CHAPTER 1

IT'S A GROUND WAR, NOT JUST AN AIR WAR

Going Slower to Scale Faster (and Better) Later

Listen. This is the most important thing that we learned, the one to keep in mind every day if you are bent on spreading excellence to more people and places: those who master what venture capitalist Ben Horowitz calls "the black art of scaling a human organization" act as if they are fighting a ground war, not just an air war.

In the air wars of World War II, commanders typically ordered pilots to drop bombs or strafe some general area in hopes of damaging the enemy. Unfortunately, such attacks were woefully inaccurate. Political scientist Robert Pape estimated that, during World War II, "only about 18 percent of U.S. bombs fell within 1,000 feet of their targets, and only 20 percent of British bombs dropped at night fell within 5 miles." Even when air strikes were more accurate, Allied leaders learned that without ground operations—where soldiers were close to targets, gaining or losing territory a few yards at a time—victory was impossible. Even today, when guidance systems ensure that 70 percent of bombs fall within thirty feet of targets, an air war alone is rarely enough to defeat an enemy. After reviewing NATO's seventy-eight-day air war in Serbia that was meant to force Yugoslavian president Slobodan Miloševi? to ban ethnic cleansing, retired U.S. Air Force General Merrill McPeak concluded, "In a major blunder, the use of ground troops was ruled out from the beginning."

Similarly, savvy leaders know that just bombarding employees with a quick PowerPoint presentation, a few days of training, or an inspirational speech won't cut it if they want to spread some goodness from the few to the many. Certainly, there are junctures in every scaling effort when it is wise to choose the easier path or secure a quick victory. Yet as we dug into case after case, and study after study, we saw that every allegedly easy and speedy scaling success turned out to be one we just hadn't understood very well. Scaling requires grinding it out, and pressing each person, team, group, division, or organization to make one small change after another in what they believe, feel, or do.

That is what Claudia Kotchka learned during her seven-year effort to spread innovation practices at Procter & Gamble. As vice president of design innovation and strategy, Kotchka started with a tiny team and one project and ended with over three hundred innovation experts embedded in dozens of businesses. We asked her the most important lesson that she had gleaned about scaling. Kotchka responded that she was naturally impatient, someone who wanted things done "right now" and as quickly and easily as possible. This action orientation served her team well, driving them to make progress each day, find savvy shortcuts, and achieve quick wins. But Kotchka explained that her team would have failed to scale if this penchant for action hadn't been blended with patience and persistence. "My CEO, A. G. Lafley, reminded me how important it was again and again." Kotchka's advice is reminiscent of something a McKinsey consultant—a veteran of the scaling wars—told us: When big organizations scale well, they focus on "moving a thousand people forward a foot at a time, rather than moving one person forward by a thousand feet."

This kind of discipline is equally important in small and young organizations. It has been a way of life for Shannon May and her team since they launched Bridge International Academies, the chain of low-cost and standardized elementary schools that we described in the Preface. Consider the grueling gauntlet that Bridge created for screening and training new teachers. In early 2012, they hired eight hundred teachers for fifty-one new schools and eighty-three existing schools. These are tough jobs: students attend school from 7:00 a.m. to 5:30 p.m. each weekday and for half a day on Saturday, and teachers are required to maximize the time that students spend "on task and actively engaged." A thirty-person team from Bridge interviewed ten thousand candidates and gave each a battery of tests: reading, writing,

and math exams. The team also had candidates give short speeches and hold one-on-one conversations with them to assess their ability to deliver material and interact with students. They invited 1,400 finalists (in two batches of 700) to a five-week training camp, where all were paid to learn Bridge's mindset, skills, and procedures. The team then selected the best 800 to teach Bridge's students.

The Bridge team doesn't just view scaling as the Problem of More. As they expand, their goal isn't just to maintain the status quo. The team works day after day to make their system *better*. They never leave well enough alone. For example, they keep improving the technologies and content delivered via the phones and "hacked" Nook tablets used to collect money from parents, pay staff, deliver teaching materials, and monitor student and teacher performance. May also described a new effort to deliver questions and assignments to teachers that are customized for students in the same class at different ability levels.

This kind of determination and discipline also defines people who spread excellence from the bottom or middle of organizations. In 1991, Andy Papa graduated from Stanford, where he had played as a defensive lineman on the football team for four years. Through luck and persistence, Papa landed a job on a NASCAR racing team based in North Carolina, which included being on the pit crew that changed tires, poured in fuel, made adjustments, and did quick repairs during races. Papa asked when the crew practiced pit stops. The answer was they didn't practice; most worked as mechanics during the week and didn't have time. A lightbulb went off in Papa's head: by transferring "the athletic mindset" he had learned in football to pit stops, they could get faster and more consistent—a big advantage, as the gap between winners and losers is so small in NASCAR races, with less than one second often separating the first- and second-place cars. Papa talked his crew into practicing a couple times a week for just twenty or thirty minutes, he started analyzing film of pit stops, and he tested different techniques (such as coiling the air hose in a figure-eight shape instead of a circle to reduce tangles). The crew's average time dropped from about twenty-two to twenty seconds and, more important, the frequency of awful pit stops plummeted.

Papa eventually took this zeal for the "athletic mindset" to Hendrick Motorsports. He spent years as their "athletic director," overseeing the pit crews that serve elite drivers including Mark Martin, Jeff Gordon, Jimmie Johnson, and Dale Earnhardt, Jr. Members of each crew are

selected, trained, and coached by Papa and his colleagues, who enforce an exacting regimen of physical training, practice, and learning aimed at making stops faster (about fourteen seconds is the current goal) and more consistent during the thirty-six grueling races they compete in per year (each with six to twelve pit stops). This discipline has helped Hendrick win more championships than any NASCAR ownership group in history—including an unprecedented run of five Sprint Cup championships by Jimmie Johnson between 2006 and 2010.

Claudia Kotchka, Shannon May, and Andy Papa have traveled different paths. But they all have something in common, an essential quality for grinding out the ground war and overcoming the inevitable setbacks and nasty surprises. These scaling stars have grit. Researcher Angela Duckworth and her colleagues found that grit "entails working strenuously toward challenges, maintaining effort and interest despite failure, adversity, and plateaus in progress. The gritty individual approaches achievement as a marathon, his or her advantage is stamina." Grit drives people to succeed, especially when they face daunting and prolonged challenges—a hallmark of every scaling effort.

Scaling Mantras

This book zeros in on how and where to focus such perseverance as your organization struggles and strives to scale up excellence. We've identified reliable signs that scaling is going well or badly, and we've distilled these signals into seven mantras. If you are embarking on a scaling effort, memorize them, teach them to others, and invent ways to keep them firmly in focus—especially when the going gets rough.

1. Spread a Mindset, Not Just a Footprint

There is a big difference between distributing your banner, logo, or motto as far and wide as possible versus having a deep and enduring influence on how employees and customers think, act, feel, and filter information. Scaling unfolds with less friction and more consistency when the people propelling it agree on what is right and wrong—and on what to pay attention to and what to ignore. Effective scaling depends

on believing and living a shared mindset throughout your group, division, or organization. Scaling is analogous to a ground war rather than an air war because developing, spreading, and updating a mindset requires relentless vigilance. It requires stating the beliefs and living the behavior, and then doing so again and again. These shared convictions reduce confusion, disagreements, and unnecessary dead ends—and diminish the chances that excellence will fade as your footprint expands.

SCALING MANTRAS

1. Spread a mindset, not just a footprint.
Running up the numbers and putting your logo on as many people and places as possible isn't enough.

2. Engage all the senses.
Bolster the mindset you want to spread with supportive sights, sounds, smells, and other subtle cues that people may barely notice, if at all.

3. Link short-term realities to long-term dreams.
Hound yourself and others with questions about what it takes to link the never-ending now to the sweet dreams you hope to realize later.

4. Accelerate accountability.
Build in the feeling that "I own the place and the place owns me."

5. Fear the clusterfug.
The terrible trio of *illusion, impatience*, and *incompetence* are ever-present risks. Healthy doses of worry and self-doubt are antidotes to these three hallmarks of scaling clusterfugs.

6. Scaling requires both addition and subtraction.
The problem of more is also a problem of less.

7. Slow down to scale faster—and better—down the road.
Learn when and how to shift gears from automatic, mindless, and fast modes of thinking ("System 1") to slow, taxing, logical, deliberative, and conscious modes ("System 2"); sometimes the best advice is, "Don't just do something, stand there."

Facebook demonstrates what it takes to instill and sustain a mindset even when an organization's footprint is spreading like wildfire. The company's crazy climb began that legendary night in February 2004 when nineteen-year-old Harvard undergraduate Mark Zuckerberg pounded down beers and programmed the crude but captivating first iteration of the site. Facebook amassed over a million users by the end of 2004 and a billion by the end of 2012. Facebook's future is impossible to know. Despite stumbles including a botched public offering, some pundits predict it will become more dominant than Apple and Google; others predict that it will flail and fade away like America Online.

Whatever Facebook's fate, the twists and turns of how the company grew that colossal footprint in the eight short years before its 2012 public offering are instructive. By slowing down and shunning shortcuts when it came to developing the people who powered their expansion, leaders infused the company with the will, skill, and resilience to move quickly when and where it mattered. We've witnessed their ability to sustain this focus no matter how wild and out of control the ride became since 2006, when our conversations, interviews, and projects with people at Facebook began. They've done so despite brutal time pressures and distractions: adding as many as 3 million users per week and enduring intense media scrutiny (most start-ups aren't besieged with questions about toppling the Egyptian and Libyan governments), a Hollywood blockbuster that portrayed Zuckerberg in an unflattering light, nasty lawsuits, and withering user revolts—750,000 users objected to the News Feed feature in 2006 and millions complained about "Timeline" in 2012.

This devotion to growing and grooming Facebook's people happened informally at first. In the early years, Zuckerberg was jammed together with his employees in cramped offices. He talked constantly about his convictions and why they powered Facebook's

strategy—and employees watched and worked with him as he lived those beliefs. Once the company got too big for Zuckerberg to personally influence every employee, it took to more systematic methods, notably “Bootcamp.” Facebook engineers and other product developers are hired after rounds of grueling interviews to assess their technical skills and cultural fit. But they are not placed in a specific job until six weeks after coming aboard. Management has a hunch about which role each new hire will play. Yet the final decision is not made until the end of “Bootcamp,” which is designed and led almost entirely by engineers—not the HR staff.

During Bootcamp, every new hire does small chores for a dozen or so diverse groups. Chris Cox, Facebook’s thirty-one-year-old vice president of product, emphasizes that Bootcamp isn’t just for figuring out which role is best for each newcomer. A more crucial aim is to infect each with the Facebook mindset. Bootcamp requires recruits to live Facebook’s most sacred belief: “Move fast and break things.” As Cox puts it, it is one thing to tell new engineers that they can change the code on the Facebook site. It is another thing for them to actually “touch the metal.” He added, “We tell them, put your hand on it. Grab it. Now bend it.” Cox told us about the newcomer whose dad called to say, “There’s a problem with this drop-down menu.” He called back the next day: “I fixed it, Dad. Did you see that?” That is the Facebook mindset—if you want people to move fast and fix things, they’d better feel safe to break some stuff along the way. When it comes to developing the site, going slow and trying to do things perfectly is taboo at Facebook. As engineer Sanjeev Singh explained, if you keep waiting for people to tell you what to do, don’t ask for help when you get stuck, and won’t show others your work until it is perfect, “you won’t last long at Facebook.”

Bootcamp instills other beliefs about what is sacred and taboo at Facebook. Engineers are expected to understand the code base, not just the part they tend to each day. Working on many different parts helps newcomers grasp the big picture. Rotating through many groups also sets the expectation that any role they play at Facebook won’t last long. Chris Cox worked as a programmer, a product designer, a project manager, the head of human resources, and the vice president of product during his first six years at the company. After Bootcamp, these beliefs continue to be reinforced. Engineer Jason Sobel explained that Facebook doesn’t just tell new engineers that they likely won’t be in any job for long; they live this philosophy via a “nearly mandatory” program

called “hack-a-month” where—each year—they are “loaned” to another group for a month.

