



The Creator's Code: The Six Essential Skills of Extraordinary Entrepreneurs

By Amy Wilkinson

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How do some people turn ideas into enterprises that endure? Why do some people succeed when so many others fail? *The Creator's Code* unlocks the six essential skills that turn small notions into big companies. This landmark book is based on 200 interviews with today's leading entrepreneurs including the founders of LinkedIn, Chipotle, eBay, Under Armour, Tesla Motors, SpaceX, Spanx, Airbnb, PayPal, Jetblue, Gilt Groupe, Theranos, and Dropbox.

Over the course of five years, Amy Wilkinson conducted rigorous interviews and analyzed research across many different fields. From the creators of the companies ranging from Yelp to Chobani to Zipcar, she found that entrepreneurial success works in much the same way. Creators are not born with an innate ability to conceive and build \$100 million enterprises. They work at it. They all share fundamental skills that can be learned, practiced, and passed on.

The Creator's Code reveals six skills that make creators of all kinds of endeavors breakthrough. These skills aren't rare gifts or slim chance talents. Entrepreneurship, Wilkinson demonstrates, is accessible to everyone.

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The Creator's Code: The Six Essential Skills of Extraordinary Entrepreneurs By Amy Wilkinson Bibliography

- Sales Rank: #188636 in eBooks
- Published on: 2015-02-17
- Released on: 2015-02-17
- Format: Kindle eBook

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Editorial Review

Review

“This book is the inspiring story of men and women who are changing our world. Amy Wilkinson has cracked their code and given us all ways to join their ranks. This book is a game-changer and a life-changer.” (Tom Peters, author of *The Little Big Things* and *In Search of Excellence*)

”Based on 200 interviews with entrepreneurs, this book helps explain the skills needed to be a successful innovator. It’s a great guide filled with smart rules for both starting a business and bringing it to scale.” (Walter Isaacson)

“Amy Wilkinson promises brilliant insight and delivers. If you’re an entrepreneur or a corporate executive working to stay ahead of the curve, read this book ASAP!” (Joanna Barsh, McKinsey & Company director emeritus and author, *Centered Leadership*)

“A leading talent of her generation, Amy Wilkinson has poured five years into wresting secrets of success from 200 top entrepreneurs and then boild what she learned into six essential skills. The result is a fresh, insightful book.” (David Gergen, professor of Public Service, codirector of the Center for Public Leadership, Harvard Kennedy School of Government)

“The shelves groan with books written by entrepreneurs claiming to reveal their unique formula for success. But I like Amy Wilkinson’s more comprehensive, analytical approach. She’s interviewed hundreds of entrepreneurs, and from that stack of data has distilled the skills that allowed them to rise to the top. The good news? These are skills that anyone can develop. The added bonus? Wilkinson has a ton of great stories and she tells them well.” (Daniel H. Pink, author of *To Sell is Human* and *Drive*)

"*The Creator's Code* provides a roadmap for the next generation of entrepreneurs. Amy Wilkinson’s insights about entrepreneurship, in combination with stories of successes and failures, serves as an inspiration for those looking to create and build new businesses." (Steve Case, cofounder of AOL and Chairman of UP Global)

“Great entrepreneurs make complexity simple. Amy Wilkinson has done just that. This book offers invaluable clarity on the messy process of building a breakthrough business. An inspiring read for those who will shape the future.” (Matt Cohler, general partner at Benchmark)

"Impressive." (Publishers Weekly)

About the Author

Amy Wilkinson is a strategic adviser, entrepreneur, and lecturer at the Stanford Graduate School of Business. She frequently addresses corporate, association, and university audiences on entrepreneurial leadership. She also advises startups and large corporations on innovation and business strategy. Her career spans leadership roles with McKinsey & Company and JP Morgan and as founder of a small foreign-based export company. Wilkinson has served as a White House Fellow in the Office of the United States Trade Representative and as a senior fellow at the Harvard Kennedy School. Learn more about her work at AmyWilkinson.com.

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Creator's Code

Chapter 1

FIND THE GAP

Discovery consists in seeing what everyone else has seen and thinking what no one else has thought.

—Albert Szent-Györgyi

From an early age, Elon Musk peppered his parents with questions. He prodded and probed. “Guess I’m just wired that way,” he told me. Born in Pretoria, South Africa, Musk devoured comic books and science-fiction novels as a youth. He read the encyclopedia cover to cover. He loved computers. At the age of ten, he taught himself how to write computer code; by the time he was twelve, he and his brother, Kimbal, had developed and sold a video game, set in outer space, called *Blaster*. *The Hitchhiker’s Guide to the Galaxy*, a comedic science-fiction novel, taught him to question accepted wisdom; as is memorably written in the book, the key is to know which questions to ask.

Musk’s curiosity fueled his desire to move to the United States. “America is a nation of explorers,” he said. First, he moved to Canada to stay with relatives. To pay for college, he worked odd jobs: shoveling grain, emptying boilers in a lumber mill, mopping up chemicals while wearing a hazmat suit. He graduated from the University of Pennsylvania, where he asked professors, classmates, friends, and even dates this question: “What are the three things that will have the greatest impact on the future of humanity?”

By 1995, Musk realized that “the Internet was like humanity acquiring a nervous system,” he said. “Previously, we’d been like cells connecting by osmosis. We were just a blob. But if you have a nervous system, information can travel instantly from the tip of your finger to your mind, and then down to your feet. The Internet turns humanity into something akin to a superorganism.”

Musk enrolled in a PhD program in applied physics at Stanford University, but he dropped out after just two days. He was far more interested in pursuing the gap he perceived between the potential of the Internet and the way it was being used at the time. He sent his résumé to America Online (AOL)—a hot company in the mid-1990s—made follow-up calls, and even drove to the company’s office, hanging around the lobby hoping someone would talk with him. No one did.

With \$2,000 in savings, he and Kimbal started Zip2, one of the first businesses to put media content online. They rented an office and, to save money, furnished it with futons they used as couches during the day and beds at night. They showered at a local gym. “Do you think you’ll ever replace this?” one potential investor scoffed, throwing a copy of the Yellow Pages at the brothers. Musk nodded and left. Within months, Zip2 would put maps and content online for media organizations such as the New York Times Company and the Hearst Corporation. Four years later, in 1999, Compaq’s AltaVista division bought Zip2 for more than \$300 million.

With newfound money in his account, Musk turned to the problem of checks, which he saw as a painfully antiquated means of payment. Transactions could take weeks to complete as people mailed checks and waited for them to clear. Musk launched an online payments company called X.com to fill the gap. Before long, it merged with a startup named Confinity to become PayPal. In 2002, eBay purchased PayPal for \$1.5

billion. Musk was just getting started.

He would go on to found SpaceX, Tesla Motors, and SolarCity. What can we learn from such an extraordinary creator? What allows someone like Musk to seize opportunities time and again?

