betray the very foundations of science." (German chemist Walter Nernst)¹⁵
- "It is not a point in support of this theory [steady state theory proposed against the Big Bang theory] that it contains conclusions for which we might happen to have an emotional preference." (Astrophysicist Fred Hoyle, stating his emotional preference for a theory that didn't involve a beginning to the universe.)¹⁶

Physicist and astronomer Robert Jastrow summarizes the history of astronomers' resistance to the Big Bang Theory:

"Their reactions provide an interesting demonstration of the response of the scientific mind—supposedly a very objective mind—when evidence uncovered by science itself leads to a conflict with the articles of faith in our profession. It turns out that the scientist behaves the way the rest of us do when our beliefs are in conflict with the evidence. We become irritated, we pretend the conflict does not exist, or we paper it over with meaningless phrases."¹⁷

Nevertheless, as I write, the Big Bang reigns as the standard scientific view of origins. And despite the concerns of scientists like Einstein and Nernst, science seems to putter along pretty well without the "foundation" of an "infinite duration of time."

But perhaps questioning the static, eternal universe was a special case. Surely, when testing other established theories, scientists are typically more objective and scientific progress is steadily made as new data arrives.

Do scientists' preconceptions impact their science beyond quantum physics and cosmology?

Thomas Kuhn, then Professor of Philosophy and History of Science at Princeton, in his highly influential book,¹⁸ *The Structure of Scientific Revolutions*, argued that when new evidence supports a major shift in scientific thinking—what Kuhn called a "paradigm shift"—scientists often, perhaps even *typically*, respond much like teenagers being told they can't stay out past midnight. They argue, get defensive, and try to explain away the evidence.

Kuhn isn't saying that scientists, as a matter of course, resist believing the results of their experiments. As long as the experiments don't conflict with the reigning theories of their disciplines, they may make discovery after discovery. But if an experiment conflicts with the overarching paradigm, such as the standard cosmology of the time (static universe versus

expanding universe) or the standard view of the solar system (geocentric versus heliocentric)¹⁹ scientists often put up a fuss. And sometimes, as in the case of Einstein with quantum physics, they can resist for a lifetime. In such cases, as Max Planck has been paraphrased, "science advances one funeral at a time."²⁰

Kuhn's book is one of those books I read in graduate school that I keep coming back to and reflecting upon in many contexts outside of science. It's counterintuitive, yet well documented and well written. While it's been challenged in certain respects,²¹ it helped me to see that if scientists, who pride themselves at objectively searching for the truth, often hold tenaciously to their old ways of thinking, how much more should educators and businessmen and artists and community leaders be aware of this tendency?

It's a tendency that causes brilliant people, even those as brilliant as Einstein, to believe nonsense.

While Kuhn spoke of paradigms in terms of the larger, overarching scientific theories, as we move to the practical outcomes we'll apply this concept more broadly to the mini paradigms that often blind us to new ways of running a business or a school or an art studio.

How to Overcome our Paradigms And Live on the Cutting Edge of Innovation

Had Einstein dreamed up relativity and immediately died, we might have considered him to have the ideal personality for innovation—a maverick who relished questioning authorities and tradition. But Einstein didn't die young, and demonstrated that the great *agent* of change could also be the great *resistor* of change.²²

So even the most objective and daring of us are subject to getting stuck in old paradigms and resisting the latest useful innovations. Sometimes, those most resistant to recent innovations are those who participated in earlier innovations.²³ So what can we do to resist the petrifying effect of the paradigm?

A problem with paradigms is that they've become so much a part of us that we can no longer see them clearly. In fact, perhaps it's better to say that we typically see *through* them, like a pair of tinted glasses. At some point, we stop thinking about the glasses and fail to realize how they color our world. As the sun sets, we wonder why it's so difficult to see.

That's why we often need others to challenge our paradigms. We're typically in a poor position to challenge them alone.

1. Challenge paradigms with the power of two.

We tend to think of Einstein hatching his original ideas while deep in lonely thought. In fact, he spent a great deal of time hashing out his thoughts with others, often one-on-one. Einstein's big breakthrough that led to his theory of relativity came to him in a conversation with his best friend

Michael Besso, an engineer he met in college.

Einstein called Besso his "sounding board."²⁴ When he wrote his most famous paper describing his breakthrough, his only acknowledgement was to Besso:

"Let me note that my friend and colleague M. Besso steadfastly stood by me in my work on the problem discussed here, and that I am indebted to him for several valuable suggestions."²⁵

Throughout his life, Einstein brought on sounding boards to work with him one-on-one, especially to help him with his math. Marcel Grossman helped him work through the math of his relativity equations. Biographer Isaacson describes Grossman as Einstein's "mathematical caddie."²⁶

Golf Institutionalizes the Power of Two

Imagine you're watching a golf tournament for the first time. At first, the caddie seems to function merely as a modern day beast of burden, carrying the bag for the golfer. "That looks like a pretty easy job," you say to a fellow spectator. "I wonder how much they earn." She responds, "That's Steve Williams caddying for Adam Scott. In his 12 years of caddying for Tiger Woods, he averaged earning a million dollars a year."²⁷ Obviously, the caddy's doing far more than carrying a bag. A closer look reveals the golfer and the caddie chatting a lot, especially just before each shot.

For those new to golf, the thinking part of the game looks pretty obvious—"Do you see the flag? Hit it as close to it as you can." But innumerable details make each shot unique, so that a poor decision based upon an overlooked detail can be the difference of \$1 million or more in prize money.

A caddy might note,

- "Do you see the top of those trees blowing in the wind near the green? You can't feel it here, but since you're hitting a high approach shot, that wind will likely pull your ball twenty-five feet to the left, putting you in the lake, if you fail to allow for it."
- "Yesterday, I saw Phil Michelson miss a putt from that exact place. It breaks surprisingly strong to the left, about 14 inches, starting about 10 feet before the hole."