Each newcomer is assigned a mentor—usually an engineer who isn’t a manager—to help him or her navigate through Bootcamp. A new “class” of twenty to thirty hires was started roughly every two weeks in 2011—which meant that seventy or eighty engineers at a time were pulled away from their jobs to be mentors. This sometimes slowed crucial projects. Facebook’s leaders, including Chris Cox and Chief Technology Officer Mike Schroepfer, are convinced that it is worth the cost—that their enduring success hinges on filling the company with people who live and breathe the right beliefs. Bootcamp also helps Facebook scale up talent because it enables mentors to “stick a toe in the management water.” It helps engineers discover if they enjoy mentoring and leading others. And Facebook executives get useful hints about whether employees are management material.

No single mindset is right for every organization—or even different parts of the same organization. What is sacred in one organization can (and should) be taboo elsewhere. An executive from software firm VMware laughed when Sutton asked if they used the “Move fast and break things” approach. He said it was better for them to embrace the opposite belief, especially in their business unit that develops software for nuclear submarines! Or consider secrecy. At Apple, secrecy is revered. When Steve Jobs returned to run the company in 1997, several employees leaked an e-mail he wrote to the press. He fired them immediately and told everyone why he had done so. *Fortune* writer Adam Lashinsky reports that the one lesson “no Apple employee forgets” during employee orientation is “Scared Silent.” Newcomers are told that if they reveal Apple secrets—intentionally or not—swift termination will follow. In contrast, at Mozilla secrecy is largely shunned. This open-source software firm is best known for its Firefox browser, which is used by over 300 million people and is translated into more than sixty-five languages. We followed Mozilla as it grew from twelve employees to more than five hundred. We were often taken aback by how open senior executives were about design flaws, competitive threats, mistakes, and internal disagreements. Former CEO John Lilly once told our Stanford class that he was going to abolish performance evaluations at Mozilla even though his human resources chief disagreed!

There is another sense in which one size does not fit all. The best mindsets provide useful guidance, but applying them to every case is a recipe for trouble. Sometimes it is wise to ignore or reverse even your most sacred beliefs. Secrecy at Mozilla is a good example. John Lilly told us that during "the first ten years of Mozilla's history all projects, no matter what stage, were essentially open to everyone at the moment of creation. But we learned (the hard way, often), that when ideas are nascent, they're fragile flowers—there are many, many, many reasons why they're crazy, they won't work, they're dumb to try." To protect these fragile ideas from getting killed off too early by the thousands of active helpers (and critics) embedded in Mozilla's open-source community, management started Mozilla Labs, "which had the explicit direction that they didn't have to open things up right away. This helped a lot, because it meant projects could get a little more definition, a little more momentum, and crazy ideas made it through a little more often, which was what we needed."

Finally, sustaining and constantly improving an organization's mindset is like being in a high-maintenance personal relationship. Constant vigilance is required. Even if you've got the best intentions, it is easy to ruin everything. When people get smug, operate on autopilot, take shortcuts, and choose the path of least resistance too often, they lose sight of the essence of their excellence. In their lust to run up the numbers and plaster their logo on as many people, places, and things as possible, the temptation to accept mediocrity—or worse—often proves irresistible.

Starbucks provides a cautionary tale. In 2007, Sutton saw firsthand how mediocrity had beset Starbucks during a three-day management seminar that he taught with fellow Stanford faculty Michael Dearing and Perry Klebahn to fifty executives in Abu Dhabi. The seminar was catered by a pair of Starbucks employees, who sat in the back of the room. The coffee was weak, cold, and tasteless. The juice smelled foul and tasted rotten. The sweet rolls were rock hard. And the two employees spent half their time slumped over, sound asleep. Starbucks has a huge footprint. But their once renowned devotion to hiring excellent people and providing first-class products had evaporated as they expanded too far and too fast. This isn't just our opinion. CEO Howard Schultz lamented Starbucks' drift toward mediocrity in an internal memo circulated in February 2007—which he admitted was genuine after it was leaked to the press. Schultz pointed to a string of

decisions that had led to “the watering down of the Starbucks experience” as the company grew from one thousand to thirteen thousand stores. In his 2011 book, *Onward*, Schultz digs into how the “commoditization of the Starbucks experience” led them to lose that “warm neighborhood feeling,” why such “dilution” happened, and what the company is doing to “get their groove back.”

The key lesson? An organization rarely loses a healthy mindset and the resulting excellence all at once. It usually happens via a series of small and seemingly innocent moves that chip away at sacred convictions, eventually transforming those beliefs into hollow and hypocritical words.

2. Engage All the Senses

Howard Schultz’s memo added that, because Starbucks no longer grinds coffee in stores, they “no longer have the soul of the past” that was once evoked by the sounds of grinders and smells of freshly ground coffee. So he reintroduced it. This lament dovetails with our second mantra. Mindsets are spread and sustained by subtle cues that activate all the senses. Many studies show how stimuli that people don’t notice, barely notice, or strike them as trivial can nonetheless have potent effects on how they think and act. Our beliefs and behaviors are bolstered—and undermined—by the colors and kinds of images we see, the sounds we hear, the smells we encounter, the things we taste, and the objects we touch. We are also influenced by the voice tone and facial expressions that accompany the words people say, whether they look us in the eye, their posture, and many more seemingly inconsequential and irrelevant cues in the world around us.

Consider what happened when researchers examined the impact of playing French versus German music on wine purchases in a British supermarket. When French accordion music played, customers bought five times more French than German wine. When German oompah music played, customers bought two times more German wine. Customers were affected by the music, even though they didn’t realize it. Smells have similar impacts. Dutch psychologists conducted a weird experiment in which, during eighteen two-hour train trips, they infused passenger cars with a citrus-scented cleaning product. They gathered and weighed the trash left by passengers in the scented cars and compared it to the amount of trash in those same cars during weeks

that the cars weren't scented. Passengers left about three times more trash in unscented cars than in scented cars, perhaps because of "the non-conscious priming of cleaning-related motives and behaviors." These findings are similar to another study where people who smelled a "citrus cleaning product" tended to list "more cleaning-related activities in their plans for the day and to spill fewer crumbs when munching on a cookie."

The objects around us also pack a wallop. Psychologist Kathleen Vohs and her colleagues used various "primes" to turn attention to money—placing piles of fake money in front of people and showing them pictures of money. The researchers then presented people with challenges such as whether they asked for help while struggling to solve unsolvable puzzles or gave help to an (apparently) blind person who accidently dropped a bunch of pencils. The results are kind of scary. The money "primes" caused people to be less likely to ask for help, less likely to give others help, more likely to work and play alone, and more likely to put physical distance between themselves and new acquaintances. In the study with the "blind" person, subjects played Monopoly for seven minutes. Regardless of how the game had gone, they were left with a pile of $4,000 in Monopoly money, $200, or no money at all. Then an (apparently) blind person walked in and "accidentally" spilled some pencils. Subjects with big piles of money picked up far fewer pencils off the ground than those with a small pile or no pile. The money, noticed but not consciously registered, triggered associations about business, wealth, and capitalism, provoking people to become less helpful, more self-absorbed, and more self-sufficient.

Temperature and touch also influence our beliefs and actions. For example, a bit of barely noticed warmth or cold can have striking effects. Psychologist Lawrence Williams described his sneaky study where participants were randomly chosen to hold cups of hot versus iced coffee:

> We had a confederate meet participants on the first floor of the psychology building, and on their way up to the lab, she was holding some textbooks and a clipboard, and also a coffee cup that was either hot or iced. And, she just sort of incidentally briefly innocuously asked participants if they wouldn't mind holding her coffee cup as she jotted down some information—the time, their participation, their name—and then took the coffee cup back while

they were on the elevator and then brought them into the lab. So, participants had no idea that holding that cup was the critical aspect of the experiment.

Participants who held the hot coffee rated the person who handed them the cup as warm, sociable, and generous. Those who got iced coffee rated that same person as colder, less generous, and more antisocial. Those who held hot coffee were more prone to buy a gift for a friend than for themselves; those who were handed the cold cup preferred to buy a gift for themselves!

The upshot is that you can bolster a mindset by weaving together subtle, even nearly invisible, cues that engage multiple senses. Take a page from the designers of Disney theme parks. Karin Kricorian, who leads Disney's efforts to study guest experiences, told us about dozens of small cues that Disney uses to spread happiness: smells, colors, uniforms, language, and simple guidelines that employees (called "cast members") apply when they aren't quite sure what to do. For example, when cast members talk to a child, they are taught to kneel down to get closer and come across as less threatening. Kricorian emphasized that, when it comes to small cues, it is especially crucial to spot and remove "dissonant details" that clash with the desired mindset. At Disneyland, for example, guests should never witness Mickey Mouse talking on a cell phone or Snow White chewing gum. Kricorian's advice reminded Sutton of a big energy company that he had studied in the 1990s. Senior managers repeatedly expressed frustration about how difficult it was to get their people to cooperate, share information, and take a long-term perspective (rather than focus on short-term profits). Every executive who registered this complaint had the same desktop screen saver: the company's current stock price. This "dissonant detail" clashed with the mindset those executives claimed they wanted to spread.

3. Link Short-Term Realities to Long-Term Dreams

A couple years back, we went to a talk by Bill Campbell at the Stanford Directors' College, a program for guiding people who serve on the boards of publicly traded firms. Campbell is the most revered director and mentor in Silicon Valley. He serves on the Apple and Intuit boards and is renowned for his role in developing dozens of influential

executives, including leaders at Google, Apple, and Twitter. Everyone calls Campbell “the Coach” because he was head coach of the Columbia University football team until he was thirty-nine—before he left New York to work in Silicon Valley. During the final decade of Steve Jobs’s life, Campbell and the legendary Apple CEO took a walk—and had a talk—together almost every Sunday. When someone at the Directors’ College asked Campbell about the most crucial skill for a senior executive, he said it was the rare ability (which Jobs had in spades) to make sure that the short-term stuff gets done and done well, while simultaneously never losing sight of the big picture.

This is a tricky balance for us human beings. Research by New York University’s Yaacov Trope and his colleagues shows that thinking about distant events is good because we focus on long-term goals—and it is bad because we manufacture unrealistic fantasies. We don’t think enough about the steps required to achieve those ends, and when we do we underestimate how much time and effort they will take. But thinking only about looming deadlines and short-term goals is a mixed bag as well. We focus on what is feasible, on the steps to take right now, but we forget or downplay long-term goals. So we direct our efforts toward achievable milestones even when they undermine our ability to reach our ultimate destination.

Scaling requires the wherewithal to hound yourself and others with questions about what it takes to link the never-ending now—the perpetual present tense that every person is trapped in—to the sweet dreams you hope to realize later. When we interviewed Shannon May, the cofounder of Bridge International Academies, she emphasized that they started “building for scaling” in their very first school in Nairobi. Although her founding team was on site and could easily communicate face to face with staff, students, and parents, they insisted on doing so mostly via cell phones because, as Shannon put it, “with everything we did, we asked ourselves if it would work with one hundred schools.”

Google took a similar approach. Shona Brown served as executive vice president of operations there from 2003 to 2011. She was the fourth-highest ranking executive in the firm, after founders Sergey Brin and Larry Page and CEO Eric Schmidt. Brown played a central role in scaling Google from one thousand employees in Mountain View, California, to thirty thousand employees across dozens of locations around the globe. Brown told us that, in every decision they made, Google’s leaders tried to resist doing what was easiest now. They

asked, “How will this work when we are ten times or a hundred times bigger?” They thought, “Let’s not decide based on what is best now, let’s decide based on what will be best in two or three years.”