Connections, expertise, talent, and resources have something to do with a breakthrough discovery, to be sure, yet scores of people who possess all these ingredients fail to capture opportunities. And individuals who possess few of them succeed. What if the answer involves unique ways of thinking and perceiving? What if Musk—and others like him—have a sensibility and a curiosity that allow them to identify needs that are going unmet?

This chapter is about what makes creators different, what makes them able to find and fill gaps in a variety of ways. Some of these creators—those I call Sunbirds—transport solutions that work in one area and apply them to another, often with a twist. Architects recognize openings and furnish what is missing. They spot problems and design new products and services to satisfy unfilled needs. Melding existing concepts to combine disparate approaches, Integrators build blended outcomes.

Although our experience may lead us to see the world from just one of these perspectives, we can learn to spot opportunities in a variety of ways. Creators move freely between patterns of discovery.

SUNBIRDS: FROM ONE DOMAIN TO ANOTHER

“I look at a problem and think, ‘Let’s not look at how this problem has been approached in this field, but let’s go to industries that are completely different and take technologies that, if applied to the problem at hand, would solve it.’?” inventor Dean Kamen said. Kamen created the Segway PT transportation vehicle, the AutoSyringe drug infusion pump, and the iBOT all-terrain wheelchair, among other technologies. “I find someone who has solved the problem in another field and then just tweak it a little bit,” Kamen explained, adding wryly, “Every once in a while it works.”

Kamen is a real-life mad scientist. He lives in a large, hexagonal house in Bedford, New Hampshire, that features, among other quirks, a large steam engine once owned by Henry Ford. Kamen pilots his own helicopter to work every day. The helicopter inspired Kamen, Sunbird-style, to invent a heart stent. Baxter Healthcare, frustrated with stents that collapsed inside blood vessels, commissioned Kamen to create a sturdier model. Helicopter blades withstand incredible stress, so Kamen studied their function and construction and applied what he learned to build a better stent.

Kamen spots a solution that works in one area and repurposes it. Designing the Segway PT, he borrowed gyroscopic technology used in the aerospace industry to maintain stability. Kamen utilized two sets of wheels capable of rotating over each other to enable users of his iBOT wheelchair to “walk” up a flight of stairs or “stand” up to six feet tall. His Luke Arm prosthetic device—named after the Star Wars character Luke Skywalker—gives its wearer a nearly full range of motion. It is designed with fourteen sensors that detect temperature and pressure and enable users to open a lock with a key or grip a water bottle.

Perhaps his greatest invention is FIRST (For Inspiration and Recognition of Science and Technology), a nonprofit that borrows from the playbook of sports to make math and science education cool. “I got this epiphany to create a sport of technology and science that had a higher skill set than ‘bounce, bounce, and throw.’?” Kamen explained. Borrowing on the sports theme of instant winners and losers, he designed a six-week science and technology tournament in which teams of students face off in robotics competitions that require them to build a robot out of a box of standard components. “If you want to see a real varsity team, I’ll

show you a real sport,” Kamen quipped. “The other neat thing is that whether you’re three hundred pounds, seven feet tall, or a woman, you can play on the same team.” In 2014, more than 400,000 students participated in FIRST competitions.

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What makes someone a Sunbird? The first and most obvious criterion is that Sunbirds take something that already exists and transport the model to create something new. They relocate and reshape existing concepts across geographies and industries, and bring old ideas up to date.

By definition, a sunbird is a small bird native to Africa, Asia, and parts of Australia. Like the North American hummingbird, sunbirds subsist primarily on nectar. They fly from bud to bud, transferring pollen between flowers.

There is a simple way to describe how Sunbird creators spot opportunities. They harvest working concepts, proving that repurposing an idea can be a powerful means of discovery. Sunbirds transport solutions from one place to meet the needs of another.

Starbucks CEO Howard Schultz, for example, didn’t invent the espresso bar—he borrowed it. But Schultz was alert enough to envision the coffee bar concept in another locale, and insightful enough to bring it to the United States.

On a business trip to Italy, Schultz was intrigued to find people gathering at local cafés, drinking espresso and enjoying the company of neighbors. “These places offered comfort, community, and a sense of extended family,” he said. It was an important part of the culture in cities such as Milan. At the time, if Americans had a cup of coffee while out and about, it was probably at a diner. Schultz spotted the “third place” coffeehouse tradition: the café as a public place to gather between work and home. That kind of place was missing in the United States. Schultz saw an opportunity to transplant a winning idea.

But he didn’t get it exactly right the first time. With *Il Giornale*, Schultz’s first attempt to open espresso bars in the United States, he replicated the Italian café experience exactly, right down to waiters in bow ties and opera playing in the background. He realized quickly, however, that his Seattle customers didn’t enjoy the experience. So he tweaked the concept: jazz and blues replaced the opera; seating was added so customers didn’t have to stand at a bar to drink their coffee. Driving the makeover was Schultz’s realization that Americans wanted a setting where they could feel comfortable working at their laptops while they sipped coffee.

Sunbirds identify a working concept and find a way to plug it in elsewhere. They examine how and why it worked initially, and what similarities or differences will make it work again. Sunbirds such as Schultz make the calculation repeatedly.

Starbucks VIA instant coffee originated from another Sunbird leap. The process used to preserve the full-bodied taste of coffee beans in powder form was derived from a medical technology invented to preserve blood cells. Biologist Don Valencia presented Schultz with a cup of instant coffee made from freeze-dried concentrate that Valencia had processed in his lab. It turns out that Valencia had developed a technology to freeze-dry blood cells, and he found that the same method could be applied to coffee. Thrilled with the crossover discovery, Schultz hired Valencia to run Starbucks’ research and development team. In its first year, Starbucks VIA captured 30 percent of the premium single-serve coffee market in the United States.

The farther Sunbirds transport solutions, the greater the likelihood of breakthrough results. Gaps can be narrow, leading to incremental innovations, or they can be wide, leading to more novel creations.

THE POWER OF ANALOGY

To transport concepts that the rest of us don't see, Sunbirds use the power of analogy.

Analogy operates on two levels: Surface analogies describe similarities such as shared product design and product features, and structural analogies reflect parallel underlying elements.

Howard Schultz drew a surface analogy when he observed coffee culture in Europe and brought the coffeehouse experience to the United States. When Schultz invested in technology that originally was developed to freeze-dry red blood cells and created VIA instant coffee, he followed a structural analogy.

The odds of success for a Sunbird improve if concepts and applications share structural similarities. Gutenberg is said to have invented the printing press by adapting the mechanics of the wine press. He witnessed the repeated pressing process farmers used to extract juice from grapes and realized that the same mechanism could be utilized to apply ink to paper.

Sunbirds examine underlying elements. George de Mestral got the idea for Velcro when he observed how burrs stuck to his dog's fur with tiny hooks. University of Oregon track coach Bill Bowerman studied his wife's waffle iron and adapted the pattern of little spikes produced by the appliance to create Nike's original waffle-tread running shoe.