In overcoming our entrenched ways of thinking, thank goodness for caddies—in physics, golf and beyond.

Famous Twosomes

Think of several of the innumerable successful twosomes:

- The world's greatest investor, Warren Buffett, runs all his investing decisions by his lifelong friend Charlie Munger.²⁸
- Bill Hewlett and David Packard founded Hewlett-Packard. Beyond their own collaboration, they encouraged their engineers to first run their ideas by the worker next to them—what they dubbed the "next bench" syndrome—to see if the ideas had broader appeal.²⁹
- Larry Page and Sergey Brin founded Google and still hash through all the most important decisions.³⁰
- Steve Jobs and Steve Wozniak founded Apple.
- Isaac Newton met Nicholas Wickham in college and they would work together closely for over 30 years.³¹
- Husband and wife writing team Will and Ariel Durant were two of the most popular historians of the 1900s.
- Engineering wizard Soichiro Honda and shrewd businessman Takeo Fujisawa, by meshing their different temperaments and different skills, built the Honda Motor Company.³²
- Songwriting duos such as John Lennon and Paul McCartney, or Elton John and Bernie Taupin, found a creative chemistry that has charmed audiences around the globe for a half a century, and shows no signs of demise.
- Writers/scholars C.S. Lewis (*The Chronicles of Narnia*, etc.) and J.R.R. Tolkien (*Lord of the Rings*, *The Hobbit*, etc.) were personal friends, intellectual sounding boards and mutual encouragers before they became bestselling authors. According to Tolkien, "Only from him [Lewis] did I ever get the idea that my 'stuff' could be more than a private hobby."³³

"Two heads are better than one," the old saying goes. And in science or golf or writing or investing or leading a company, it's proven every day by those who take advantage of it. You might ask, why not three or more? Another old saying suggests that while "two's company, three's a crowd." If two work well together, a third can sometimes be a bother.

But there's certainly a place for moving beyond one-on-one to the small group for inspiration, problem solving, innovation, and breaking us out of our paradigms. Even those who rely on that special person on a day-to-day basis tend to draw from larger groups as well.

Think!

Is there a person who serves as your sounding board for personal or business matters? If not, where might you find one? What type of personality and mutual interests might be most advantageous?

2. Challenge paradigms with the power of small groups.

Pixar's Braintrust

Pixar Animation Studios has produced an unheard of 14 box-office hits in a row. Yet, Ed Catmull, president of both Pixar and Walt Disney Animation, says that "at some point, all our movies suck." Taking them "from suck to not suck" is a challenge Pixar solved by getting candid input from creative people during the suck stage. Here's how it works.

The writer/director starts with a great idea. Yet, in developing that idea, he becomes so absorbed with the story that he loses perspective, and can't see the flaws that hold the film back. He finds himself stuck in a mini paradigm that he can't see outside of.

At that point, he needs fresh, candid input from other creative storytellers (the Braintrust) who watch the initial, sucky footage and say what they think. One person might say, "I really *ought* to care for that character, but I don't. What could you reveal about her that would have me pulling for her...no, *dying* for her to win?"

The director doesn't have to take the advice. It's just candid input. But that input takes the film from ordinary to extraordinary.

The Braintrust developed from the creative quintet behind the super successful film, *Toy Story*. According to Catmull, "They were funny, focused, smart, and relentlessly candid when arguing with each other."³⁴ Implementing this process in subsequent films, Catmull put together a variety of people—"directors, writers and heads of story"—all of whom have "a knack for storytelling," to give input during an early phase of the film's development.³⁵

"Creativity has to start somewhere," explains Catmull, "and we are true believers in the power of bracing, candid feedback and the iterative process—reworking, reworking, and reworking again, until a flawed story finds its through line or a hollow character finds its soul."³⁶

Other Small Groups Worthy of Study

- Google is "obsessive about having very small groups working on projects. Five or six people are generally sufficient to handle a major project."³⁷

- After college, while Einstein worked in the Swiss Patent Office, he met regularly with a couple of bright people dubbed the *Olympia Academy*, named to make light of some of the more pompous scholarly societies. Maurice Solovine was a Romanian philosophy student at the University of Bern. Conrad Habicht had studied math at Zurich Polytechnic.

Their conversations were informal, meeting at one of their homes or hiking in the mountains. They read books and discussed them, ranging from great philosophers to scientists to *Don Quixote*. Their readings and discussions of David Hume and Ernst Mach led them to question the concepts of absolute time and space, which would be critical to developing Einstein's theory of relativity.³⁸

- Benjamin Franklin met regularly with *Junto*, a small group which met each Friday for "mutual improvement." Each member was responsible to "produce one or more queries on any point of morals, politics, or natural philosophy, to be discussed by the company." Additionally, once every three months, each member was required to "produce and read an essay of his own writing, on any subject he pleased." Ensuing debates were to be carried out "without fondness for dispute, or desire for victory."

Junto's members were a diverse group of ordinary folks: a copier of deeds, a surveyor, a shoemaker, a mechanic, a clerk. Yet, they were united by their passion to continue learning. The club continued for almost four decades and was, according to Franklin, "the best school of philosophy, morality, and politics that then existed in the province...." And you couldn't beat the free tuition!³⁹

- C.S. Lewis and J.R.R. Tolkien met on Tuesday mornings (in a pub) and Thursday nights (in Lewis' sitting room) with an informal group called *The Inklings*. They would typically read their recent writings to the group, invite criticism, then talk or argue about whatever topics came to mind.⁴⁰

3. Challenge paradigms beyond the small group.

Einstein published his ideas on relativity in professional journals and attended professional conferences, which kept his ideas out in the open for public debate. Peer review has an established history of successful crowdsourcing. It allowed those whose paradigms were rattled by his theories to offer counter arguments and challenges, which were in turn challenged by others in the field.