Brown said that this mindset created challenges in hiring. There was always a temptation to “bring aboard some warm body that could do the job right now.” They usually forced themselves to resist because Google needed not only people who could do the current job. They waited to find people who were broad enough and curious enough to grow into new roles and take on more responsibility—and who would live and transmit the company’s “lifeblood” to others, its culture of innovation. Google has always been notoriously slow to hire, involving large numbers of Google managers, executives, engineers, and other employees in interviewing and selecting every employee. Every new hire is still approved at the organization’s highest levels. Brown emphasized that at times this picky process slowed growth, stalled product releases, and created heavier workloads for Googlers who needed help *right now*. But Brown believes this disciplined hiring process is a key reason that the company she left in 2012 had a culture so similar to the company she had joined in 2003. It is still a decentralized place filled with smart people who don’t need much hand-holding to generate new insights, make good decisions, and implement ideas.

This focus on short-term actions that make scaling easier down the road doesn’t apply just to growing an organization. It can help people and teams spread better practices across a mature organization. When we talked to Claudia Kotchka about spreading innovation practices at Procter & Gamble, she emphasized that her team needed some early wins. Yet, much like a game of chess, they needed the kinds of early wins that set the stage for future victories rather than defeats. The best quick wins help people start and persist on the scaling journey. These victories fuel optimism and excitement, make memorable stories, and convey that you are scaling something feasible. They also instill confidence and provide a protective coating of legitimacy to help your team weather future storms. With these goals in mind, Kotchka’s team began by working with P&G’s most troubled brands, where quick successes seemed possible and executives were hungry for solutions.

Their early successes with Mr. Clean, a stalled and stale brand, were crucial. Kotchka’s team tapped into customer frustrations with annoying cleaning chores, along with feelings and memories associated with the

Mr. Clean brand. These lessons led to the launch of Mr. Clean Magic Reach in 2005, which made it easier to scrub bathrooms. Magic Reach wasn't a blockbuster, but it sold well. The work with Mr. Clean enticed other P&G businesses to test the new innovation practices, and the shot of confidence helped sustain Kotchka's team during the journey ahead. That early win also set the stage for a big payoff. It taught Mr. Clean's leaders to think about their brand differently, which "led them to try new ideas beyond liquids, including the mega-hit Mr. Clean Magic Eraser."

4. Accelerate Accountability

This mantra pops up under numerous guises in the coming chapters, especially when we discuss the most crucial talents for propelling scaling. Accountability means that an organization is packed with people who embody and protect excellence (even when they are tired, overburdened, and distracted), who work vigorously to spread it to others, and who spot, help, critique, and (when necessary) push aside colleagues who fail to live and spread it. The trick—and it is a difficult trick—is to design a system where this tug of responsibility is constant, strong, and embraced by everyone, and where slackers, energy suckers, and selfish soloists have no place to hide.

There are many ways to create this brand of urgent, all-hands-on-deck accountability, but the goal is always the same—to bake-in that constant pressure to do the right thing. Michael Bloomberg strove to create such accountability during his long reign as mayor of New York City by jamming himself and his fifty-one most crucial staff members into a "bullpen" that was the center of his administration—a small and often noisy room where the mayor sat in the center. Each resident sat in a small cubicle with a low partition. Everyone could see, and often hear, what everyone else was doing, and the burden to do the right thing—especially to support the sacred tenet of open communication—weighed heavily upon everyone in the room. A former bullpen resident told *New York* magazine: "As a work space, it is something that you do not think that you can ever get used to.... But when you see the mayor hosting high-level meetings in clear sight of everyone else, you start to understand that this open-communication model is not bullshit. And that it works."

Jamming people close together is just one way to build an organization filled with people who can't escape relentless pressures to do the right thing, to live a mindset and hold others to it as well. Bloomberg's method can't be used when people are dispersed across different cities or countries. But there are ways to design such organizations so that members feel that constant tug of accountability. Stanford faculty Chuck Eesley and Amin Saberi organized and taught a free Stanford entrepreneurship class called "Technology Entrepreneurship" that attracted thirty-seven thousand students from more than seventy-five countries—one of the first big "MOOCs" (massively open online courses) at Stanford. For decades, versions of this course had been taught to classes of fifty to sixty tuition-paying Stanford students at a time, who gathered in a traditional classroom twice a week. The key to scaling the class to a wider audience was the technology platform called Venture Lab that Eesley, Saberi, and doctoral student Farnaz Ronaghi developed. The platform was used to deliver proven content to the thirty-seven thousand students who signed up for the class. The course included lectures on marketing, technology, and finance; interviews with interesting guests, including one with Stanford president and Google board member John Hennessy; and readings and tips for starting a company. The teaching team used the platform to scale up a temporary organization during those twelve weeks. It wasn't just a website that blasted out content; the team built in numerous clever and easy-to-use social features to create a peer-powered network that would link, organize, evaluate, and mentor students.

Their technology allowed for an initial "dry run" to establish students' willingness to work hard and collaboratively. Students were initially assigned to groups on the basis of geography—those from the same cities and countries were grouped together. Then students with varied skills, technical backgrounds, and industry experience were mixed together. Each newly formed team was asked to come up with their five best and five worst start-up ideas and to submit a video within a week. This simple task quickly separated the doers from the slackers. Students in each group were asked to evaluate their peers, and these ratings were displayed to everyone in the class. After that, classmates were free to form new groups, leave for other groups, or recruit new members—armed with data about free riders and hard workers.

The platform also enabled peer-reviewed homework: rather than placing the burden of grading thirty-seven thousand students on the teaching team, students (after completing an online tutorial) graded each other. To their delight, Eesley and Saberi discovered that this system resulted in tougher grading standards. The teaching team graded assignments for a random subset of students to develop guidelines and verify the quality of peer reviews: peers graded each other far more harshly than the Stanford faculty. The faculty and student teams also recruited approximately two hundred veteran entrepreneurs to serve as mentors, who used the platform to find teams that matched their skills and interests.

We visited the site on July 23, 2012, at 10:00 a.m. It showed that 563 class members had been active that day and that one or more interactions had occurred on 190 teams. Naveen Bagrecha, an undergraduate in civil engineering from India, had submitted an assignment that day—a video he made for pitching a start-up. One team was working on their final presentation entitled “Core Complexity Reduction,” an idea for a company that developed tools for “more efficient structuring of organizations based on the analysis of interactions of its members.” This nine-person team was formed by Roger Sen, a computer engineer from Spain. The remaining members were four students from Germany and one each from France, Italy, the United States, and South Africa. Their mentor was Benson Yeung, a founder and senior partner at Tri-ware Networld Systems, based in the San Francisco area.

Social pressure and monitoring helped to ensure accountability in this online class. Each of the initial thirty-seven thousand students could see how all the others performed—if they handed in their homework, how they were graded, how their contributions were rated by teammates, when they had last logged on, and how many contributions they made to the discussion forum. These pressures to do the work and to be an active class member drove down the class size from thirty-seven thousand at the start to ten thousand at the end. This attrition among free riders and weak performers was accelerated in week 6 of the class, when the faculty urged teams to communicate with and confront members who weren’t pulling their weight. This message convinced some two thousand students to drop the class before the deadline and led teams to expel another two hundred or so deadbeats. Many of these students would never meet their teammates face to face,

but the teaching team used their powerful platform, extreme transparency, social pressures, and tough policies to scale up a sizable teaching organization that was thick with accountability. By fall of 2013, at least fifty-five courses at Stanford and other universities were using the platform, and, with Saberi as CEO, a company called NovoEd was formed to develop, sell, and spread it.

5. Fear the Clusterfug

In 2011, we had a rollicking dinner with Marc Hershon. The alleged purpose was to discuss the title of this book, and, more broadly, the best words and phrases for describing scaling. Hershon is supremely well suited for this challenge, as he makes a living naming things—including Dasani water, the Swiffer, and most famously, the BlackBerry. Hershon is an all-around "creative," writing jokes for comedians such as Jay Carney and Jay Leno, numerous TV scripts, and a couple of books. He is also a syndicated cartoonist and teaches improvisation and stand-up comedy. After batting around book titles, we turned to a related question: What word best captures horrible scaling, the opposite of spreading excellence? Someone soon suggested *clusterfug*. We laughed and agreed it was among the most colorful and compelling words in the English language but decided that "No More Clusterfugs" would be a misleading and overly shocking title. (As you've probably guessed, we actually used a slightly different word during that conversation. We are censoring ourselves here—borrowing Norman Mailer's euphemism *fug* from *The Naked and the Dead*—because some readers found that profanity offensive.)

We never forgot that dinner. As our research unfolded, we realized that the definitions of that cussword in the *Urban Dictionary* captured many elements of the most mangled and misguided scaling efforts. The origin appears to be a "military term for a situation caused by too many inept officers, *cluster* referring to the insignia worn by majors and Lt. Colonels, oak leaf clusters." Definitions like this one came even closer: "the state of affairs resulting from too many staffers and not enough *trained* staffers on a project." As we read such definitions, and studied cases where scaling had turned ugly, three elements kept popping up:

> **Illusion:** Decision makers believe that what they are scaling up is far better and easier to spread than the facts warrant.

Impatience: Decision makers believe that what they are scaling is so good and easy to spread that they rush to roll it out before it is ready, they are ready, and the organization is ready.

Incompetence: Decision makers lack the requisite knowledge and skill about what they are spreading and how to spread it, which in turn transforms otherwise competent people into incompetent ones.

When these three elements collide, you've got a classic clusterfug. This trifecta causes scaling efforts to fail big and late rather than early and cheaply. A related hallmark is that decision makers don't recognize when they are on the verge of subjecting victims (and themselves) to overwhelming mental load, distress, and turmoil. So, at least at first, they don't hold themselves accountable when things turn ugly and can't resist heaping excessive blame on the casualties of their incompetence.

Stanford University's effort to upgrade its IT systems in 2003 illustrates this terrible trio all too well. A team of internal IT people and outside consultants decided to abandon the homegrown legacy system that supported accounts payable, procurement, and HR and to replace it with something called Oracle Financials. Decision makers were antsy because their original plan to roll out the system in phases during 2002 had slipped a year. Even though the new system was unfinished and unproven, they somehow deluded themselves into deciding that a "big bang" implementation was the way to go. They pulled the plug on the legacy system and forced over four thousand inadequately trained and poorly supported users to start using the new system on September 1, 2003.

Just before the big bang, leaders began admitting to Stanford staffers that hiccups were on the horizon: data might be missing, transactions might be delayed, and the system had a steep learning curve. They even gave users a little punching bag to pummel when they couldn't contain their frustration. The leaders were trying to make light of the situation, but staff members weren't amused. Instead they (accurately, as it turned out) viewed the gift as another omen that their superiors were starting them on a forced march that would soon degenerate into a colossal clusterfug. Sutton first spotted one of those punching bags in the office of an unusually loyal and hardworking Stanford staffer. She was on the verge of tears, worried that she would never master the system. From what she could tell, no one at Stanford

was really accountable for helping her navigate the tough months ahead.

University leaders were somewhat aware that they were about to unleash confusion and chaos on four thousand people, but they did not fear the clusterfug sufficiently. They were plagued by collective *illusions* about when the system would be completed, how far it was from being ready for the big bang, how easy it would be to teach and learn, and how quickly they could fix snags and snafus. Despite their knowledge of major risks and problems (in concert with their ignorance and denial of many others), they were so *impatient* that they elected to impose the system on four thousand unprepared victims anyway. The punching bag freebies implied an attitude of "Although we are not ready, you are not ready, and this will make your life miserable—we are doing it anyway. Suck it up and deal with it." The decision makers' *incompetence*—including their inability to foresee the hell that the big bang would inflict on their own lives—had the ripple effect of turning four thousand otherwise competent people into incompetent ones, rendering these employees anxious and embarrassed because they were no longer able to do their work.