It is not always as easy as it might seem to identify and transport ideas. The Inca people of South America fashioned toy vehicles for their children that had wheels, yet they never developed full-scale wheeled carts or wagons. Instead, they used pack animals, and moved heavy items by dragging them on poles. The Incas predicted seasons by observing the planets and stars. Their surgeons were highly skilled. They designed complex roads and buildings with their skilled use of mathematics. Yet they were unable to make the connection between wheels on toy vehicles and their own need for transportation.

"If you take a minute to really think about things, to compare and contrast, you are two to three times as likely to apply known principles to discover and connect with future ideas," said Dedre Gentner, director of the Cognitive Science Program at Northwestern University. Energetic engagement triggers the brain to recast what we see into new and useful ideas. Through experiments with management consultants, accountants, business school students, and undergraduates, Gentner found that making comparisons helps people utilize what they already know. "Push your analogies to the limit. That will lead to breakthroughs," Gentner said. "Instead of saying, 'Damn, that didn't work,' ask, 'What parallel can I draw?'"

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"When I finished my doctorate in engineering, I did something very unusual for an engineer. I actually started in a surgery lab," Bob Langer, founder of the Langer Lab at the Massachusetts Institute of Technology, told me. "I was trying to use engineering to solve medical problems." Transporting chemical engineering principles to the human body, Langer helped isolate an angiogenesis inhibitor, capable of choking off the blood supply to cancerous cells, and then invented a new polymer that could be used to encapsulate the treatment, allowing it to be implanted directly in a tumor, where it would be slowly released. His breakthrough created an entirely new kind of drug delivery system that is now a key weapon in fighting cancer and other ills, from diabetes to schizophrenia.

At MIT, Langer runs the largest academic biomedical engineering lab in the world. It has spun out more than twenty-five biotech startups that have each generated more than \$100 million in revenue. Langer gets his inspiration from all types of sources, including nature, literature, media, and science, among dozens of others. To create a recent invention, Langer drew an analogy from the computer industry. “The whole idea started by watching a television show on how they make microchips in the computer industry,” Langer said, as we sat on lab stools surrounded by centrifuges. “When I saw that, I put two and two together and thought, well, maybe this could be a whole new way of delivering drugs to patients.”

The polymer chip is patterned after an Intel microprocessor. “You can open up specific wells in the microchip to deliver drugs,” Langer explained. The human microchip works via a tiny device that can be implanted in a patient in the doctor’s office. The device is wirelessly programmable by means of a special radio frequency. A signal is sent from a cell phone or other external device that tells the chip what drug to deliver and when, while recording the action. “It can be triggered by remote control the same way you open your garage door,” Langer said, using another analogy to describe how it works. This “pharmacy on a chip” was used successfully to administer daily doses of an osteoporosis drug to patients in 2012. Treatment of osteoporosis can require daily injections, whereas the use of an internal microchip could open a new era of easy, pain-free treatment.

Making another Sunbird leap, Langer drew inspiration from a gecko’s foot in creating a surgical bandage capable of holding tissue together inside the body. He designed a glue-coated polymer based on the lizard’s wall-gripping ability that can cling snugly to tissue. The result is an adhesive bandage that may replace traditional methods of closing surgical wounds, such as staples. The bandage adheres to uneven surfaces and dissolves harmlessly in the body.

Sunbirds don’t allow social or market stigmas about how things get done in a certain field to dictate the way something might be repurposed. But Sunbirds don’t only spot opportunity by transplanting current ideas. They also revive outdated concepts to bring them up to date.

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People have held garage sales almost as long as there have been garages. That didn’t stop Pierre Omidyar, a twenty-eight-year-old software engineer, from beginning to update the concept in 1997. “What I set out to do was to take something that worked really well in the off-line world—namely trade and commerce—and bring it to the online world,” said Omidyar, founder of eBay. A Sunbird analogy was at the heart of the original eBay concept.

“One of the things I tend to do is open myself up to a variety of voices—not just the smartest strategists, and the most brilliant people, but just normal, everyday folks as well,” Omidyar told me. “I try to expose myself to the kind of culture shock that occurs when you talk to people who speak a different language.”

Similarly, Craig Newmark brought traditional classified ads forward in time by creating Craigslist. Jessica Herrin, founder of Stella & Dot, updated Mary Kay’s direct-sales model to build a \$220 million business that supports 16,000 women selling jewelry on- and off-line. And it’s often forgotten that Larry Page and Sergey Brin developed Google’s search algorithm by updating PageRank, a method for ranking academic articles they encountered while using the Stanford University library.

“Many of us thought search was a solved problem,” Stanford president John Hennessy said as we sat in his sun-splashed office on the Stanford Quad. “AltaVista was out there and did a great job of crawling and presenting information in the order it appeared.” But the masses of information it produced were virtually

unsorted. “On an AltaVista search,” the Stanford president recollected, “I would type Hennessy, and the first thing that would pop up would be fifty different sites for Hennessy cognac. That’s not the Hennessy I wanted,” he said, chuckling. “When Gerhard Casper was Stanford’s president, he complained that when he did a search for Casper it would come up as Casper the Friendly Ghost. For a German constitutional lawyer, that’s not funny.” Page and Brin, students at the time, realized that the idea behind PageRank could be applied to rank searches online. “Google was based on reapplying existing technology,” Hennessy explained. “It took a couple of young people that didn’t think that search was a solved problem to apply an old technology to the emerging Web.”

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How do we improve our chances of making Sunbird leaps? Being flexible enough to consider information that seems irrelevant is an important first step. Sunbirds actively play with analogies and continually ask how existing knowledge might be repurposed. Thinking back to a similar situation in the past often pushes ideas forward. Sunbirds evaluate how and why a strategy worked in the first place and what it will take to translate it to a new arena.

Instead of trying to invent a new heart stent, imagine a helicopter blade; instead of developing a new way to deliver drugs, consider an Intel chip; instead of making ordinary instant coffee, transport freeze-dried medical technology to maintain coffee’s distinctive flavor. To get a better sense of how Sunbirds think, consider the following problem:

Suppose you are a doctor faced with a patient who has a malignant tumor in his stomach. It is impossible to operate, but unless the tumor is destroyed, the patient will die. There is a kind of ray that can be used to destroy the tumor. If the rays reach the tumor all at once at a sufficiently high intensity, the tumor will be destroyed. Unfortunately, at this intensity, the healthy tissue that the rays pass through on the way to the tumor also will be destroyed. At lower intensities, the rays are harmless to healthy tissue, but they will not affect the tumor either. What type of procedure might be used to destroy the tumor with the rays, and at the same time avoid destroying the healthy tissue?