Even in the areas most impacted by Einstein's own paradigms, such as the expansion of the universe and quantum theory, he carried on extensive conversations and friendships with the primary theorists, such as Neils Bohr, hashing things out with the greatest minds in the fields. Lemaître felt that Einstein resisted the expansion of the universe in part because he wasn't familiar with the latest observations in the field of astronomy. Thus, Einstein allowed Lemaître to update him in his field of expertise.⁴¹

Thus, because of his open interaction with others, Einstein's resistance to the new ideas wasn't a mindless resistance. This would seem to be the healthiest way to have our own paradigms challenged—interacting with the best minds of opposing views rather than throwing stones from afar.

Paradigms are a challenge—a persistent and ominous challenge—to wise decision-making. The foolish ignore them to their peril.

Are You Caught in a Paradigm?

You might be stuck in a paradigm if (check each that applies to you):

- You seldom say, "This is the way I think, but who knows, I might be wrong."
- You strongly don't want to believe the other side, regardless of the evidence.
- You seldom question the assertions of people who agree with you.
- You hold a firm opinion, but haven't read the strongest adherents of other views.
- You don't read people who disagree with you.
- You don't even know if intelligent people argue for the opposing position.
- You wouldn't be able to intelligently argue for the other side of a controversial issue, because you've never looked at their data.
- When somebody presents an opposing viewpoint, rather than sincerely listening, you formulate your next argument.
- When somebody presents an opposing viewpoint, all you can think of are counterexamples.
- When you read opposing views, you look for flaws; when you read those who agree with you, you look for reasons to believe.
- When you hear debates, you always think your side wins.
- You can find no weaknesses whatsoever for your favorite theory. (All theories typically contain anomalies—data that doesn't fit.)

Flex Your Neurons!

Pursuing the Point of Know Return

1. **If you are stuck in a paradigm with your ideas for investing, family life, business or pleasure, how will you ever realize it?** Do you have one or more people in your life who have your permission to point out your shortcomings and challenge your ideas? What practical steps could help you to remedy the situation?
2. **Are existing small groups available to keep you challenged in your field(s) of interest?** Since it's often difficult for me to get out and meet people (I have care giving responsibilities), I've found niche online discussion groups to be a great source of challenge.
3. **If you like meeting face to face, like *The Inklings* or *Junto* or the *Olympia Academy*, what are some existing groups on your local campus or in your local community?** Consider local Meetup groups (www.meetup.com) that exist on almost every topic imaginable. Check your library for local reading groups that read select books and discuss them. If you can't find a group you like, start one!
4. **Are you afraid of committing yourself long term to a group?** Can't some groups be short-term, for a current project, and then disband? What are the pros and cons of temporary groups?
5. **How can a company's board function as a protector against petrified thinking?** What hinders many boards from functioning in this way?
6. **Since old paradigms are typically supported by a scaffolding of facts and arguments, at what point do we allow new data to challenge these paradigms?**

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. The book that first popularized the notion of paradigms in science (which subsequently spread to business, religion, and other fields), was Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1962, enlarged second edition in 1970). It's often required reading in Philosophy of Science classes.
2. For popularly written works showing the susceptibility of scientists to paradigms concerning Big Bang cosmology, see Robert Jastrow, *God and the Astronomers* (New York: W.W. Norton & Company, 1978) and John Farrell, *The Day Without Yesterday* (New York: Thunder's Mouth Press, 2005). For more on Einstein introducing his "fudge factor" in resisting the Big Bang and his later resistance to quantum theory, see Walter Isaacson, *Einstein* (New York: Simon & Schuster, 2007). For those who want much more historical detail on the controversy among scientists concerning the Big Bang, see Helge Kragh, *Cosmology and Controversy: The historical development of two theories of the universe* (Princeton, NJ: Princeton University Press, 1996).
3. On using small groups to burst out of the smaller paradigms that hold back businesses, see Ed Catmull, with Amy Wallace, *Creativity, Inc.: Overcoming the unseen forces that stand in the way of true inspiration* (New York: Random House, 2014). I love how Catmull presents the process in all its messiness, so that readers understand the challenges rather than adopting often-meaningless platitudes such as "Just trust the process!" Chapter 5, titled "Honesty and Candor," describes the development of the Brain Trust and is worth the price of the book. Read a free excerpt from the chapter here: Ed Catmull, "Inside the Pixar Braintrust," *Fast Company*, March 12, 2014, <http://www.fastcompany.com/3027135/lessons-learned/inside-the-pixar-braintrust>.
4. Study the relationships of golfers to their caddies and instructors, or writers to their writer's groups and editors, to get ideas for bursting through paradigms in your field of interest.



CHAPTER 9

THEY FAIL TO ACCOUNT FOR WORLDVIEWS

*"Every person carries in his head a mental model of the world—
a subjective representation of external reality."*

— Alvin Toffler, *Future Shock*

"The unexamined life is not worth living."

— Socrates

Imagine a Better Future

You're hanging out with a college buddy in a coffee shop one drizzly Saturday morning. John Lennon's "Imagine" plays in the background, putting both of you in a reflective mood as you assess the state of society and try to dream up a better world.

Here's how your reasoning goes:

Something's wrong. The rich get richer and the poor get poorer. Greedy corporations shower upper management with millions of dollars, earned on the backs of poor, part-time workers who struggle to feed their children. Although the workers can vote for their political leaders, how can they ever change policies when corporations spend millions on lobbyists to ensure their pet policies remain in force?

Something's got to fundamentally change. If things get bad enough, perhaps the workers should just say, "Enough is enough!" and take over, not only their corporations, but the entire government, to ensure that everyone gets his or her fair share for their labor.