The first year of the Oracle Financials rollout was a nightmare. By December of 2003, there were over five hundred unresolved requests from staff members for help from IT. The IT team was overwhelmed as they struggled to assist hundreds of upset and often inadequately trained staffers, while simultaneously trying to repair bugs and flaws that made the system difficult or impossible to use for even the most skilled staff. During public forums, both Stanford's IT team and staff members portrayed themselves as "in crisis." Chief Information Officer Chris Handley was hauled in front of the Stanford faculty senate in February of 2004, six months into the botched implementation. He admitted that most administrative processes still took two or three times longer than under the old system. Missing and flawed data made managing money "difficult, if not impossible, right now." Handley confessed further, "Morale is low.... The toll on individual administrators in schools and departments is very high right now. These are all people who pride themselves on doing their work, people who pride themselves on having the information for you. And at the moment, they feel completely disarmed, embarrassed, and ashamed because they can't actually get the information for you." Handley met with the faculty senate for the last time in October of 2004, reporting persistent "slow

progress in smoothing out the many problems." He resigned a couple weeks later, citing a need to "focus on his family."

6. Scaling Requires Both Addition and Subtraction

As we say in the Preface, scaling is the Problem of More. So it is no surprise that the language of More pervades talk on this topic. Ask any group of executives or nonprofit leaders about scaling; search the Internet for the keywords *scaling* or *scaling up;* read articles, cases, and academic research on the subject. You will find that the dominant words and phrases are all about addition and multiplication: *grow, expand, propagate, replicate, amplify, amass, clone, copy, enlarge, magnify, incubate, accelerate, multiply, roll it out to the masses*, and so on. Ben Horowitz echoes this spirit by kicking off a 2010 blog post on scaling with lyrics from rap singer Dorrough's song "Get Big," in which the words "Get Big" are repeated over and over.

We use the language of More throughout this book as well. Yet the addition and multiplication that define successful scaling depend on equally relentless subtraction (and division too, as chapter 4 shows). As organizations grow larger and older, as the footprint of a program expands, and as the consequences of past actions accumulate, once useful but now unnecessary roles, rules, rituals, red tape, products, and services build up like barnacles on a ship; to make way for excellence to spread, these sources of unnecessary friction must be removed.

In particular, a hallmark of successful scaling is that leaders remain vigilant about what "got us here but won't get us there," as author Marshall Goldsmith would put it. These are beliefs, behaviors, and rituals that once bolstered excellence but now undermine it. All-hands meetings in growing organizations are a prime example. When an organization is small enough that each member can have a personal relationship with every other, or at least recognize all their faces and names, gathering everyone for regular meetings makes sense. But there comes a point when the place gets so big that having an intimate gathering with, say, five hundred of your best friends isn't feasible. Sutton saw this happen at the renowned innovation firm IDEO. In the 1990s, when IDEO had sixty or seventy people working at their Palo Alto headquarters, founder and then CEO David Kelley did a masterful job of orchestrating the all-hands meeting every Monday morning. Kelley is such a skilled facilitator that nearly every person in the room

added at least one comment or joke during each of these hourlong gatherings. Once the company grew to hundreds of Palo Alto employees, however, even Kelley couldn't sustain the intimacy. So, the Monday all-hands meeting became a vestige of the past and was replaced with smaller gatherings organized around studios and design practices. All-hands meetings in Palo Alto were dialed back to once a month and then, as IDEO continued to expand, to a few times a year.

Strategic subtraction clears the way for people to focus on doing the right things. As you will see, chapter 4 shows how important it is to keep whittling away at the cognitive and emotional burdens generated by scaling. And chapter 7 shows how crucial it is to clear out bad behaviors and beliefs to make way for good things to spread. Veteran retailer Barry Feld used such a strategy when he took charge of the struggling retail chain Cost Plus World Market in 2005. Cost Plus has over two hundred stores in the western and midwestern United States that sell specialty foods and home furnishings. In 2005, the company was on the verge of bankruptcy. The stock was teetering at under $1, sales had plummeted, and the brand reputation was in tatters—few consumers had even heard of Cost Plus, and most who did recognize it had negative perceptions of the brand. Stores were messy and disorganized, skilled managers were quitting in droves, and employees were dispirited. Feld visited almost every store to provide coaching and encouragement, determine what needed to be changed, and help decide which stores to shutter.

We invited the charming and down-to-earth Mr. Feld to speak to our scaling class. When we asked him which employee behaviors were most destructive, Feld responded that bad things happen when employees treat customers as if they are invisible. When he noticed that employees failed to greet customers, he pressed them (and their managers) to develop a ritual of stopping for a moment when stocking shelves, serving other customers, or chatting with coworkers to look customers in the eye and say "Hello" or "Let me know if I can help." These small acts are crucial, according to Feld, because when employees offer greetings, customers are less likely to steal and more likely to buy something. This was only one of the hundreds of changes that Feld's team made to turn around the troubled chain. Sales, profits, and the stock price kept climbing until the chain was sold for a healthy $22 per share to Bed Bath & Beyond in 2012.

The upshot is that scaling isn't just a problem of *more*. Scaling is a problem of *less* too, and subtraction is often an essential tool for doing it better.

7. Slow Down to Scale Faster—and Better—Down the Road

Nobel Prize winner Daniel Kahneman demonstrates that human beings are blessed and cursed with the ease and speed with which we can make judgments and take instant and largely mindless actions—"the automatic System 1" as he calls it. Human organizations, with their ingrained histories, rules, practices, standard operating procedures, and, of course, mindsets, are similar. When people who work together share the right skills and the right motivation, coordinated (and often complex) action can unfold rapidly and with few errors. When it comes to scaling, this happens when an organization is packed with people who embrace and act on a shared mindset.

But there is danger in relying on ingrained behaviors too early and too often, even though people and organizations are prone to do so. A study by Clifford Holderness and Jeffrey Pontiff examined the fate of 122,765 American prisoners of war captured during World War II—93,666 by Germany and 29,099 by Japan. They examined whether the senior officers among the POWs replicated the military's rigid hierarchy or moved to a flatter and more flexible organizational structure in the camps. The results were striking: prisoners in the most hierarchical camps suffered a death rate about 20 percent higher than their counterparts in the least hierarchical camps. Traditional hierarchies are effective given the need for quick and coordinated action on the battlefield. But they are too rigid given the flexibility and individual judgment required in prison camps. Captured senior officers who automatically replicated and clung to the traditional military mindset created inferior organizational structures compared to those officers who realized that a different model was required (and then acted on such beliefs).

The broader lesson is that mastering "the black art of scaling a human organization" requires learning when and how to shift gears from fast to slow ways of thinking. As Kahneman suggests, slowing down and thinking about what you are doing and why—shifting to that laborious, reasoned, deliberative, and conscious "System 2" thinking, as Kahneman calls it—is the best defense when "you are in a cognitive

minefield”—when you don’t know enough, risks are high, or you are stuck. Shifting to “System 2” often requires forcing yourself to pause rather than plow ahead. This shift is demonstrated by some advice that Jerome Groopman got when, as a young doctor, he was unsure of a patient’s diagnosis. “Master craftswoman” Dr. Linda Lewis instructed Groopman: “Don’t just do something, stand there.” When it comes to scaling, “System 2” thinking requires constant vigilance so that those easy and automatic responses that are hallmarks of “System 1” thinking don’t impair your efforts to spread, sustain, and keep improving excellence.

Nissan CEO Carlos Ghosn put it well: “You have to be like a race car driver—you need to know when to accelerate, when to brake, and when to change gears.” Recall the approach used by Chuck Eesley and Amin Saberi to teach entrepreneurship to some ten thousand online students. They used a compelling blend of “System 1” and “System 2” thinking. The teaching team often slowed down to think about, build, and test solutions that later reduced the burden on themselves by making it easy for students to post and grade work, to judge one another’s effort and skill, to form and work in teams, and for mentors to select and guide teams. In Ghosn’s lingo, Eesley and Saberi figured out when to take their foot off the gas, downshift, and hit the brakes so that later on they (and their students) could put the pedal to the metal and fly down the road.

The Ground War Mindset

We’ve emphasized that scaling excellence requires the kind of grit required to run a marathon rather than a sprint. If anything, this analogy understates the challenge. Scaling is akin to running a long race where you don’t know the right path, often what seems like the right path turns out to be the wrong one, and you don’t know how long the race will last, where or how it will end, or where the finish line is located. Yet it is one of the fundamental challenges that every organization faces, whether it’s small or large, new or old, or somewhere in between. And the good news is that plenty of people and teams find ways to master this mess, take satisfaction in their daily accomplishments, and take pride in spreading constructive beliefs and behaviors far and wide. Those who succeed think and act as if they are fighting a ground war, not just an

air war. This “ground war mindset” (along with the seven mantras) reverberates throughout the coming chapters on key decisions and scaling principles.

CHAPTER 6

CONNECT PEOPLE AND CASCADE EXCELLENCE

Using Social Bonds to Spread the Right Mindset

Ignorance, mediocrity, and mistakes run rampant when organizations fail to link the right people to the right information at the right time. This is true even when everyone involved has the best of intentions and even when someone somewhere knows exactly what to do (but no one has figured out how to get the information to those who need it). During the Iraq war, improvised explosive devices (IEDs) were among the most lethal dangers to U.S. forces. In 2005, Master Sergeant Chad Walker's 172nd Stryker Brigade had been fighting in Iraq for fifteen months when, at the U.S. embassy in Baghdad, he saw "an IED defeat handbook, it was sitting on some guy's desk." The handbook was filled with hard-won lessons that the Center for Army Lessons Learned (CALL) had gathered from numerous combat units. Walker wasn't pleased: "It infuriated me that my soldiers and I were not exposed to the knowledge found in this handbook until the very end of our 16-month deployment."

Fortunately, CALL did get better at "connecting and cascading" as the war progressed. For example, many soldiers perished after their Humvees "overturned in Iraq's many irrigation canals," the doors wedged shut, and the trapped soldiers drowned. In response, Bill Del Solar, a safety officer with the Tenth Mountain Division, cobbled together the cables and hooks that most vehicles already carried to invent "rat claws"—a flat steel hook that rescuers attached to another

vehicle and used to rip the doors off overturned or disabled Humvees. CALL quickly spread the news via websites and online forums. CALL analyst Colin Anderson reported, “In a 24-hour period, the feedback we got was really good, because a lot of other units that were in-theater at the time didn’t have a clue that it existed. They were able to take it and use it.”

Other soldiers used CALL forums to discuss RKG-3 hand grenades that enemies were throwing at army vehicles; they focused on how RKG-3s didn’t explode when they hit soft surfaces. That knowledge inspired prototypes that looked like big trampolines and could be mounted on vehicles. Their idea worked. RKG-3s bounced off without blowing up. CALL’s deputy director David Bialas explained: “It boiled down to three or four types of designs, then sharing among themselves. They put them on the vehicles right away.... In a very short period of time, with the effectiveness of that particular device, the casualties went down tremendously.”

The Goal: Domino Chains of Goodness

As CALL’s success suggests, scaling hinges on discovering (or creating) pockets of excellence and connecting the people who have it, and their ideas and expertise, to others. When all goes well, a chain reaction occurs where excellence flows from one person, team, or place to the next—much like those “domino chains,” where the energy generated by one falling domino creates the energy to topple the next, and then the next, and so on, until all have fallen.

We’ve seen numerous examples of how such domino chains are built, triggered, and fortified: the efficiency improvements at Wyeth; Facebook’s Bootcamp; the growth of Bridge International Academies and Pulse News; Claudia Kotchka’s efforts to embed innovation experts in P&G businesses; Andy Papa’s crusade to transfer the “athletic mindset” from football to NASCAR pit stops; the rollout of KP HealthConnect; and the 100,000 Lives Campaign. But we want to underline and expand on a theme that pervades these and other successful scaling efforts: a core team was accountable for ensuring that the right links were made and that the right facts and feelings kept flowing through the right connections in every case.