When Mary Gick and Keith Holyoak of the University of Michigan posed this problem as part of a cognitive psychology experiment, less than 10 percent of participants could find a solution. However, there is a way to increase the chances of saving the patient. It involves thinking through a seemingly unrelated story:

A small country was ruled from a strong fortress by a dictator. The fortress was situated in the middle of the country, surrounded by farms and villages. Many roads led to the fortress through the countryside. A rebel general vowed to capture the fortress. The general knew that an attack by his entire army would capture the fortress. He gathered his army at the head of one of the roads, ready to launch a full-scale direct attack. However, the general then learned that the dictator had planted mines on each of the roads. The mines were set so that small bodies of men could pass over them safely, since the dictator needed to move his troops and workers to and from the fortress. However, any large force would detonate the mines. Not only would this blow up the road, but it would also destroy many neighboring villages. It therefore seemed impossible to capture the fortress.

The general devised a simple plan. He divided his army into small groups and dispatched each group to the head of a different road. When all was ready, he gave the signal, and each group marched down a different road. Each group continued down its road to the fortress so that the entire army arrived at the fortress at the same time. In this way, the general captured the fortress and overthrew the dictator.

When participants were told the story of the fortress before they were presented with the tumor problem, approximately 75 percent figured out how to save the patient. They were able to transport insight gained in a military scenario and apply it to a medical situation. They could see a way for the doctor to divide radiation into smaller doses administered from different angles that would strike the tumor with enough intensity to destroy it while preserving surrounding tissue. Normally, people who are presented with the problem of the patient with stomach cancer fixate on the tumor and the radiation protocol. They conclude that the patient won't survive. But when we allow our minds to search for different analogies, alternative approaches can emerge.

Sunbirds willingly look in places that others dismiss. They gain an advantage from knowing a little bit about a lot of things and repurpose knowledge from seemingly unrelated fields.

It would be a mistake, however, to think that importing and exporting ideas, as Sunbirds do, is the only way to spot opportunity. Some creators build novel solutions from the bottom up.

ARCHITECTS: BUILDING NEW MODELS FROM THE GROUND UP

In 2001, Elon Musk and his friend Adeo Ressi, who had been a housemate at Penn, were stuck in slow-moving traffic on the Long Island Expressway. They began brainstorming about what to do next with their careers. Both were successful entrepreneurs. Ressi had started the software development company Methodfive and Musk's company PayPal was about to go public. As they drove, their conversation turned to interplanetary space exploration. What could one person do to make it possible? At first, they dismissed the question as a joke. Space travel, they agreed, was too expensive, too complicated. But as they inched along in traffic, they wondered: How difficult could it be? As they drove a few miles farther, they attempted to calculate how much spacecraft cost. They broke space travel down into its component parts and debated the elements. As they approached the Midtown Tunnel into Manhattan, they were beginning to wonder when NASA planned to go to Mars.

Musk went straight to his computer to check the NASA Web site for information on plans for a NASA Mars mission. But he found no schedule. Why? "I expected to find that we were well on our way, but there was no information," he said. One of the things Musk wanted to do with his newfound wealth was to reinvigorate interest in space, so he decided to underwrite an experiment to see if plants from Earth could grow in Mars's soil. Musk envisioned sending a small greenhouse to the Martian surface in which plants would be fed by a rehydrated nutrient gel. He would call the greenhouse the Mars Oasis. "You'd have this cool shot of green plants on a red planet to get people really fired up," Musk said enthusiastically. Yet in evaluating the various components required to make this happen, he encountered a problem: "I could compress the costs of everything else, but I got stuck with the cost of the rocket."

He traveled to Russia to explore buying refurbished intercontinental ballistic missiles. Though he negotiated a price of \$20 million each, much cheaper than the \$65 million per rocket in the United States, Musk still found the cost prohibitive.

Wondering whether it was possible to create a more advanced rocket that could dramatically lower the cost of access to space, Musk recruited aerospace engineer and business startup consultant Jim Cantrell and tracked down Tom Mueller, a propulsion engineer who lived on the edge of the Mojave Desert. Mueller had built a rocket engine in his garage. Working with Cantrell and Mueller, Musk assembled a team to do a feasibility study to determine if a cheaper launch vehicle could be built. It became clear that nothing material stood in the way. "I think we can build it ourselves," Musk asserted.

REASONING BY FIRST PRINCIPLES

What makes someone an Architect? These creators identify openings, and, as blank-sheet-of-paper builders, they construct solutions from the ground up. Just like professional architects who design skyscrapers, they have a unique ability to see vacancies and envision how separate parts can fit together to form a new logical design.

Architects start by looking for what is not there. Instead of focusing on existing solutions, they hunt for what is missing. They listen for silence and pay attention to what others ignore. When they detect the slightest anomaly, Architects ask “Why?” Many of us pick up on anomalies or gaps but tend to fit discrepancies into existing frames of reference. Architects don’t dismiss inconsistencies. They seize upon what they detect.

Musk wondered why existing rockets were so expensive and began to examine the situation. The problem, as he conceived it, was that they were developed for maximum performance without regard to cost. Almost without exception, rockets were made to order and could not be used more than once. If every Boeing 747 were thrown away after a single flight from New York to London, air travel would be prohibitively expensive, too. Musk reasoned that reusability was the crux of the problem. In addition, governments purchased rockets on a cost-plus basis from large aerospace companies that sought to avoid risk. Boeing, Raytheon, Lockheed Martin, and others used components in rockets developed in the 1960s that were manufactured by subcontractors, further increasing costs and complexity. “We needed a new company to create a forcing function for technological improvement, so that’s why I started SpaceX,” Musk said.

Architects unpack assumptions and test different variables to order new solutions. They believe rigorous questioning is the hallmark of discovery, and they retain a certain childlike naïveté, a beginner’s mind. They ask of all assumptions, “Can this be done differently?”

Musk started by asking, “What’s a rocket made of?” Aerospace-grade aluminum alloys, titanium, copper, carbon fiber, among other materials. What’s the value of those materials on the commodity market? It turned out that the cost of the materials in a rocket was less than 2 percent of the typical price. This convinced him he could make a much cheaper rocket. Using Tom Mueller’s garage-designed Merlin engine, Musk began to build a launch vehicle piece by piece. When a vendor told him that making a smaller valve would cost a quarter of a million dollars and take a year, Musk started manufacturing the valve in house. When a different vendor increased the price of the aluminum domes that top off fuel tanks, Musk started a dome manufacturing facility at the back of SpaceX’s Hawthorne, California, factory. Today, SpaceX manufactures 80 percent of the parts for its rockets in house, one at a time.

“When I started SpaceX, I had never made any physical thing before,” Musk told me. “I didn’t really know how large physical objects were made.” But he boiled things down to fundamental truths and reasoned from there. “I tend to approach things from a first principles framework,” he explained.

First principles are fundamental elements upon which a theory is based. In mathematics, they are postulates or axioms, whereas in physics a calculation is said to be “from first principles” if it builds up from elemental truths. In philosophy, first principles are defined as foundational assumptions; Aristotle describes them as origins upon which a system is based. Reasoning by first principles requires that gap-seeking Architects identify assumptions one by one and understand what is challenging about each element.