After the revolution, we'd have to appoint a benevolent dictator to enforce equality, since our governmental checks and balances don't seem to be working. The dictator could enforce equal pay for equal labor: "from each according to his abilities, to each according to his needs." After the dictator gets the country on track and everybody sees how well it works, the dictator would no longer be needed. He could step down to allow some form of minimalist government to maintain order.

How "Imagine" Worked Out in Real Life

Those who know their history recognize this line of thought. Similar utopian theories have been hatched, particularly in the 20th century, and they can look very cool on paper. But the version Leon Trotsky, Vladimir Lenin, and Joseph Stalin put into place after the Russian Revolution ran into more than a few hiccups, often due to big picture issues. It's a good illustration of the importance of worldviews.*

Each of us hold a worldview—our big picture view of the world—whether we give it much thought or not. Our worldview tells us what life's all about, what's important and what's not, what's right and what's wrong.

So let's look at a few aspects of the Marxist* worldview and how it panned out in Russia and the resulting super power, the Soviet Union, which in the 1900s comprised about one sixth of the entire earth's surface.

On Determining Right and Wrong

For these early Russian leaders, there were no objective, universally binding morals, such as "Do not lie" or "Do not steal" or "Do not murder." Rather, they adopted a utilitarian* ethic, defining "good" as "whatever it takes to achieve our good ends." Thus their end (a future utopia) justified any means (e.g., stealing, lying, murder). For example, they took grain from the peasants (stealing), published propaganda through state controlled news (lying), and killed all who got in their way (murder)—all justified as necessary means to achieve their envisioned glorious ends.¹

On What Really Matters

For these leaders, influenced by the writings of Karl Marx and Friedrich Engels, the materialistic economic progress of history was what mattered. Everything revolved around obtaining future economic and material success. Presumably, this material success would lead to happiness for the greatest number of people.

Success consisted, not in establishing such ideals as freedom of thought, freedom of the press, freedom of religion, or relief for today's poor. Rather, religion was seen as "the opium of the people"—a distraction encouraged by greedy capitalists to keep the poor content in their

***Worldview** = how people view the world; their big picture philosophy of life.

***Marxism** = a theory, based on the teachings of Karl Marx, that the struggle between social classes is a major force in history and that we should work toward a classless society.

***Utilitarianism** = a theory of ethics that determines the right course of action by weighing and comparing the utility of each option. "Utility" is typically viewed as maximizing happiness and minimizing suffering for the greatest number of people.

poverty as they anticipated rewards in the next life. Thus, religion had to go. Other freedoms, such as freedom of the press and freedom of expression were suppressed as well, in order to keep dissenters from gaining power.

On Human Nature

For these leaders, people were the products of the society that produced them. Period. "Once we get society right," they reasoned, "people will be smart and productive. They'll whistle while they work, work hard even when they don't have to, do what's in the best interest of their neighbors and society as a whole, etc. The dictator, once he realizes that he's no longer needed, will voluntarily step down."

On the Value of Human Life

Trotsky and Lenin didn't believe that all humans had inherent worth, which would have implied that all people should be treated fairly and humanely. (Contrast this with America's founding documents, which grounded people's "inalienable rights," in their being "created equal.")

Instead, people were viewed as pawns to be moved or executed or starved in whatever ways best served the long-term agenda. As Stalin put it, "Death solves all problems. No man, no problem."²

Early on, Trotsky stated, "We must put an end once and for all to the papist-Quaker babble about the sanctity of human life."³ As a result, under Lenin, the "value of human life collapsed."⁴

The Resulting Loss of Freedoms

Lenin and Stalin suppressed freedom of speech, freedom of the press, the right to assemble, freedom of religion, and even the right for people to eat their own produce. The peasants' crops were often seized and shipped to the cities or sold overseas to finance upgrading their factories and buying machinery.

"But at least," some readers might think, "science would progress unhindered under a totally secular* government. Free from the influence of religious worldviews, science should flourish unhindered by people's worldviews."

***Secular = attitudes, activities, and teachings that have no religious or spiritual basis.**

Yet, these statements fail to realize that secularism doesn't necessarily constitute freedom *from* a worldview. It can be a worldview in itself. Thus, under Marxism, any scientific theory that seemed to conflict with a naturalistic, secular, materialistic, atheist worldview wasn't allowed.

Two scientific theories that Marxism/Communism repressed were the Big Bang Theory* and the Second Law of Thermodynamics.* Both taught or implied a beginning to the universe, which in turn implied to many people a creation by a God, since something coming from nothing, by

purely natural means, seemed quite unlikely to them. The secular Marxists wanted a universe that had always existed, extending infinitely into the past and infinitely into the future.

Helge Kragh, in his detailed history of scientific theories of origins, *Cosmology and Controversy*, summed up the official position of the Soviet Union as:

"Astronomers should serve the [Communist] party by providing anti-clerical propaganda and exposing the idealistic cosmological views of the West, in particular those which implied a creation of the world."⁵

Thus, "cosmological models with a finite time scale had to be rejected because of their theistic implications."⁶ When Soviet astronomers met in Leningrad in 1948, they confirmed a resolution to fight the Big Bang Theory, since it spoke of a beginning of the universe in the finite past and could aid religious causes.⁷

The Second Law of Thermodynamics didn't fit snugly into the Marxist worldview, first because it implied that the universe must have had an initial infusion of energy to get started. If the universe was running down, how did it get wound up at the start? Where did that initial energy come from? And if this process toward randomness had been going on from eternity past, why had the universe not already reached a state of heat death?

As physicist Paul Davies put it,

"The universe cannot have existed forever, otherwise it would have reached its equilibrium end state an infinite time ago. Conclusion: the universe did not always exist."⁸

***The Big Bang Theory** = Today's reigning model (among scientists) of how everything in the universe came to be. According to the standard theory, before the "bang" the entire universe was once compressed into a single point—a "primeval atom"—before which the universe—including time and space—did not exist.