The team that built and coaxed the domino chain to keep cascading during the 100,000 Lives Campaign is especially instructive. In chapter 2, we described how the Institute for Healthcare Improvement (IHI) kicked off the campaign with a hot cause (preventing needless deaths) and cool solutions (six proven practices) and how some 120,000 fewer preventable deaths had occurred in U.S. hospitals by the time this eighteen-month effort was over. But we haven't discussed the "ground war" waged by the small but mighty scaling team led by twenty-eight-year-old Joe McCannon. Although the team never had more than ten full-time young staffers (and IHI never had over one hundred employees), this small band identified and created pockets of excellence in about 3,100 U.S. hospitals and kept those life-saving practices cascading from one "domino" to the next throughout this vast (and otherwise largely disconnected) network.

The team's initial goal was to enlist at least 1,600 hospitals, which they calculated would be enough to prevent one hundred thousand deaths. They were bent on spreading a new mindset: shifting health care administrators and providers from viewing errors and risks as *inevitable, difficult to prevent*, and thus *unacknowledged* to viewing errors and risks as largely *preventable* and thus best *discussed candidly* and *admitted freely*—because such openness reveals root causes and makes it safe for health care providers to ask for help so they can learn better ways to care for patients. As with other effective scaling efforts, they believed and behaved as if their success depended, above all, on the day-to-day grind of implementation. They borrowed a motto from the U.S. Army: "Amateurs discuss strategy; professionals discuss logistics"—in other words, the nuances of getting things done.

McCannon explained that most hospitals are specialized and tend to excel at a few things, which meant there already were many pockets of existing excellence in the industry. His campaign team focused their logistical prowess on identifying such pockets and helping to pass their expertise along to other hospitals: "If an organization in Oregon is doing very well on providing reliable care for heart attacks, it is our job to connect them to the whole world. The flip side is, when an organization in Oregon is interested how an organization in Massachusetts does well in reducing an infection, we have to clear the pathways and provide channels, so that others know that they can reach out to them. We lean heavily on the participants to teach us and others."

McCannon's team used a number of methods to make and maintain such connections. They had a weekly phone-in "radio-style" program called "Campaign Live," where staff from hundreds of hospitals tuned in to learn about implementing successful evidence-based practices and other pertinent lessons. They maintained websites and provided reports and brochures pertinent to every aspect of the campaign, including research on reducing health errors, the nuances of adopting each practice, and additional archived "Campaign Live" programs. But the team's most important work entailed building networks of hospitals and other medical organizations to help the campaign—and stepping aside once they kicked into gear.

The need for such "outsourcing" became painfully clear just two months into the campaign, when over 1,600 hospitals had already signed up. McCannon's team responded by sending out a strong message that participants should "make the campaign your own." McCannon added, "Getting what we wished for so fast was scary and motivating. We started making a lot of local marriages happen because it was the only way to have the capacity to get it all done." These "marriages" involved mostly "nodes" and "mentor hospitals." The seventy "nodes" lifted the administrative burden off IHI; each helped run the campaign in a given region (usually states) or across key specialties (e.g., rural, academic, children). For example, in Vermont, the Association of Hospitals and Health Systems teamed up with the Northeast Health Care Quality Foundation to form a node to help manage and coordinate the campaign across the state. In particular, they took charge of recruitment—their goal was to convince every hospital in the state to join the campaign.

Although "nodes" carried part of the administrative burden, McCannon's team stayed focused on the nitty-gritty of developing and recruiting some two hundred "mentor hospitals"—the lifeblood of the campaign. These hospitals were experts in at least one of six evidence-based practices that the campaign was focused on spreading:

1. Rapid-response teams: experts who spring into action when a patient's condition deteriorates rapidly
2. Procedures for acute myocardial infarctions (i.e., heart attacks), including rapid administration of aspirin and beta-blockers

3. The “ventilator bundle”: practices for patients on ventilators that prevented pneumonia

4. The “central line bundle”: practices including checklists to prevent infections related to central venous catheters

5. Prevention of infections at surgical sites through antibiotic use and other practices, including steps to ensure that all health care workers have clean hands

6. “Medication reconciliation”: comparing the drugs a patient is prescribed to prevent dangerous interactions

Once McCannon’s team discovered that a hospital was adept in one of these areas, or his team had helped a hospital learn one of these “bundles,” the staff there was recruited to mentor other hospitals. For example, McCannon’s team connected the Contra Costa Regional Medical Center in California with four mentor hospitals that were experts in medical reconciliation. Contra Costa experimented until they developed reconciliation procedures that worked for them; they then became a mentor hospital in medical reconciliation themselves, and McCannon’s team connected them with other hospitals that needed their expertise.

As the campaign unfolded, the team spent more and more time in the field: they found that face-to-face contact was even more crucial than they had first realized. So four team members became full-time “harvesters,” traveling from hospital to hospital to spot needs, uncover and instill better practices, and create network connections. McCannon and several teammates rented a bus in September of 2005, plastered it with patients’ pictures and campaign slogans and facts, and drove it from Boston to Seattle—visiting hospitals in sixteen cities to whip up enthusiasm and spread practices in person. McCannon explained that other methods helped spread key lessons, but nothing worked as well as being there live, in the flesh, to give health care providers “exactly what they need, when they need it.”

Despite its idiosyncrasies, this campaign had two hallmarks of the best scaling efforts. First, as we’ve emphasized, a core team kept the right information, guidance, and motivation flowing in the network. Second, the team continued to find and groom dedicated helpers so that they weren’t burdened with every detail of the “connect and cascade” process. IHI especially needed help, given their tiny size and

modest $3.3 million budget. Yet, as we saw with the multi-billion-dollar KP HealthConnect rollout, no matter how much money a team has, scaling depends on a chain reaction where—to use the domino analogy—the core team doesn't have to go in and personally push over each tile.

Throughout this chapter, we focus on harnessing the connect-and-cascade process. We begin with an obvious core question that is often forgotten, ignored, or dismissed but that too often comes back to bite those bent on scaling.

Excellence: Got Any?

We run a "take it home" panel during our "Customer-Focused Innovation" executive program, where a group of managers and executives draw on their personal experience to give advice about spreading the practices we teach. Claudia Kotchka, who leads it, pulls in scaling veterans such as GE's Doug Dietz, JetBlue's Bonny Simi, and others, including Hyatt's Dania Duke (general manager of the Santa Clara Regency), and Cybex's Bill Pacheco (director of engineering at this exercise equipment company). During each panel, at least one of the sixty or so program participants in the audience tells pretty much the same story. Their organization has a big innovation effort: workshops, conferences, a well-funded scaling team, the whole shebang. Yet no team or project actually uses the practices that are allegedly being spread to tackle real problems. In one company, executives couldn't name a single project that had ever used design thinking, even though the company had dedicated multiple people and teams to spread design thinking during the past decade.

Researchers have portrayed scaling as a three-stage process: excellence, efficiency, and expansion. To us, that sequence is too linear; scaling usually unfolds in fits and starts that rarely fit this tidy progression. Yet those three orderly stages—and that troubling story managers and executives keep telling us—imply a simple, but critical, lesson that we now highlight during the panel: *"To spread excellence, you need to have some excellence to spread."* Executives often hoot and holler in response to this, because, they tell us, the top dogs at their workplace behave as if this fact of organizational life doesn't apply to them.

This “absence of excellence problem” sometimes rears its head because powerful zealots are determined to scale something they are convinced is marvelous despite precious little evidence that it works. For example, if anyone ever tries to institute handwriting analysis or “graphology” to select employees for your organization, stop them immediately. Graphology is still a common selection practice in France and Israel, but every shred of unbiased evidence shows it is useless for assessing employee traits and potential.

This problem is also a side effect of treating scaling as a pure air war. Leaders and teams that make this blunder often apply a thin and short-acting shellac of insight to vast numbers of people—a quick workshop or two, a few speeches, or online courses. Then they declare victory. To paraphrase former Yahoo! executive Brad Garlinghouse (now CEO of YouSendIt), this is the peanut butter syndrome. In 2006, Garlinghouse wrote what the *Wall Street Journal* dubbed the “Peanut Butter Manifesto,” a lament about Yahoo!’s slide toward mediocrity:

> I’ve heard our strategy described as spreading peanut butter across the myriad opportunities that continue to evolve in the online world. The result: a thin layer of investment spread across everything we do and thus we focus on nothing in particular.
>
> I hate peanut butter. We all should.

Similarly, some leaders believe—or pretend to believe—that just by spreading a thin coat of something good, deep pockets of excellence will somehow magically form. But the connect-and-cascade process doesn’t work that way. You’ve got to act as Wyeth did when they rolled out quality and cost control methods to seventeen thousand employees. They started by focusing on a few “minitransformations” in eight plants: each was supported by intensive training, coaching, and feedback from Wyeth’s staff and consultants, and each involved extensive experimentation and rehearsal. Once a pocket of true excellence was created, the lessons were cascaded from that minitransformation to the next, as when “Fifi” Haknasar’s team at the Pearl River Plant cut changeover time from fourteen to seven hours. This domino chain continued until seventeen thousand employees had changed their ways. It took hard work, lots of money, and eighteen months to finish. But Wyeth saved over $250 million, quality increased in almost every plant, and so did employee accountability and pride.

Yet, as the learning curve research that we introduced in chapter 2 reveals, sometimes even though early pockets are mediocre (or even downright crummy), taking the effort to create them is often worthwhile. Scaling is sometimes led by teams that have limited skill or experience with what they spread—and sometimes no one in their network is very adept at it either. Yet, as the scaling team and the groups and units that they help gain more experience, true excellence can emerge. In the 1990s, Sutton worked with a Hewlett-Packard supply chain group called SPaM (Strategic Planning and Modeling) that traveled down just this path. At first, as SPaM's leader Corey Billington admitted, his consultants knew little more than the HP businesses they served. Little by little, by gaining experience and working alongside experts such as Stanford's Hau Lee, SPaM's ability to spot and solve supply chain problems improved. After crawling up this learning curve for a few years, SPaM built a reputation inside and outside HP for inspired work, especially in HP's massive printer business. SPaM succeeded because they focused on developing and transferring real excellence instead of spreading a thin coat of supply chain peanut butter across HP.

Whom Do You Connect?

It's About Diversity, Not Just Numbers

As we saw in chapter 3, when Bonny Simi assembled that first group to tackle JetBlue's "irregular operations" problems, she invited people from all over the company: baggage handlers, gate agents, reservation agents, mechanics, flight controllers, managers from varied locations and functions, and pilots like her. The group was diverse in other ways: photos and films reveal a mix of men and women, old and young, and Hispanics, Asians, African Americans, and Caucasians. Simi's main motivation was to bring together and blend people with expertise on a broad range of interconnected operations. But studies of persuasion and social networks suggest that starting with a diverse group propels scaling for other reasons. Such breadth means that a team is linked to more "nodes" in the organization's network: to the varied departments, locations, functions, and levels of the pecking order where each member is stationed, as well as to their numerous (and often

nonoverlapping) informal friendships, groups, and affiliations. If Simi's initial IROP group at JetBlue had contained only, say, white male pilots from New York, or Hispanic female gate agents from Long Beach, the new mindset would have cascaded to far fewer people and places.

Another advantage is that early recruits worry less about being taken advantage of when a broad cross section of the organization is involved. They don't feel singled out as guinea pigs for a crazy experiment or, worse, start wondering if some sneaky or overly ambitious executive is setting them up for failure or embarrassment. The breadth also conveys that what you are scaling can help many or most organization members, not just some specialized group. Many organizations are divided into silos of employees with similar skills and backgrounds; people within accounting, engineering, and HR often work side by side and have limited contact with other departments or functions. If people in only one silo, say marketing, are invited at first, others in the organization may conclude that only marketing folks are interested or will benefit from the effort.