Forging a new path requires fortitude, often without validation. “We did have a lot of issues, for sure,” Musk admitted. On March 24, 2006, at a testing ground in the Marshall Islands, he attempted his first rocket

launch. Just after liftoff, a fuel leak touched off a fire in the engine. The rocket plummeted. One year later, an oscillating motion caused a second failure. On August 3, 2008, a third rocket fell into the sea, taking with it a NASA-contracted payload and the ashes of actor James Doohan, who had played Scotty on the original Star Trek TV series. “It was very stressful. Quite awful, actually,” Musk recalled. John Glenn, the first American to orbit the Earth, publicly criticized Musk’s efforts to commercialize space. Musk had spent \$100 million of his fortune and had to raise outside capital to attempt another launch. Yet four days after the third crash, Musk wrote on the SpaceX blog that he was “certain as to the origin of this problem.”

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Three. Two. One. Liftoff. Orange flames and brilliantly lit clouds of smoke erupt around a twenty-two-story rocket as 1.3 million pounds of thrust push it into the night sky. Atop the rocket is Dragon, a space-going cargo vessel that will soon rendezvous with the International Space Station, bringing its crew fresh supplies of food and clothing, plus some new science experiments. Applause breaks out in the control tower at NASA’s Cape Canaveral as it becomes clear that the launch is a success. But it isn’t NASA engineers or leaders of the military-industrial complex doing high-fives. Wearing khaki shorts and T-shirts, the small group crowded into the control tower is led by Elon Musk. The date: May 22, 2012.

Nine days later, on May 31, 2012, having made history as the first privately designed, built, and launched spacecraft to resupply the International Space Station—Dragon separates from the station and begins its reentry into Earth’s atmosphere.

“Splashdown successful!!” Musk announces via Twitter as the spacecraft completes its mission—two minutes ahead of schedule.

Today, SpaceX holds more than \$1.6 billion in contracts from NASA to resupply the International Space Station, has 36 launches on order, and employs 3,000 people who design and build rocket engines.

Musk succeeded in developing a series of next-generation rockets that can deliver payload-bearing capsules to space at a fraction of the cost of rockets developed by national space programs such as NASA and the European Space Agency. A self-taught engineer, Musk has built a rocket and capsule that cost roughly one-tenth as much to launch as the space shuttle.

Musk’s larger objective, however, is to make life multiplanetary. After a quick, head-spinning review of billions of years of evolutionary history, he told me that taking life to Mars is the next step in evolution. This will only be possible with much lower costs, and that will require building reusable technology. “Now we’re starting to do the first tests of the vertical takeoff and landing version of the rocket,” Musk said, with delight in his eye. “Kind of like in sci-fi movies—the rocket takes off and lands on a sheet of flame. That’s how a rocket should work.”

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Architects are problem finders. They identify friction points, bottlenecks, and complications, and craft new solutions.

A year after starting SpaceX, Musk watched as General Motors did a mandatory recall of the Electric Vehicle 1 from its customers (all of whom were leasers), then crushed the cars. EV1 drivers held candlelight vigils. “That’s when I thought there was a need to create Tesla,” Musk said, “to spur the industry back toward creation of sustainable transport.”

Just as he broke down the fundamental parts of a rocket to see how one could be reassembled more cheaply, Musk analyzed the components of batteries, measured cost, and used first principles to build a new kind of all-electric vehicle. Despite the fact that battery power costs about \$600 per kilowatt hour, he assessed the spot market value of carbon, nickel, aluminum, and steel on the London Metal Exchange. He totaled up the cost of these principal components of a battery pack and concluded that the combined price could be much closer to \$80 per kilowatt hour. Musk believes that battery-powered vehicles will continue to increase in performance capacity and decrease in cost.

In 2006, Musk noted that high costs prevented the average American homeowner from installing rooftop solar panels. He identified a need to consolidate distribution of solar panel installation and started SolarCity with his cousins Lyndon and Peter Rive. SolarCity designs, installs, and monitors solar panels, and it partners with banks and large companies to offer financing. Consumers gain a return on their investment by realizing continued savings on heating costs.

“Where’s the pain?” Architects ask, believing that once you identify a problem, you’re on the way to solving it. Challenges can be as cosmic as Elon Musk’s quest to “solve problems of humanity”—or as practical as making undergarments more comfortable. Architects uncover opportunity by staying alert to irritations—such as one that was really getting on Sara Blakely’s nerves.

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Selling fax machines door to door in Atlanta, Sara Blakely spent a lot of her workday walking from office to office in the Georgia heat. In order to look professional, Blakely wore panty hose under her pants. She liked the way the nylons smoothed her figure, but she hated the discomfort. And the seams stuck out from her open-toed kitten heels. To remedy the problem, she cut the feet out of her panty hose, but that didn’t work because the nylon inched up her legs.

She went to department stores to ask what she could wear under her slacks. “They kept bringing me to the shaper department and showing me these huge, thick biker shorts with big bands,” Blakely recalled. There was absolutely no way that would work under white pants. Others suggested wearing a thong. “Well, that isn’t going to help with my cellulite. I still feel a bit insecure in these pants, wearing a thong,” she protested. What did other women do? Blakely said a sales associate at Neiman Marcus told her, “A lot of women are already cutting the feet out of their panty hose and using rubber bands to tie them down.” That was proof enough for Blakely. “I saw it for what it was,” she said. “An opportunity!”

Blakely had never taken a business class or worked in fashion merchandising. Her major at Florida State was legal communications, but she said she “bombed the LSAT” twice. Before selling fax machines, she worked at Walt Disney World, where she wore a brown polyester suit and helped load people from a moving sidewalk onto rides.

Yet Blakely always reasoned independently. She set out to make a homemade prototype of footless panty hose and began cold-calling hosiery mills. Nobody would listen. “I had to go face-to-face,” Blakely told me. “So I took a week off work and drove to North Carolina to meet all the people who hung up on me, to beg them in person. And that’s when I realized they were all men.”

She tried to explain her footless panty hose idea and why she wanted to use hosiery material for a shaper. They didn’t get it. Then it dawned on her: “Maybe that’s why panty hose are so uncomfortable!” The people making panty hose aren’t the people wearing them. “Do you know how miserable we are?” Blakely asked the male manufacturers. “We’re cutting our waistbands at lunch. We’re splitting them. We can’t breathe.”

Touring the mills, she began to break down the problem. Manufacturers put an average-size waistband on all products to cut costs. Sizes small and extra large were made with the same elastic waist. To test products, she said, men stood with clipboards staring at plastic forms, saying: “Yup, that’s a medium.” Women never tried on the panty hose.