***The Second Law of Thermodynamics** = a physical law stating that in a closed system (such as the universe), usable energy decreases over time. This implies that there was a beginning to the universe (having maximum usable energy) and that it will one day end (no usable energy).

Another problem for Marxists was their belief that man and society were ever progressing. Yet according to the Second Law of Thermodynamics, since everything is proceeding from high organization toward randomness, energy will one day be equally distributed, resulting in the stars (including our sun) eventually burning out and the universe no longer being able to sustain life. This descent into oblivion didn't sit well with the Marxists' materialistic view of history and their economic view, which held that society was ever progressing, and would always progress.⁹

As Kragh put it in his book on the history of entropy,

"According to the ideology of Soviet communism, as it was formulated in the late 1930s, cosmological models with a heat death, and hence a finite upper time scale, had to be

rejected because of their theistic implications."¹⁰

Had you attended high school in East Germany as late as the 1970s you'd have likely been taught, as one of their textbooks put it with great assurance, "The universe has no beginning in time, and no end, and matter exists eternally."¹¹ Of course this teaching ignores the evidence for the Big Bang and the Second Law of Thermodynamics, but it serves well to show that worldviews often color the way we view the evidence.

The Death Toll of a Worldview

Those who caused trouble, spoke against the government, taught theories inconsistent with the government, or were considered inconvenient to the advance of society were deported, exiled, or killed. The infamous Gulags (work/death camps) were considered, as Solzhenitsyn put it, "sewage disposal."¹²

The total tally?

- "Church records show that 2,691 priests, 1,962 monks and 3,447 nuns were killed" in one year alone.¹³
- About three million children died in the government induced "Terror Famine" of 1933.¹⁴
- Upwards of 20 million people were killed during those early regimes.¹⁵
- Stalin's casual attitude toward such a large-scale extermination of human life was well summed up in his statement: "One death is a tragedy, a million is a statistic."¹⁶

And what about that glorious anticipated utopia that was supposed to make all the atrocities and great sacrifices worth it? It never appeared. When Stalin took over after Lenin, power became more centralized than ever. His rule was total and complete. And over the long haul, when people realized that they made the same amount of money no matter how hard they worked, incentive to work hard all but died, resulting in second rate products, poor production, and a poor economy.

Summary

Having lived in the former Soviet Union shortly after the revolution, I had a chance to see for myself how a Marxist/Communist worldview had taken its toll on people and the economy.¹⁷

My conclusion? Worldviews matter. They dare not go unexamined.

Yet Lenin was a bright person. He graduated college with the equivalent of a first-class degree with honors. He read widely. He wrote well. But his research and conclusions were often flawed and his moral compass typically pointed the wrong direction.

Why do brilliant people believe nonsense? Because sometimes they hold ill-conceived

worldviews. And these large scale views of the world have very practical consequences for our freedoms and pursuit of happiness.

Worldviews Impact Our Everyday Decisions

We dare not leave the big picture issues to the philosophers and political leaders, because someone needs to keep them accountable. Besides, our smaller, practical, everyday decisions are typically related to our larger, overarching philosophies of life.

- Will you spend whatever it takes to drive the latest sports car? Then perhaps you're a materialist in philosophy and an ethical egoist in ethics.
- Will you spend every Saturday morning getting your nails done and reading fashion magazines? Then perhaps you value outward appearance over developing inner qualities.
- Are you passionate about serving others and helping those who can't help themselves? Then perhaps you value compassion as the ultimate motivation and service to humanity as what really matters.

So whether we're deciding how to vote, how to act, or how to run a business or family, our worldviews often provide our compasses.

What Is a Worldview?

A worldview is essentially our big picture view of the world—the philosophical glasses through which we interpret everything we see. You may also find it called by its German name, *Weltanschauung*. Examples of worldviews (grossly oversimplified; some overlap) include:

Agnosticism - There isn't enough evidence to warrant either belief or disbelief in God.

Atheism - There is no God.

Christianity - God revealed Himself and His will through Jesus Christ and the Christian Scriptures. The most important commands are to love God and love people.

Hinduism - People go through a cycle of reincarnations until we liberate ourselves (find/experience Nirvana) through following Hindu teachings.

Materialism - All that exists or matters is material.

Nihilism - There's no objective truth, especially in religion or morals. Life has no meaning.

Naturalism - Nothing spiritual or supernatural exists. All that exists is natural.

Spiritualism - In addition to this physical world, a spiritual world exists. It's possible to

communicate between worlds.

Theism - There is a God.

Fleshing out a Worldview: Specifics and Implications

A recent example of a philosopher laying out his worldview in detail would be Alex Rosenberg, who chairs the Philosophy Department at Duke University. In his book *The Atheist's Guide to Reality*, he prefers the more positive name "Scientism" (meaning science is the only reliable guide to knowledge) to the more negative "atheism." He argues that science leads us inexorably to the following conclusions:

- There is no God.
- The world came about by purely natural, random causes.
- There is no purpose the universe. It will one day die and nobody will care that it ever existed.
- There is no meaning of life.
- We're here because of "dumb luck."
- There's no soul, no immortality.
- Free will is an illusion. Every move you make, every thought you think was pre-determined by a chain of naturalistic events operating by inviolable laws.
- There's no difference between right and wrong.
- Is anything forbidden, like abortion, euthanasia, or suicide? Nope. Anything goes.
- Does history have meaning or purpose or lessons? No.¹⁸
- Consciousness is an illusion. There is no mind separate from the brain.
- We have no natural rights. Clumps of matter don't have rights.¹⁹
- Individual human life is "without ultimate moral value."²⁰

Think!

Which aspects of Rosenberg's worldview do you agree or disagree with? Do you agree that the only way to knowledge is through the methods of science (scientism)? Do you agree that science inexorably leads us to these conclusions? If everyone held Rosenberg's worldview, do you think the world would be better, or worse? If you lived consistently with this worldview and your teenage daughter asked your advice as to whether or not to start taking drugs or to date a creep or to become a prostitute, what would you say?