Ironically, diversity also propels scaling because of the power of homogeneity, specifically what psychologists call "similarity-attraction" effects. For better and worse, we humans tend to have warmer feelings and spend more time with people who are similar to us. Harvard's Rakesh Khurana jokes that most of us are drawn to people who are just like our favorite person: ourselves. Khurana uses these findings to explain why U.S. corporate boards are composed primarily of white males between fifty and seventy years old: members can't resist reproducing themselves. Even in diverse workplaces, when given the choice, women tend to congregate with women, and men with men, as do people of similar ages and racial backgrounds. The same goes for people from similar professional backgrounds: when, say, engineers, graphic designers, and copywriters work in the same place, if given a choice, they tend to hang out with colleagues like themselves.

This means that, by stocking an initial scaling team with people who mirror the diversity of the larger organization, once the team's members embrace and live a mindset, it will cascade more widely than if you had started with people who all looked alike and thought alike, were all from the same place, and all did similar work. Scaling stalls when you start with a bunch of clones. Early on, you need a team with different, largely nonoverlapping, connections so that when they flock back together with others like them they will influence more parts of the network.

Charles Darwin's "four musketeers" are a classic example of this strategy: these leading scientists defended and spread evolutionary theory after *The Origin of Species* was published in 1859. Each worked in a somewhat different field and thus had ties to many, often nonoverlapping, networks. Charles Lyell was the most famous geologist of his time. Joseph Dalton Hooker was a renowned botanist and director of the Royal Botanical Gardens. Hooker also had broad international contacts because he was an avid explorer: he joined and led expeditions to study and gather plants in Antarctica, the Himalayas, India, Palestine, Morocco, and the western United States. Asa Gray was the most influential American botanist and author of the classic text *Gray's Manual of Botany*. Gray arranged for *The Origin of Species* to be published in the United States, defended the theory in popular and scientific publications, and expanded it in his influential book *Darwiniana*. Finally, Thomas Huxley is most famous as "Darwin's bulldog," battling critics with zeal and skill. This renowned and self-taught zoologist proposed that birds evolved from dinosaurs, now a widely accepted hypothesis. Huxley also devoted a great deal of effort to developing modern scientific education in Britain's schools—which have spread evolutionary theory to millions.

Most leaders who aim to spread a mindset don't have a dream team like Darwin's, but any scaling effort will move faster and farther if you start with a diverse group of evangelists.

Look for Master Multipliers

In chapter 4, we introduced Vice President Kaaren Hanson, who leads Intuit's Design for Delight, or "D4D," efforts, which have changed how thousands of Intuit employees think about and do their work. It took Hanson's team a few years to learn that the greatest solo designers—who keep creating products and services that customers fall in love with and must have—aren't always the best at spreading their talent and enthusiasm to others. You need master multipliers, as we call them, as well. Not only do such people have deep knowledge and enthusiasm about what they spread. They are adept at finding others to help them fuel the connect-and-cascade process. They are skilled at spotting which "students" are most likely to succeed; at giving them the right feedback at the right moment in the right way; at maintaining the highest quality standards; and at having the patience and self-control to

allow people to learn from their own mistakes—to resist micromanaging or jumping in and doing it for them.

Hayden Fry, who coached the University of Iowa football team from 1979 to 1998, embodies these qualities. Fry's teams performed well, winning 143 of 238 games and three Big Ten titles. But within football circles, he is most admired for producing more head coaches of top football programs (sixteen) than anyone before or since. Fry recruited certain Iowa players to become coaches. All were, in his lingo, "bell cows": members of the herd that other cows always followed. Each year, Fry took the unusual step of asking several active players with strong leadership skills to coach fellow players. He did so to help them develop coaching skills and to help him decide which of them to offer entry-level coaching jobs. Fry's former assistants report, "He wouldn't hire an assistant unless he believed that assistant was capable of becoming a head coach some day."

Much like the best D4D mentors, Fry didn't micromanage. Bill Brashier, who coached with Fry for over twenty years, said, "He hired you because he knew you'd do what you were supposed to." As Dan McCarney, a former assistant who became North Texas's head coach, put it, "He knew more about what we could do than we knew. You can't imagine the kind of confidence and motivation that gives you. It makes you feel like you can't let him down." Fry was a master multiplier; he took great pride in his former assistants' success. In 2011, he said: "I think of these guys as my sons and I follow and watch them all." He added, "It makes you feel good, like you really made a difference in people's lives."

Master mentors aren't necessarily as socially skilled as Hayden Fry, but all find ways to pass on their expertise. Dr. William Halsted of Johns Hopkins University, for example, started the first surgical residency training program in the United States in the late nineteenth century: it included an internship, six years as an assistant resident, and two years as a resident surgeon. He trained many of the most prestigious surgeons of the twentieth century, including Hugh Hampton Young (founder of modern urology surgery) and Harvey Williams Cushing and Walter Dandy (founders of modern brain surgery). Halsted's biographer Gerald Imber described him as "direct, severe, and gentlemanly," a man who showed flashes of charisma but taught largely through example rather than words. Halsted focused intensely on his work, devoting hours to studying and thinking about the smallest details of

surgery—down to bandaging patients himself after operations. Yet he rarely knew the names of his interns and assistants. He mostly talked to his senior residents, who were expected to pass on his skills to their junior colleagues.

Halsted's system worked, in large part, because he was so dedicated, competent, and inventive. Although he struggled with cocaine and morphine addiction most of his life, he developed and taught many modern surgical methods, including "aseptic technique" and the use of newly discovered anesthetics. He convinced the DuPont company to develop the first thin surgical gloves and then showed that their use during surgery dramatically reduced infections. Halsted pioneered many surgical procedures: he introduced radical mastectomies for breast cancer, performed one of the first gallstone operations (on his mother, at 2:00 a.m. on her kitchen table), and did one of the first blood transfusions, to name just a few.

Despite his addictions, quirks, and tendency to ignore those under him, Halsted fits the profile of a master multiplier. Even if he didn't know their names, Halsted had a sharp eye for talent and didn't hesitate to remove interns and residents who lacked the necessary drive, skill, and temperament. Much like Hayden Fry, Halsted worked only with young surgeons who he believed had potential for greatness—to be a head surgeon in a large hospital. Finally, despite his attention to detail, after he perfected a technique or procedure, Halsted often lost interest in repeating it. His residents were given the autonomy to perform such operations themselves without him breathing down their necks.

It helped, of course, that Halsted was the most talented and inventive surgeon of his time. Although the best mentors aren't always star performers, all must have a deep understanding of their craft in order to be able to pass along true excellence. For example, Phil Jackson is the most successful professional basketball coach in history, winning eleven National Basketball Association (NBA) championships with the Chicago Bulls and Los Angeles Lakers. Jackson started his career as a player and was on two NBA championship teams. But he was a benchwarmer, not a star player. As a coach, Jackson is adept at identifying and developing talent, has a chess master's knowledge of the game, and is renowned for having a light touch with his players—much more so than other coaches. When his teams play badly, rather than hollering at them, calling time out, and making substitutions,

Jackson often sits calmly and lets them work through the rough patches—resisting the temptation to micromanage.

Bring On the Energizers

In chapter 1, we described Facebook's Bootcamp for new engineers—a classic connect-and-cascade process. Mentors are assigned to newcomers who help infect them with Facebook's mindset and knowledge of its code base and practices. But beliefs and behaviors aren't the only thing that cascades during Bootcamp. So do emotions, especially positive energy. University of Virginia's Rob Cross and his colleagues show that positive energy is an especially contagious and crucial emotion for spreading excellence in social networks. They use simple questions to measure if a person is an "energizer" or a "de-energizer" such as: "People can affect the energy and enthusiasm we have at work in various ways. Interactions with some people can leave you feeling drained while others can leave you feeling enthused about possibilities. When you interact with each person below, how does it typically affect your energy level?" The possible answers are: 1 = de-energizing; 2 = no effect/neutral; or 3 = energizing.

Cross and his colleagues find that answers to such "energy" questions predict employee performance evaluations, promotions, and the chances that employees will stay or leave. They've also found that successful and innovative organizations have networks that are swarming with interconnected energizers. Their studies show that such networks hum along, in part, because colleagues seek more information from and learn more from energizers (compared to de-energizers). Energizers also are given more ideas and more help from others and are more likely to have their ideas heard and implemented. Energizers aren't necessarily charismatic, entertaining, or bubbly; Cross observes that many are understated or shy and strike new acquaintances as dull. Yet as their relationships unfold and they reveal their true colors they create energy through their optimism about the possibilities ahead. Energizers also have a knack for fully engaging the person in front of them right now, valuing others' ideas, and creating conditions that enable others to make steady progress.

In short, energizers propel the flow of excellence. This insight brings us back to Facebook and Chris Cox, whom we introduced in chapter 1. Sutton first met Cox in 2007, when, at the tender age of twenty-six, he

was Facebook's head of human resources. After talking with Cox for half an hour, Sutton realized:

1. This guy is more mature than most Silicon Valley executives twice his age.
2. I feel so energized by his spirit and his ideas.

Cox has held many other roles at Facebook since, including vice president of product. But regardless of his title, Cox has always played the same key role in the company—which he joined when it had about thirty employees. One insider after another, including Chief Technology Officer Mike Schroepfer (or "Schrep"), has emphasized to us what a constructive force Cox has been throughout Facebook's wild ride. He keeps everyone's spirits up, convinces key people to join the company (and not to leave), and makes them feel proud to be at Facebook. Cox has wickedly strong technical skills; but his contagious energy is rarer and even more valued. As of 2013, Cox was still giving the welcoming talk to almost every new employee, offering his take on the company's history, strategy, and mindset, and transmitting that wonderful positive energy.

The upshot? To spread excellence, it helps to hire, spot, and connect energizers. But almost every organization also has its share of talented *de-energizers*. Many are such downers, and so tough on others, that if rehabilitation fails it may be best to send them packing. Rob Cross's research shows that this is often their fate. But some de-energizers are so valuable that they are worth keeping around. In such cases, two kinds of approaches can be useful. The first applies mostly to skilled individual contributors who drag down colleagues. The idea is to leave them on the payroll but to keep interactions with them as infrequent and brief as possible. As the managing partner of one law firm put it, these are people who "aren't cleared for customer contact." In one organization we know, an ornery but talented engineer had a private office with a door—even though the CEO had an open office. And the de-energizers's office was strategically placed in a back corner where few people ventured. It worked. He communicated mostly via e-mail (where he was fairly civilized), and although he emerged to flame his colleagues and their ideas now and then (and was usually right, they confessed), his closed office and relative isolation kept such unpleasantness to a minimum.

This approach, of course, won't work when de-energizers hold key leadership positions. In such cases, colleagues who are epic energizers can help compensate for and repair the damage. This is what happened during the years that the cold and impersonal Dr. William Halsted produced so many skilled surgeons at Johns Hopkins. Several of his peers were renowned energizers, especially Dr. William Osler, one of the "Big Four" credited with creating modern surgical education. Osler was widely beloved for his warmth, stories, and practical jokes (except by Halsted, who saw him as a clown). He was regularly "seen walking the halls with an arm on a resident or a student or intern" and "was the only senior faculty member who regularly socialized with the students." Halsted was a genius, but he ignored others and often brought them down. Osler, on the other hand, as Halsted's biographer put it, was "in the eyes of all, particularly his juniors, the beating heart of the institution."