Despite talking with suppliers face-to-face during her trip to the Tar Heel State, Blakely met with rejection. But two weeks later, she got a call. The manager of a Highland Mills hosiery factory said, “Sara, I’ve decided to make your crazy idea.” His three daughters had convinced him over dinner, saying, “Dad, that’s a really smart idea. You should help this girl.”

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Architects relentlessly press forward, often without outside validation. For the first year, Blakely shared her idea only with manufacturers and lawyers who could help her move it forward. “Most of us want to tell our coworkers or friends, or husbands and wives, our ideas, for what reason? We want them to say, ‘Yes, that is a good idea.’ We want validation. But I feel that ideas are the most vulnerable in their infancy,” Blakely said. “Out of love and concern, friends and family give all the reasons or objections on why they shouldn’t do it. I didn’t want to risk that.” Building new concepts takes time, and reframing a problem requires fortitude.

“Kind of the way somebody else gets a huge high if they hit a home run, it was a huge high for me to figure out a better way to make something,” Blakely told me. “But it took an insane amount of fire in the belly to do it my own way.”

Blakely wanted to patent her idea. She visited several top law firms in Atlanta to explain her product to audiences of men. It became evident that they had a difficult time grasping the potential of her invention. One attorney kept looking nervously about the room; he later admitted he thought her idea was a prank and that he was being secretly filmed for a reality TV show. For a fee of \$3,000, she could get help writing the patent. Considering the fee exorbitant, she bought a book to learn how to write the patent herself. She enlisted her mother, a watercolor artist, to sketch the product design, and found a lawyer who, for \$700, would write in a single legal clause she needed. Blakely heard that the “k” sound in products, such as Coca-Cola and Kodak, caught consumers’ attention. One day while driving, it hit her: she would name the product Spanks. She later changed it to Spanx to make the trademark more recognizable.

Confidence often comes from being shown how to do something and then mastering it, but Architects build new products without anyone showing them how. They believe they might have a better way, and press forward without a need for affirmation.

“Lucky for me, no one showed me how to do a business,” Blakely said. For example, she landed the Neiman Marcus account simply by calling and convincing a buyer to meet her for ten minutes. To demonstrate the problem and her solution, Blakely led the buyer into the ladies’ room, ducked into a stall, and appeared moments later wearing Spanx under her white pants. Later, people asked, “How did you ever land Neiman Marcus?” The industry norm is to demonstrate products at trade shows. “I called,” Blakely said with a smile. At the time, she didn’t know that trade shows existed.

“Today, I ask employees, ‘If you didn’t know how your job was done, how would you be doing it?’” Blakely told me. “Just take fifteen minutes. Wipe everything you know clean. How would you do this if no one else showed you how to get it done?” As an example, she explained how a new kind of bra would be developed: “I just see a bra and I think, ‘Why is the bra the way it is? Why did they create it that way to begin with? Because that was all the technology available? How could it be more comfortable, and does it

make sense that there's two elastic bands that go across our back that pinch our skin? How can we rethink it?'" The Spanx Bra-llelujah bra, which has become a best seller, was created by asking those questions. Architects take an everyday item and ask, "Why is it that way?" and "What can make it better?"

Everyone, from Julia Roberts to Gwyneth Paltrow to Jessica Alba to next-door neighbors and cubicle mates, raves about Spanx: the body-smoothing undergarments have become a word-of-mouth sensation. By 2012, Spanx's Footless Pantyhose and Power Panties had sold more than nine million and six million pairs, respectively.

Spanx founder Sara Blakely became the world's youngest self-made female billionaire.

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Given Architects' proclivity to deconstruct and reconstruct assumptions to make discoveries, they think all the time. "I am a recreational thinker," Blakely said, sitting in her bright red office, one wall of which is papered from floor to ceiling with old Life magazine covers. "I don't have hobbies or watch TV. I'm just thinking all the time." In fact, Blakely explained, she builds in a unique way to create time to think before the workday gets started. "I live five minutes from Spanx, but I get in the car forty-five minutes before I have to be at the office and drive a fake commute," she explained. Somehow the activity of driving frees her mind to hatch new ideas. Elon Musk said something similar: "It's just always there in the back of my mind. I'm working things out when I sleep, when I'm in the shower, whenever I'm awake." Jack Dorsey, cofounder of social networking service Twitter and mobile payments company Square, thinks as he walks to and from work in San Francisco. His dual offices and residence are set up to give him time to contemplate ideas.

What do these creators think about? They make better use of anomalies than most of us. They operate somewhat like a detective trained to notice inconsistencies in case materials, discrepancies in testimony, or glitches in a sequence of events. We know when something isn't quite right. We experience "tacit awareness," as academics call it, when we detect an inconsistency, yet most people dismiss that perception. Architects, by contrast, run with it, asking questions like these: Might there be an obscure detail that can open a different angle? Might there be another way to understand the situation? What strategies have others abandoned?

Architects remain open to figuring out another way to conceive of an original solution. The work of creativity scholar Jacob Getzels supports the notion that some people aren't locked into preconceived notions of what a challenge means. The following example helps to illustrate the importance of what academics call "problem-finding":

An automobile is traveling on a deserted country road and blows a tire. The occupants of the automobile go to the trunk and discover there is no jack. They define their dilemma by posing the problem: "Where can we get a jack?" They look about, see empty barns but no habitation. They recall that several miles back they had passed a service station. They decide to walk back to the station to get a jack.

While they are gone, an automobile coming from the other direction also blows a tire. The occupants of this automobile go to the trunk and discover there is no jack. They define their dilemma by posing the problem: "How can we raise the automobile?" They look around and see, adjacent to the road, a barn with a pulley for lifting bales of hay to the loft. They move the automobile to the barn, raise it on the pulley, change the tire, and drive off.

How the problem is defined will determine what solutions might be discovered. "I like to think of things as

broadly as possible,” Elon Musk explained. “When I see a problem, I just start asking questions,” Sara Blakely said. “I am looking for a gap.” By taking a step back, these creators give themselves space to consider alternatives.

Architects strip away layers of preconceived notions. They deconstruct and reconstruct assumptions, building ideas from the bottom up.

But there is also a select group of creators with the ability to meld solutions from a variety of sources to build hybrid outcomes. I call them Integrators.

INTEGRATORS: COMBINING CONCEPTS

“I want BOTH!” Steve Ells, founder of Chipotle, the \$3.6-billion-a-year chain of fast-casual Mexican restaurants, said when we met at the company’s New York City office. “I was never a good compromiser, even as a little kid. My parents would offer me a choice, and I would answer, ‘I want both!’ I guess it’s just the way I think.”

Growing up in Boulder, Colorado, Ells would sit glued in front of the television—not watching Mickey Mouse or Bugs Bunny, but [i]The Galloping Gourmet[/i] and Julia Child. When just a grade schooler, he learned how to make hollandaise sauce; when he was in high school, he began collecting cookbooks and hosting dinner parties. At the University of Colorado, “everyone was broke, and Steve would make duck confit with a wine reduction sauce,” recalls Monty Moran, a friend, now co-CEO of Chipotle. “He’d use the most expensive butter he could find, and the best salt. He found a way to spend more at the grocery store than anyone else in history.”