I hope it's becoming clear from this brief overview that worldviews are important. They impact everything about our lives, telling us what's important and what's not, what's right and what's wrong, how to treat people and animals and our environment. The worldview of Lenin, Trotsky and Stalin convinced them that killing millions of innocent people wasn't merely justified, but the right thing to do. A person whose worldview includes the doctrine of Jihad might consider destroying New York's twin towers (and almost three thousand people) a selfless act of heroism.

We'd do well to think through our worldviews carefully.

What is Your Worldview?

Everybody has a worldview. Some have given it extensive thought. Others developed theirs rather subconsciously, so that they're hardly even aware of it, even though it greatly impacts their thoughts and actions. To clarify your own worldview, answer the following questions. The more clearly you can answer them (and other big picture questions), the more clearly your own worldview will come into focus.

- Where, ultimately, did we and our world come from? Do we have an ultimate purpose or purposes? If so, what are those purposes? _____

- Are people valuable in themselves, worthy of respect, or are they simply accidents of natural history, practically worthless in the grand scheme of things? _____

- Is there a God (or gods)? If so, what can we know about God and His will for us? Is He good, personal, and worthy of respect?

- Is there such a thing as objective right and wrong? (For example, if you can say, "Whatever anybody else thinks, Hitler was wrong in killing so many innocent people!", then you believe in objective right and wrong, at least in that one case.) If so, how do we determine right from wrong?
-

- How can we know things? For example: Is all true knowledge obtained by the scientific method; or do we additionally know some things intuitively, or through pure reason, or by spiritual means, or by other means?_____
-

- Is there an afterlife, or is this life all there is? How does that impact your decisions and lifestyle?_____
-

- Do our decisions make a difference, or is everything determined (by God or by nature)?_____
-

As you continue to learn and grow, your worldview may change a bit, perhaps a lot. But at the very least we should be aware of our own worldview and why we hold to it. Again quoting Socrates: "The unexamined life is not worth living."

Assessing Your Worldview

Many would argue that the early Russian leaders, although intellectually bright, held a poorly conceived worldview that led them to commit atrocities. What might have helped them reassess their views, and perhaps save millions of lives? And how can we insure that the naïve and dangerous aspects of our own worldviews don't go unchecked and unexamined? Here are some suggestions.

A. Be aware of how worldviews appeal to and are influenced by our passions.

These revolutionaries most likely thought of the development of their worldviews as purely an intellectual exercise in searching for the truth. But for Karl Marx and his followers, surely emotional factors lay largely unnoticed to them, impacting their research and conclusions.

- Stalin's beatings as a child by his harsh and brutal father probably bred in him a hatred for authority, a desire to rule, and little empathy. A materialist philosophy of life that involved violent revolution would have an obvious appeal to him.²¹
- Karl Marx, in his personal character, demonstrated a "taste for violence," "appetite for power," "bad money habits" (leading to crippling personal debt to capitalists), and

a "tendency to exploit those around him." Surely these personal traits impacted his research and informed his political views.²²

As we've seen in previous chapters, what we *want* to believe impacts how we evaluate evidence. Without honestly evaluating our passions, it's difficult to decide if we believe a line of reasoning because it's truly valid, or because it simply resonates with our prejudices/passions.

B. Look beyond your own culture and time.

We're all to a certain extent captives of our times. Before the Russian Revolution, the wealthy were taking advantage of the poor, the Czars ruled cruelly, and the religious system was often more a part of the problem than the solution. In such an atmosphere, making a clean sweep of everything that went before seemed quite attractive. In that society, it was easy to see Capitalism as corrupt, making Marxism look attractive as an alternative.

Yet, focusing myopically on our own recent history can lead to forming a worldview more out of reaction than a sound assessment of historical and economic facts. Stalin hated the religious leaders in his school. Lenin despised religion as he saw it. Surely their personal history enhanced the appeal of materialistic worldviews that recommended wiping out religion.

C. Seek more to understand than to be understood.

These leaders were very dogmatic about their views, seemingly unable to stomach criticism, take an honest look at contrary evidence, or to appreciate the views of other bright people. Both Lenin and Stalin persecuted intellectuals. Lenin called them "shit." Stalin appointed only "yes men" to positions of authority. Colleagues quickly learned to either agree with Stalin or die.

Contrast this approach with two other influential leaders of the 1900s—Nelson Mandela and Martin Luther King Jr.

In fighting the despicable injustices of Apartheid (segregation and unequal treatment based upon race) in South Africa, Mandela listened carefully to the arguments both for and against Marxism as a solution. He had friends on both sides of the issue. He studied their literature and had many friendly arguments and conversations with both those opposed and who supported Communism.

Although some aspects of Communism appealed to him, and he would eventually allow Communists to have a place in his movement, he didn't feel that Communism was the right path for his country. Throughout his life, Mandela didn't allow himself to study and formulate opinions without listening to all sides and having productive conversations/debates with those who held various views. Surely this practice saved him from drifting toward extreme views.²³

Martin Luther King Jr. fought prejudice and racism in America. He could have easily taken a Marxist view and blamed the economic inequalities for blacks on capitalism. But like Mandela, he too studied the primary sources for Marxism, seeking to understand. While he felt that Marx and his followers brought to light many important issues with capitalism, he rejected several of

Marx's foundational tenets:

1. He rejected his secular and materialistic view of history, believing rather that a personal God impacted history as well.
2. He rejected Marx's ethical relativism, which he felt could be used to justify anything.
3. He rejected the totalitarianism of the state, which could turn people into impersonal cogs in service to the state.²⁴

D. Put systems in place that allow your views to be challenged.

Again, Mandela seemed wise in this regard, retaining friends who disagreed with him and listening sincerely to their criticisms. Martin Luther King, Jr., was humble enough to listen to others, work with existing organizations and committees, and consider their advice.²⁵

E. Look unflinchingly at problems with your worldview.

Lenin and Stalin should have been asking themselves hard questions, such as,

- "Will people continue to work hard in a system where they know they'll receive the same payment no matter how hard they work?"
- "Will a dictator really step down, after he's no longer needed?"
- "What evidence do we have that our methods will one day usher in our envisioned utopia?"