Activate Dormant Connections

Over 80 percent of women who own businesses in the United States were Girl Scouts, as were nearly 60 percent of current female U.S. congressional representatives and 70 percent of female senators. Almost every female U.S. astronaut who has flown in space was a Girl Scout, as were all three U.S. female secretaries of state, and all five female governors of U.S. states in 2013. Yet influential women, even if they had a compelling experience in the Girl Scouts and would like to help the girls it serves, are often engrossed in and distracted by the world around them as adults. Marina Park, the CEO of the Girl Scouts of Northern California (and Sutton's wife) realizes this and often uses these facts to rekindle enthusiasm and garner support for the organization. In particular, Park seeks out women who could be great teachers and role models to young girls and works to reconnect them with the Girl Scouts.

In 2008, Park was among the "150 Most Influential Women" honored at a dinner by the *San Francisco Business Times*. Each honoree was asked to offer ten words of advice (or less). Park told the audience, "Raise your hand if you were ever a Girl Scout." About 75 percent of the women in the room waved their hands; many hooted and hollered, and then there was a roar of applause. After their background as Girl Scouts was made public, Park worked the room and talked to potential

supporters and mentors. She also later followed up via e-mail with other honorees she didn't get to speak with in person. Park invited a dozen or so accomplished women to come to "Camp CEO" the next summer to spend three days mentoring underserved teenage girls from Northern California—and several accepted. In addition, several more have since volunteered on key Girl Scout committees and projects.

As Park's actions suggest, there are several intertwined ways that leaders can re-engage potential supporters. First, remind them of the dormant connection. Talk to them about their fond memories and, especially, about their pride in what they accomplished as a member, and later, because of what they gained from being part of the organization. That's exactly what Park did. Next, channel those feelings toward action; gently entice and prod people to rekindle old connections and create new ones, as Park and her colleagues did when they invited women to Camp CEO. Third, make it easy for "renewed recruits" to live the excellence you aim to spread, and in turn, to pass it along—to become part of a domino chain of goodness. Many of the women who attended Camp CEO not only served as mentors during this three-day event, they continued to advise and create opportunities for girls they met at camp for years afterwards. A number of the Camp CEO attendees also convinced other colleagues to join them in helping the Girl Scouts; Park herself was so taken by her experiences at Camp CEO that, after twenty-five years as a corporate lawyer, she changed careers to lead the nonprofit Girl Scouts of Northern California in 2007.

Similar methods can be used to reactivate connections among current and future employees. That is what Marissa Mayer did during her first year as Yahoo!'s CEO. In a playful response to Brad Garlinghouse's Peanut Butter Manifesto, Mayer launched PB&J ("Process, Bureaucracy & Jams") a few weeks after taking the job. She urged employees to share suggestions about making Yahoo! more enjoyable, efficient, and innovative, and she pledged to help implement good ideas and make it easier for employees to work together to solve problems. Within a few months, Mayer and her colleagues implemented hundreds of these ideas, often small things such as removing barriers from parking lots and getting rid of useless training in the employee gym. These small changes—along with bigger ones such as giving every employee an iPhone 5—stirred hope inside the struggling company. People started to believe that Yahoo! could be great again if they worked hard and worked together. Another,

especially controversial change cranked up pressure to build stronger connections: Mayer forbade employees to work at home. There were many outcries from employees and pundits. But Mayer insisted on making the move because Yahoo! was plagued with weak connections among employees. When pockets of excellence did exist, that excellence spread haltingly if at all. Many Yahoo! employees felt alienated from the company and each other.

Yahoo! still faces many perils: brutal competition, an evolving strategy, and cumbersome processes. But Mayer's early moves have generated hope and tangible results. The stock price nearly doubled her first year, and there were hints that connections among employees, and pride in the company, were on the upswing: 50 percent fewer employees were leaving voluntarily than before Mayer arrived. Dormant connections were also reactivated: 14 percent of new hires were "boomerangs," former employees who had returned to Yahoo! And many influential former employees (including Brad Garlinghouse) who had remained silent or been openly critical about Yahoo! for years began expressing support for Mayer and optimism about the firm's prospects.

Connect Everybody: Turn Work into a Game That People Like to Play

Let's face it. Many executives are wary, even downright hostile, about the F word: *fun*. Libby Sartain, who was head of "People" at Southwest Airlines, describes how she got in trouble for "cackling" in the hallways when working at Mary Kay Cosmetics. Sartain says that one reason she moved to Southwest was so she could laugh with reckless abandon. Unfortunately, as a small but growing band of researchers, consultants, and pundits argue, if you apply the standards for good computer game design to evaluate most jobs and organizations, "Work is a lousy game." Stanford communications professor Byron Reeves argues that, compared to popular multiplayer games like World of Warcraft, most organizations don't engage people, don't bond them together, and have poorly designed incentives—but do create unnecessary friction and status differences.

Reeves and other "gamification" advocates assert that workplaces would be more fun and effective if the principles for designing computer games were applied to designing organizations. They also argue that computer games ought to be designed and woven into the fabric of

work to attract and motivate employees and to enable organizations to operate more effectively. In 2011, the research firm Gartner predicted that by 2015 50 percent of organizations would "gamify" their innovation processes and that by 2014 at least 70 percent of the two thousand largest global companies would have at least one "gamified application" as part of their marketing efforts. Only time will tell if gamification is a fad that will soon fade or if it will become a fixture in modern workplaces. And even people who believe in the future of gamification—such as J. P. Rangaswami, chief scientist at Salesforce.com—point out some important limitations. He argues that some workplaces are so inherently boring and stressful that more basic changes are needed than "putting the lipstick of gamification on the pig of work."

We agree that if an organization is fundamentally oppressive and unfair, with nasty politics and soul-crushing jobs, then adding a few silly games won't help and may be seen as hypocritical. But when work isn't broken—when leaders are respected, processes are fair, and people have engaging jobs—then savvy "gamification" is a promising approach for making work more fun, creating stronger bonds among people, and helping them develop and spread excellence.

Consider Rite-Solutions, a 150-person company where the core business is developing and selling software solutions to the U.S. Navy and casinos. CEO Jim Lavoie and COO Joe Marino are committed to making it a fun and engaging place. As author and innovation evangelist Polly LaBarre tells it: "At Rite-Solutions, you start to get the message you matter at 9 a.m. on your first day of work. That's when the company throws you a birthday bash, complete with wrapped presents and cake. While you're being feted by your new colleagues, your family gets a 'welcome wagon' of flowers, gifts, and a personal note delivered at home."

Lavoie and Marino, of course, are in it for the money too, not just for fun. But they wanted to figure how to best engage and link employees to generate ideas that Rite-Solutions could develop or sell to others. They believed that getting people to start generating ideas wouldn't be hard; the problem was saying no to ideas without destroying enthusiasm. Past experience had taught Lavoie and Marino that most new ideas need to be killed because many are bad and others are not feasible right now. It is also wise to kill many good ideas: it is usually smarter, say, to devote enough time and resources to develop one or

two ideas well than to spread efforts too thinly across ten or fifteen promising ideas. To kill them off, many firms use “murder boards,” committees that not only kill ideas but subject the people who propose them to withering criticism, even ridicule. Colleagues who witness such ugliness tend to keep their ideas to themselves lest they suffer the same fate.

Lavoie and Marino used a “gamification strategy” to entice employees throughout Rite-Solutions to generate a broad swath of ideas, select and develop a few, and kill most of them. Rao and Stanford case writer David Hoyt documented the details of an online game called Mutual Fun, which was designed to make the process of coming up with new ideas for the company—and killing them—fun, motivating, and safe, while at the same time building stronger bonds between people in the company. Rao and Hoyt learned that Mutual Fun was played by 95 percent of Rite-Solutions’ employees. As LaBarre says, “It’s a colorful, intuitive and immediately engaging platform—think Bloomberg terminal meets Monopoly board.” This internal stock market has three categories:

1. “Savings Bonds,” ideas that could save the company money or increase efficiency
2. “Bow Jones,” ideas that use existing technology to create new products or services
3. “SPAZDAQ,” ideas about new technologies

After an employee submits a new idea, it is quickly and lightly screened by a senior engineer and listed in Mutual Fun. Every employee gets $10,000 of play opinion money to invest in their colleagues’ “idea stocks.” The game also enables employees to discuss ideas and volunteer to work on them (on their own time). Stocks that attract more play money and volunteers move up in value; the firm invests “Adventure Capital” (real money) in the top fifteen stocks. For example, Rebecca Hosch, Lavoie’s assistant, proposed an educational tool called “Win/Play/Learn” (WPL) based on a bingo algorithm that Rite-Solutions developed for casinos. WPL “became a hot property on Mutual Fun and was ultimately licensed by toy-maker Hasbro.” Stocks that don’t attract investors are delisted but often spark new proposals. When an idea saves money or produces revenue,

creators and implementers share the gains—with a greater percentage going to implementers.

As of 2011, Mutual Fun had generated more than fifty innovative ideas; fifteen had been launched and accounted for over 20 percent of the firm's revenue. In addition to "Win/Play/Learn," they've sold several other ideas to other companies, including Mutual Fun itself. Mutual Fun helps Rite-Solutions generate strong ideas and kill weak ones, while enabling employees to build bonds with each other and the company. It is one of the reasons that Lavoie and Marino have "cultivated an almost unshakable loyalty among their people" and enjoy "near zero turnover and constant peer referrals of the best and the brightest."

Making Nets Work

When it comes to scaling excellence, network diagrams—and old-fashioned organizational charts—can be a helpful starting point. But drawing and discussing such orderly images can become seductive diversions. Organizational life is messier than those tidy illustrations suggest. For those charged with scaling up an organization, *your job isn't to draw a network diagram; it is to get the "net"—the organization—to work*. Scaling doesn't succeed until the networks you build are buzzing with constructive actions that reflect and reinforce the goodness that you aim to spread.

In this spirit, we offer seven tools for "making nets work," different approaches for configuring and activating domino chains of excellence. But before we describe these tools, we propose two overarching rules: *Once is not enough* and *One is not enough*.

Our first rule is *Once is not enough* because beliefs and behaviors do not spread like contagious diseases—one exposure is rarely enough to infect people. If you want a mindset to stick, you've got to pummel people with multiple messages and exposures to get people to remember, accept, and live it. Antanas Mockus, the brilliant and eccentric former mayor of Bogota, Colombia, applied this rule to nudge, annoy, and embarrass the citizens of his chaotic and dangerous city to drive and walk more safely. He called attention to these problems (and to excessive water usage and crime) by running around the streets in a Superman costume pretending to be a superhero called "Supercitizen." His office distributed 350,000 "thumbs-up" and "thumbs-down" cards

and asked citizens to give each other feedback about their driving and behavior as pedestrians. Mockus had shooting stars painted on sidewalks and roads where people died in accidents—reminders to be more careful. Most famously, he hired 420 mimes and sent them out to tease and taunt reckless drivers and pedestrians: his theory was that citizens were more afraid of embarrassment than traffic tickets. By the time Mockus ended his eight years as mayor in 2003, this pummeling of his citizens' senses was working: traffic accidents had fallen by over 60 percent and fatalities by over 50 percent.

Our second rule, *One is not enough*, follows from the first. Each tool isn't right for every scaling challenge. Nor are all tools mutually exclusive. Using a blend of two or more is usually better than relying on just one. In a company or nonprofit, for example, you might combine a message from the CEO that urges people to reduce energy costs in your organization with a bazaar or trade show-style event where people set up tables or booths and share methods they've used to reduce such costs. The blend of the two methods is likely to be more effective than either alone. Not only do multiple tools increase the rate of polite pummeling, but different people are attracted to and motivated by different tools. Some people might be more strongly influenced by pressure from management or their direct reports, others by exchanging ideas with peers from other parts of the organization in a bazaar. The idea is to provide people with multiple "on-ramps" to get them on the road to embracing and living the mindset you aim to spread.

Here is our menu of seven tools for getting nets to work.