It’s no surprise that after graduating from college, Ells enrolled at the Culinary Institute of America, in Hyde Park, New York. “It was really, really fun. I had a blast,” he recollected, his voice full of enthusiasm. He then moved to San Francisco to work with celebrity chef Jeremiah Tower at Stars restaurant.

On his days off, Ells headed to San Francisco’s Mission District, where the spices, aromas, and flavors of Mexican cuisine captivated him. One day at a taqueria, he watched the line of customers grow until it wound out the door and around the corner. The wait was worth it: the food was fresh, hot, and satisfying. Ells grabbed a napkin and noted the number of people in the line and how quickly it moved, estimated the average check, then did some calculations. The taqueria was a cash cow.

Ells excitedly telephoned his father, a pharmaceutical executive. “Slow down, Steve,” his dad said. “You want to sling burritos?” That he did.

Two weeks later, Ells packed a U-Haul truck, drove back to Colorado, and signed a lease for his first restaurant. “I paid \$750 a month for an 850-square-foot spot. I hired a haphazard contractor and saved money by going to the hardware store and picking up inexpensive raw materials that I thought would look cool,” he said.

The first Chipotle launched in 1993.

Ells aimed to create a fast-food restaurant that would be the antithesis of fast food. “I really didn’t compromise when I opened Chipotle. I wanted high-quality ingredients, and I wanted to serve them quickly, efficiently, and affordably,” he said. By integrating his Culinary Institute–honed skills with the techniques behind Mexican street food, he created a new dining category—fast casual.

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Unlike Sunbirds, who transport ideas across divides, or Architects, who build new concepts from the ground up, Integrators combine existing elements to shape novel outcomes. They invent a new way forward by assembling opposites.

Unusual spice combinations yield exotic foods. Fusing retro and modern trends shapes fashion. We laugh at discordant juxtapositions of ideas in jokes. In art, abstract forms such as cubism, made famous by Pablo Picasso and Georges Braque, represent objects broken up and reassembled; in music, jazz emerged from the confluence of African and European traditions. In academics, behavioral economics, bioinformatics, and geophysics represent new fields created by the integration of disciplines.

Yet while combinations strike us as natural once in place, they can be tricky to achieve. Integrators uncover opportunities to overlap ideas and find ways that two disparate elements might make a good marriage.

How do Integrators do it? One way is to mix and match ingredients. Literally.

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“We source sustainably raised ingredients; we prepare them according to classic cooking techniques; we serve them in an interactive format that allows customers to get what they want not only for taste, but for diet. It’s totally customizable,” Chipotle founder Steve Eells explained.

At Chipotle, cooks work in an open kitchen, so everyone can watch. “I wanted people to see we’re making our guacamole from whole avocados,” Eells said. As a classically trained chef, he did not want Chipotle to compromise on fresh ingredients for convenience or cost. But unlike most professional gourmets, he sought to deliver high-quality food quickly and at an affordable price.

Fast food traditionally has been “order by number,” Eells explained with disdain. “You would say ‘one,’ and someone would turn their back to you and give you a prepacked, highly processed food product.” Even today, fast food is highly mechanized. “People aren’t cooking,” he said. “It’s highly, highly processed, designed to be super consistent—and consistently average.”

Instead of depending on premade foods to speed service, Eells devised a model he calls “cooking for the service line.” Cooks have to watch. As the customer line grows, they increase the amount they prepare, and as the line tapers off, they pull back.

The method accommodates classic cooking techniques. “A lot of things we make take a very extensive prep time,” as well as “a very long cook time,” Eells said. “But you can prepare in such a way to serve a lot of people quickly and do everything from scratch.”

Integrators don’t haphazardly meld elements. They don’t simply expand categories to add new and different items. They fuse distinct pieces, with a focus on filling a specific gap.

Eells offers just four menu items: burrito, burrito bowl, taco, and salad. Chipotle doesn’t sell coffee, cookies, or breakfast. Instead, Eells recombines ingredients with an aim to make the “best burrito in the world.”

“I’m always tweaking, always trying to make it better, constantly moving the dials and levers,” Eells explained. Recent updates include a different technique for rehydrating chipotles, which are dried and

smoked jalapeños, to give them an even smokier taste; dicing onions by hand (food processors remove too much moisture); charring the jalapeños differently; and giving more roasting time to the tomatillos, which are one of the main ingredients in Chipotle's green salsa. Can a customer taste the difference made by any one improvement? Probably not. But taken as a whole, ELLS's fast-casual creation appeals to the masses.

"Food with Integrity" is the latest layer ELLS has integrated into the mix. In 2001, he visited Niman Ranch and realized that fresh ingredients were not enough. A celebrated ranch and food distributor based near San Francisco, Niman Ranch raises animals with no antibiotics or hormones and supplies high-end restaurants such as Berkeley's Chez Panisse. Organic vegetables and free-range beef, chicken, and pork are typically not found in the fast-food industry. "I think that sustainably raised ingredients should not be an elitist pursuit," ELLS told me. "It should be something that everyone is able to have."

The cooking techniques, ingredients, burrito concept, and restaurant style all existed before Chipotle. Yet Steve ELLS saw a way to reorder existing elements to create a new fast-casual category. "I started a fast-food restaurant, but I didn't know the fast-food rules," ELLS said. "So everything I did was sort of fine-dining centric."

NOVELTY THROUGH INTEGRATION

How do Integrators see possibilities? One way is by evaluating elements independently to decipher how individual pieces might be joined differently.

"The Candle Problem," laid out by Gestalt psychologist Karl Duncker and updated in 2003 by Stanford researchers Michael Frank and Michael Ramscar, provides an example.

In the experiment in its original form, participants are presented with a candle, some matches, and a box of thumbtacks. Using only these items, they are asked to attach the candle to the wall. Most attempt to melt the candle to the wall or attach it with the thumbtacks. Participants discover what works only about 25 percent of the time. The way to complete the task is to empty the box of tacks, tack it to the wall, and use the box as a shelf upon which to put the candle. The trick is to reinterpret the box of tacks as a shelf. Most people don't think of this. They suffer from what academics describe as "functional fixedness."

Yet, when Frank and Ramscar updated the experiment simply by underlining the individual words in the description, "on the table there is a candle, a box of tacks, and a book of matches," the proportion of participants who discovered the solution doubled to about 50 percent. When the researchers highlighted discrete elements, participants were twice as likely to be more creative in seeing what was available to them. It's this kind of ability to see pieces independently that enables Integrators to disentangle elements and assemble them in new and different amalgamations.