How could they have known with any degree of certainty the answers to these questions, since they had no historical precedent?

Of course, Democracy has its issues as well. As Winston Churchill once said,

"Many forms of Government have been tried, and will be tried in this world of sin and woe. No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of Government except all those other forms that have been tried from time to time."²⁶

Here's a specific weakness that someone pointed out concerning democracies:

"A democracy cannot exist as a permanent form of government. It can only exist until the majority discovers it can vote itself largess out of the public treasury. After that, the majority always votes for the candidate promising the most benefits with the result the democracy collapses because of the loose fiscal policy...."²⁷

Thus, administrations are inclined to push for new programs, but find it too unpopular to cut back on existing programs. No wonder it's so easy for democracies to plunge further and further into debt!

So try to look objectively at the shortcomings of your world views and governmental systems. What are their strengths? What are their weaknesses?

F. Rigorously check the accuracy of your facts and the precision of your arguments.

While this seems obvious, the number of big decisions made on poor data and argumentation are quite astounding. Make sure you've thought through your worldview!

Flex Your Neurons!

Pursuing the Point of Know Return

1. Let's now take up the important task of *recognizing* worldviews. Whether you're reading a newspaper columnist, watching a documentary, listening to an advertisement, reading a novel, watching a movie, or talking to a friend, worldviews lurk beneath the surface, expressing themselves in subtle and not-so-subtle ways.

We can't truly understand people's motivations and actions if we don't understand their worldviews. Example: Your boyfriend works hard at his job. Perhaps that's a good sign—he wants to make an honest living and have enough left at the end of the week to give to worthy causes. On the other hand, perhaps he's a materialist, thinking only of himself and the toys he can buy with that money.

Typically commercials and novels and people aren't explicit about their worldviews, so we must pay attention and ask insightful questions. So apply your mental floss to the following popular quotes, ads, and sayings. Take ten of them and answer these questions:

What worldviews might they be assuming or promoting? (Either use a worldview discussed above or put the worldview in practical terms, such as "appearance is everything," "money is all that matters," "this world is all that matters," etc.)

Do you agree or disagree with them?

- a. You only go around once in life. Go for all the gusto you can get.
- b. He who dies with the most toys wins.
- c. All is fair in love and war.
- d. Life's a sport. Drink it up!
- e. You are in a beauty contest every day of your life. - Camay soap
- f. When you've got it, flaunt it. - Braniff Airlines
- g. Live today. Tomorrow will cost more. - Pan American World Airways
- h. People First - Saturn
- i. Be Like Mike [Michael Jordan]. Drink Gatorade.
- j. The right relationship is everything. - J.P. Morgan Chase
- k. I'd Like to Buy the World A Coke. - Coca Cola 1971
- l. Live the moment - Harry Winston

- m. Go Full Throttle or go home - Full Throttle
 - n. Like a good neighbor, State Farm is there - State Farm Insurance Company
 - o. Find Your Own Road - Saab
 - p. Live Richly - Citibank
 - q. Let desire lead you - JLo Deseo
 - r. Live like a King - Drawbridge Inn Hotel
 - s. "Everything Counts, Everyone Matters" - W.R. Berkley
 - t. To serve, not to be served - AARP
 - u. A Business of Caring - Cigna
 - v. Computers help people help people - IBM
 - w. No compassion, No peace; Know Compassion, Know Peace
 - x. Winning isn't everything, it's the only thing
2. This week, as you watch movies, read books, view commercials and billboards, reflect on what worldviews they represent, and bring some back to class to discuss. And don't just look at the words—notice the accompanying artwork, pictures and music.
 3. Notice the characters in your favorite TV shows. What worldviews might each of them represent?
 4. We saw in this chapter how one irreligious worldview impacted society. But how can religious (e.g. Christian, Muslim or Hindu) worldviews impact society, both for good and for ill? What about secular governments that try to remain neutral in their worldviews?
 5. If you were Rosenberg, whose worldview we laid out above, how would you answer the following practical questions?
 - If everything has already been determined, then why "try harder" to get ahead or to "make something of my life" or to write a book? In his worldview, does trying to change the world or change one person's life or even change my own life seem futile?
 - If "nothing really matters," as Queen sang in *Bohemian Rhapsody*, then why not kill people who irritate me or hold me back, as long as I can get away with it? Couldn't I justify killing irritating or backward people as helping future generations by eliminating morons from the gene pool?

Why Brilliant People Believe Nonsense

- If there's no meaning in life, if humans have no special value or natural rights, if there's neither right nor wrong, and no afterlife, then in what sense is not killing an innocent victim superior to killing?
- If there's neither right nor wrong, then can we in any meaningful way say that Hitler was wrong in killing millions of innocent people?

Making It More Personal Practical Takeaways

What are one or more ideas provoked by this chapter that you can apply to help you think more critically?

What are one or more ideas that you can apply to help you think more creatively?

What else do you want to make sure you don't forget?

Recommended Trails For the Incurably Curious and Adventurous

1. See the recent debate between two scholarly adherents of two opposing worldviews: William Craig (Theist) and Alex Rosenberg (Atheistic Scientism) at Purdue University.

<https://www.youtube.com/watch?v=uBTPH51-FoU>

2. Read a history of Marxism or a biography of Marx, Engels, or one of the early leaders in Russia after the Russian Revolution. How did they develop their worldview? How did their worldview impact their writings, policies and actions?