Integrators also uncover opportunities by combining contrasting ideas. Merging opposites can yield breakthrough discoveries. Although no one formula exists, novelty through integration is a phenomenon studied by creativity researchers. Thomas Ward, a psychology professor at the University of Alabama, analyzed the processes that uncover new ideas and found that atypical combinations yield the greatest number of emergent properties. In 2002, Ward conducted research in which college students interpreted various types of adjective-noun combinations and were told to "think of a single meaning that best describes the pair." His most notable finding was that unusual combinations, such as "undressed enemy" or "entertaining delay," and pairs of words with opposing meanings, such as "healthy illness" or "painful joy" prompted the most creative responses.

Consider the concept of a “luxury SUV.” By combining a high-end vehicle designed for comfort with an all-wheel, off-road sport vehicle built for rugged terrain, automakers created an entirely new category. The same fusion of opposites produced “rugged comfort” in travel packages for the adventurous explorer who enjoys the comforts of home, and “shabby chic” in interior design concepts for individuals who seek casual yet upscale home design. Integrators explore the possibility of combining what may seem dichotomous to discover openings in the market. Considering such opposite-meaning words as excitement and tranquility, solitude and companionship, and luxury and affordability can enable Integrators to identify gaps.

Janusian thinking is a term used to describe the ability to actively conceive of two or more opposite concepts, ideas, or images simultaneously. Derived from the name of the Roman god Janus, who sports two faces gazing in opposite directions, the term was coined by Albert Rothenberg, a psychiatrist and researcher of the creative process. Studying the capacity of Nobel laureates to juxtapose ideas, Rothenberg found that physiologists, chemists, and physicists, as well as Pulitzer Prize-winning writers and other artists, had the ability to conceive integrative ideas by finding a connection between disparate concepts. He postulated that conceptual contradiction can lead to creative results.

This Janusian approach is the hallmark of the founders of Gilt Groupe, an online luxury retailer that has brought together invitation-only sample sales and the mass-market reach of the Web to build a new consumer category called “accessible luxury.”

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Alexis Maybank and Alexandra Wilkis Wilson dropped everything to shop designer, invitation-only sample sales, rain or shine, in New York City. They would sneak out of their day jobs to dash around Manhattan and buy coveted products at great prices. They knew that sample sales attracted a stampede of in-the-know buyers. Fashionistas nearly fought over racks of clothes to snatch discounts on luxury apparel.

“In 2007, although luxury fashion and e-commerce were separately booming, the two worlds had yet to come together in an exciting way,” Maybank said. She previously had helped launch eBay Canada and eBay Motors, and her friend Wilson worked for Louis Vuitton and Bulgari. Given their experience, they saw the intersection of fashion and technology as an opportunity. There was a gap, and they set out to fill it.

“We created the excitement of appointment shopping, limited-time-only and designer friendly, to give our members access to specific items that they otherwise might not have had access to,” Wilson said when we met at their fashion-forward headquarters in Manhattan. With three other cofounders, Kevin Ryan, Mike Bryzek, and Phong Nguyen, they built an exclusive, members-only Web site that launched from a closet-size Brooklyn warehouse and grew into a \$1 billion business in just five years.

To integrate luxury with the world of online shopping, the Gilt founders built a site offering large, glossy images of apparel being worn by high-end models. The founders wanted consumers to feel as if they were flipping through the pages of a fashion magazine. Part of Gilt’s pitch to luxury brands was that it was fresh and fashion-forward, the opposite of the boring Web sites of traditional department stores.

“But those early pitches were no cakewalk at all,” Maybank recalled. “Alexandra was going into showrooms that didn’t have Wi-Fi, but beyond that, the brands were scared of the word ‘Internet,’ didn’t have a Web site, and were not thinking about how they would go about so-called e-commerce.” In 2007, luxury brands needed an education in e-commerce and how it not only could enhance their brand but also reach the customers they sought.

With a background in fashion, Wilson knew how luxury brands would resist the Internet. “Convincing designers to sell their most precious possessions—their merchandise—online and at a discount took having many doors slammed in our faces and ultimately not taking no for an answer,” she said.

In November 2007, Gilt’s site went live. A thirty-six-hour flash sale ignited competitive fire in shoppers. They grabbed deals on luxury brands. The format required that the site not only be pleasing to the eye but easy to navigate. It was a technical challenge for engineers to create an experience that was fast, downloadable, and relatable. Positioning a Prada bag to look appealing required multiple angles, sophisticated lighting, and a detailed product description, including dimensions. And all items, prices, and descriptions had to be updated twenty-four hours later. Gilt operated as a department store—one that changed merchandise daily.

“Scaling the business could create a shock to the system when 400,000 customers flocked to the virtual doors in the same nanosecond,” Maybank said. It would have been impossible to welcome that stampede of customers through actual doors. Because 70 percent of Gilt’s sales are made no later than ninety minutes after noon, Eastern time, when the flash sale goes live each day, engineers essentially had to create a platform with nearly the scope of an Amazon.com.

“We were hiring merchandising and fashion people from Vogue and InStyle magazines and engineers from MIT and Cal Berkeley,” Maybank said. “Each of them alone had never interfaced with the other. We worked hard to ensure there were no divas creeping in.” From Red Bull addicts wearing noise-canceling headphones in the engineering department to Starbucks latte-sipping fashionistas obsessed with merchandising trends, the Gilt Groupe founders integrated backgrounds to build a business at this unique intersection. Through the process they learned that opposites do, in fact, attract. “Gilt’s engineers had better luck recruiting new programmers on days when the company held fashion shoots with models walking around in five-inch heels,” Wilson said with a laugh.

Gilt didn’t just create a new way of selling luxury goods, it created a new kind of customer who had never bought luxury items before. For many shoppers, Gilt made buying a designer dress or fine handbag a first-time purchase that became addictive.

THE ITCH OF CURIOSITY

The creator’s most important tool is curiosity. Bold and incisive inquiry sharpens the mind and senses and leads to unexpected discoveries, fresh opportunities, and aha! moments.

Sunbirds, Architects, and Integrators all ask a myriad of questions. They don’t lose their natural curiosity. Preschool children ask nearly a hundred questions a day. As we grow older, though, many of us become less inquisitive. Making the effort to ask questions can sharpen our alertness to opportunities. “You don’t invent the answers, you reveal them by finding the right question,” explained Jonas Salk, discoverer of the polio vaccine.

Gap-seeking creators raise these questions: What surprises me? What am I missing? How can I remove the impediments? What paradoxes do I see?

Chipotle’s Steve Ells explained, “I go out to farms and ask a lot of questions.” Spanx’s Sara Blakely said, “I asked myself if cutting the feet out of my pantyhose could be the answer. I found it wasn’t.” For Alexis Maybank of Gilt, a crucial question was, “How could women in Ohio shop sample sales in New York?”

Thinking like a Sunbird, Architect, or Integrator is like strengthening a mental muscle: Your ability to spot an opportunity grows as you practice and engage. It all begins with an alert and questioning mind.

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