3. We talked some about the resistance of Marxists to the second law of thermodynamics. For a very detailed and scholarly history of controversies concerning the second law, see Helge S. Kragh, *Entropic Creation: Religious Contexts of Thermodynamics and Cosmology* (Burlington, Vermont: Ashgate Publishing, 2008).



INTERMISSION

Meet Dr. Cackler

*"The value of a college education is not the learning of many facts
but the training of the mind to think."*

— Albert Einstein (Explaining to a reporter why he didn't know facts like the speed of sound.)¹

So far, we've seen how brilliant people such as Steve Jobs or Albert Einstein, great companies and even great countries, made serious and costly mental errors. We've also thought through the causes of these errors and looked at ways to think more rationally and creatively.

But we cover so much ground in this book that you'll never likely remember it all. Even if you have a photographic memory, although you may be able to repeat back the material on a test, you're unlikely to be able to *use* the information to run a business, evaluate an argument, or decide how to invest your income, unless I provide a memorable way to apply these skills.

That's where Dr. Cackler comes in.

Imagine that you live next door to a brilliant doctor with a loud, distinctive laugh, nicknamed Dr. Cackler. He's the best analytical thinker you know, so that when you need to think through something, you run it by him over your fence. In helping you work through a difficult issue, he often leads you through a checklist with the letters of his name.

"My name says it all," cackles the good doctor.

"First, break your evidence down into two parts. Just as my first two letters state my credentials—DR.—so the credentials of an argument can be analyzed in two parts with the same initials: the **Data** and the **Reasoning** concerning that data."

"As Warren Buffett's intellectual mentor wrote concerning investing, 'You are neither right nor wrong because the crowd disagrees with you.



You are right because your **data** and **reasoning** are right."²

"Some people offer tons of relevant facts (data), but still draw erroneous conclusions because of their faulty *reasoning*. Others reason well, but fail to take into account all the relevant *data*. In fact, **if you remember nothing else from this acrostic, always remember to examine the quality of the *data* and *reasoning* for any argument in a presentation, article, or chapter you read.**"

"Consult me (or at least my name!) and you should have more success seeing through the nonsense that people expect you to swallow."

So here's the full acrostic:

D.R. C.A.C.K.L.E.R.

Data - Have you collected the relevant data/information/facts? (See especially chapters two and thirteen.)

Reasoning - Are you drawing conclusions from the data with precision? (See section three.)

With the rest of my name, let's think about some of the specific characteristics of good data and sound reasoning.

Is your argument:

Clear? Murky language often hides sloppy thinking. Recall how imprecise language obscured the causes of the common cold in chapter two.

Accurate? How were your facts derived? Do others dispute those findings? Do they jive with your personal experience and the experiences of those you know? (In section five we challenge the accuracy of certain statistics.)

Comprehensive? Are you sure you gathered *all* (or at least *enough*) of the relevant data? Did you ask all the relevant questions? In chapter two, Julie found her way to the primary sources to get more accurate data on the common cold. Starbucks' leaders tended to ignore certain data from customers. Fortunately, they hired a person who passionately argued the customers' point of view. (In chapter 13 we discuss the need for sufficient evidence.)

Knowledge-based? Do you know enough about the subject to understand and interpret the data? Innovative companies like Bell Labs, Google, and General Electric hired many specialists who could understand the data and theory behind various fields. (In chapter 25 we find people pontificating outside their fields of specialty, seemingly oblivious to their lack of expertise.)

Logical/Sensible? Have you employed logical fallacies in your reasoning? (See section three.) Have people strong in "common sense" informed your line of argument with their opinions? (See chapter 25.)

Emotionally Intelligent? Does your conclusion make sense in the light of how people feel and behave? Marx, Lenin, Trotsky, and Stalin seemed to fall short in this respect. Nelson Mandela and Martin Luther King Jr. found ways to include emotional intelligence in their reasoning. (We'll talk more about this in chapter 25.)

Reviewed? What do other knowledgeable people think of your argument? Einstein added his "fudge factor," not because his calculations demanded it, but to harmonize his equations with his preexisting view of a static universe. Fortunately, since his findings were published, other mathematicians and scientists could challenge Einstein. Google allows all their engineers to review everyone else's projects, and even spend one day a week working on a different project of their choice, so that fresh ideas keep circulating. (See especially chapters one and eight.)

But let's move from *critical* thinking into *creative* thinking, which can lead to innovation. When Dr. Cackler thinks innovatively, he:

C.R.E.A.T.E.S.

Crowdsource ideas. Jack Welch and Sam Walton developed ways to encourage a steady flow of fresh ideas from all levels of their organizations. (See chapter one.)

Run the best ideas by a friend or a group, rather than letting pride convince you that your pet ideas are the best. (See chapter eight.)

Engage your enemies and/or those who hold competing ideas. Starbucks resisted for some time talking seriously to customers who wanted products that didn't fit with their vision. (See chapter eight.)

Assume nothing. Ask the questions nobody else asks. General Howe lost strategic battles due to false assumptions. Einstein had the audacity to ask, "What if time is relative?" "What if space curves?" (See chapters seven and eight.)

Test accurately and broadly. When Starbucks allowed select stores to try selling Frappacinos, they discovered a top seller. (See chapter six.)

Explore extremes. Exploring the very fast (relativity), the very small (quantum physics), and the most distant past (Big Bang cosmology) revolutionized our understanding of matter and the universe. Reflecting upon those with extremely strong and weak mental functions can help us to understand our own mental strengths and weaknesses. (See chapters eight and twenty.)

Search outside your field. Einstein learned to question absolute time from reading philosophy. The Mayo Clinic sharpened their scheduling by learning from NASA. (See chapters six and eight.)

In our lesson plans, we'll rejoin Dr. Cackler periodically, to help summarize our sections and practice this useful tool for critical and creative thinking.