1. The Top-Down Approach

As we saw in chapter 4, although many people are ambivalent about hierarchies, all groups and organizations have them and need them to survive and thrive. Hierarchies come in handy for creating a domino chain reaction that starts from the top and cascades down the pecking order. For example, Denny Strigl, former CEO of Verizon Wireless, was concerned because, a few months after Verizon introduced text messaging, few customers were buying this feature. He also noticed that few Verizon employees were texting. So he decided to cascade this behavior to those he knew and could best influence others—his direct reports. As he put it, "If our own employees weren't convinced

that texting was something useful, there was little likelihood we were going to convince customers of its value." Strigl started by texting each vice president who reported to him. When no one responded, he called each to say "I would be using text messaging a lot, and I expected them to do the same." When he sent the next text, his vice presidents all responded right away. Strigl continued to text each one every day. Most responded immediately; if they didn't, he called them or dropped by their offices to ask them why they hadn't answered. Soon his vice presidents were, in turn, texting their direct reports and following up when their underlings didn't respond. Whenever Strigl spoke to groups of Verizon employees, he asked who had sent a text message that day. At first there were only a few raised hands; soon they all went up. Just about every employee was using text messages at work—which helped them explain it to customers and friends and families too.

This is a textbook example of a behavior rolling down a hierarchy. But for more complex and controversial changes, command-and-demand often isn't enough.

2. Broadcast Your Message Out to One and All

Webinars, brochures, mailings, websites, and gatherings where senior executives make speeches to employees are part of many scaling efforts. They can signal that the ideas leaders and teams aim to spread are important, teach people about the content, and pique interest. But such "air war" tactics alone are rarely enough to persuade people to join on and help expand a movement. The Institute for Health Improvement broadcast *Campaign Live*, a weekly program that people participated in by phone or the Web that was hosted by Madge Kaplan, a former National Public Radio health reporter. When Rao visited IHI's offices in Boston, he sat in on a show where over one thousand listeners from across America posed dozens of questions to a panel about "pressure ulcers"—bedsores and how to reduce them. Yet, as we saw, campaign manager Joe McCannon knew that this and other one-way broadcasts weren't enough to connect hospitals that mastered life-saving practices to other hospitals that wanted to learn such practices. Creating those strong ties required ground war tactics: personal e-mails, phone calls, and especially face-to-face interaction.

Mitchell Baker, the founding CEO (and now chair) of the Mozilla Corporation, writes a blog about the company and related topics that is

read by employees and thousands of people in Mozilla's open-source community who write code, do quality control checks, and spread their software. Baker has had a public blog since the company's early days, when she spearheaded the effort to spin out an open-source project "trapped" inside Netscape. It eventually became the Firefox browser, which has generated hundreds of millions of dollars for Mozilla. *Lizard Wrangling—Mitchell on Mozilla & More* is among the most detailed and bluntest blogs we've ever read by a senior executive. Baker presents nuanced financial information, describes changes in senior executives, and talks openly about tough challenges—including the revenue and market share that Firefox has lost as millions of users have switched from personal computers to tablets and smart phones. But Baker would be the first to tell you that—although her broadcasting helps—Mozilla's vast international footprint has spread largely via personal connections made between people who develop, test, and promote Fireffox (often via connections formed on the Web between programmers and other supporters who never met in person).

3. Surround Them: Have the Many Teach the Few

One of the most effective—if inefficient—ways to spread new behaviors and beliefs is to take one person, or a small team, and embed them among large numbers of people who already eat, live, and breathe the mindset that you want them to embrace. Everywhere they turn, someone is there to model the right behavior, teach and coach them, and correct them when they aren't saying or doing things that are quite right by local standards. A few years back, Sutton interviewed Captain Nick Gottuso, then a captain in the Hillsborough, California, police department and leader of the twelve-person sniper squad for the local SWAT team. Gottuso explained that the skills required to be on the squad were so difficult to learn, their worldview was so subtle and so strong, and the level of coordination required during hostage crises and other situations where firing their weapons might be necessary was so high that the squad could integrate only one or two new members per year.

4. One on One: The Power of Pairs

This tool is core to most successful scaling efforts: nearly all depend at least partly on dyads where each "domino" topples the next. It was at

the heart of the 100,000 Lives Campaign. Once a hospital, for example, became expert in reducing pneumonia for patients on ventilators, its staff changed from being students to teachers—and mentored another hospital. The power of pairs is central to Facebook's Bootcamp: each new engineer has a mentor to provide coaching, answer questions, and link the newcomer to the ten or twelve groups he or she will work with during the six-week program. Pairing teachers and learners is also essential for scaling talent. Zynga, which makes "social" Web-based games such as FarmVille, has a policy that encourages managers to mentor direct reports: you can't get a promotion to the next level unless you "grow your own replacement."

Pairings are also critical for spreading change: not just for teaching new ideas and skills but also for persuading others to support and smooth implementation. A key challenge in using this approach is figuring who is best paired with whom. One strategy is to match "socially similar" people or units. That way, each "teacher" can better empathize with the challenges that each "learner" faces. And those being taught can't complain, "You're so different from me [or us], you couldn't possibly understand." About ten years ago, Sutton and Rao both worked with a fast-food chain that paired high-performing and low-performing franchisees. The high performers then coached low performers. The company provided incentives so that, if the weak store in the pair improved, the franchisee running the strong store was paid a handsome bonus. Because of internal politics, the program never got past the pilot stage. But early results were promising, in large part, because the company formed pairs that were similar in so many ways: in terms of franchisees' personal backgrounds, store employees' backgrounds, customer mix, neighborhoods served (e.g., urban vs. rural, rich vs. poor), sales volume, and so on.

Is it better to pair "persuaders" from a scaling team with individuals who support, reject, or are unsure about the brand of excellence in question? Julie Battilana of Harvard and Tiziana Casciaro of the University of Toronto spent years studying this question. They tracked sixty-eight diverse change initiatives in the United Kingdom's National Health Service between 1997 and 2004. These programs ranged from an effort to reduce the number of days that stroke patients were hospitalized to one that transferred authority for discharging patients from doctors to nurses. The odds of a successful implementation were high when change agents already had close relationships with

influential leaders in a hospital, clinic, or administrative unit *and* those leaders supported the initiative. But when change agents had close relationships with leaders who strongly opposed the change ("resisters"), not only did they fail to convince them to implement the program, there were signs that such influence attempts backfired: the leaders' resistance stiffened further. Battilana and Casciaro did find, however, that when change agents had close ties to "fence-sitters"—leaders who were ambivalent about the change—they were often able to convince these reluctant friends and close colleagues with their logic and charm and to persuade them to implement it.

The upshot? When it comes to one-on-one influence, focus on supporters and fence-sitters. Try to pair the "persuaders" on your scaling team with powerful people who already trust and admire them. Beware of pairing up with resisters. Even if they are good friends and those resisters otherwise admire your skills and judgment, your efforts may provoke them to harden their positions and may damage your relationship.

5. From the Few to the Many

This is the classic scaling strategy: a group of determined people bands together and labors to slowly spread their mindset, and associated actions and skills, throughout an organization or other network. The Tiger Team that Louise Liang led at Kaiser Permanente (KP) is a good example. Recall from chapter 2 how they developed a new mindset to guide the design and rollout of KP HealthConnect. The centerpiece was "Home as Hub," which the Tiger Team believed was "a 180-degree shift in how health care is seen throughout the world" because homes and other nontraditional settings would become the primary places where patients received health care rather than hospitals and clinics. And such care would be provided by nurses and a host of other professionals "beyond the physician." The Tiger Team had only about thirty core members but—by helping, converting, and recruiting hundreds of KP employees, and hiring a small army of consultants to help with IT chores—they were able to spread an electronic health record system to some 170,000 employees and 9 million patients. As they worked with health care providers throughout KP, and providers and their patients started using KP HealthConnect, this mindset shift to "Home as Hub" started taking hold. And it is still

happening at KP and, now, in most other large U.S. health care systems.

When we talked to Louise Liang, she emphasized that the Tiger Team believed that both the operation of the system and KP's long-term success depended on this shift—it was needed to cut skyrocketing health care costs, while providing patients with better and more flexible care. Liang called the technology a "Trojan Horse" that helped the Tiger Team smuggle in a new mindset. Another of our scaling heroes, Claudia Kotchka, used the same phrase to describe how her team infiltrated Procter & Gamble.

One aspect of Kotchka's strategy, and "perhaps the most effective part," entailed "hiring and putting experienced designers in each business unit." She called this the "Trojan Horse effect" because, once they got a "seat at the table" and worked with a business's leadership team, these experienced innovators did what came naturally to them—using design thinking to solve problems. The connect-and-cascade process kicked in: as they helped colleagues in other disciplines solve problems, not only did these colleagues come to value the innovators' knowledge and skills, but many learned and began applying the methods themselves. Kotchka discovered a related lesson about implanting "Trojan Horses": putting just one designer in a business didn't work. They felt lonely and didn't have like-minded coworkers to bounce ideas off and serve as allies. So Kotchka insisted on placing at least two experienced innovators in a business or none at all.

The key, as experiences at both Kaiser Permanente and P&G show, is that successful scaling depends on never forgetting that you are fighting a ground war rather than an air war. The few must use their grit and skill to teach and convert others, who, in turn, start the domino chain of goodness in motion. One participant in a Stanford executive program, after he heard Kotchka's P&G story, summed up this lesson: "What you're telling us, Claudia, is that it is cool to have a great little design thinking group for a little while, but if you are in a big company, pretty soon, it becomes a matter of 'infect others or die.' " She didn't disagree.

6. Brokers: Bridging Disconnected Islands

Brokering is an especially powerful version of the "one to many" and "few to the many" tools. As we've seen, disconnection in an

organization is the enemy of scaling. Recall how Master Sergeant Chad Walker's unit didn't learn about the "IED defeat handbook" developed by the Center for Army Lessons Learned (CALL) until their last month in combat. When a pocket of people have got something good, but no path connects them and their knowledge to others who need it, excellence can't spread.

Research by sociologist Ronald Burt shows that many organizations are divided into disconnected silos, camps, geographical settings, departments, teams, and roles. When Burt and his colleagues document how different units or employees interact, they often find "nodes" that have no direct or indirect connections—just as there were no links between Walker's combat unit and CALL. Burt calls these "structural holes"—they are the white space between disconnected "nodes" in a network. This is where people and groups called "brokers" or "knowledge brokers" come in—they become bridges between otherwise disconnected people, groups, or organizations. Brokers "fill" these holes and transfer information, expertise, ideas, and influence between those who have it and those who need it. For example, a few years after his disturbing experience with CALL's disconnection from his combat unit, Master Sergeant Walker became CALL's senior enlisted adviser. Essentially, Walker became a broker. He used his connections to combat leaders and units in Iraq and Afghanistan to spread the word about CALL—many didn't know it existed before Walker reached out to them. And he encouraged them to connect with CALL's staff and one another—for example, through one of CALL's thirty-five online forums, such as NCO Net, which is open only to noncommissioned officers.

Many other scaling teams we've talked about also bridged disconnected nodes. Recall how Heather Vilhauer's team spread and refined the Thrive program for the Girl Scouts. They linked the Thrive Foundation (and their knowledge) to participating girls and adult volunteers. Other brokers we've encountered build bridges in big bureaucracies. The "Alpha Team," those twenty-four managers in Singapore's Ministry of Manpower who learned design thinking, became a conduit to colleagues in their own ministry and other government agencies. Louise Liang's Tiger Team filled many structural holes (as Burt would put it), connecting historically siloed Kaiser Permanente regions—which enabled lessons from regions that implemented KP HealthConnect to travel to sister units and regions.

David Kelley, the primary founder of IDEO and the Stanford d.school, is the most effective broker whom we know well. The ways he thinks and acts are instructive to any bridge builder bent on scaling up excellence. In 2002, the d.school existed only as an elaborate fantasy in Kelley's mind. But Kelley kept telling everyone he knew that he was determined to build a gathering place for students and faculty at Stanford—and for inventive and caring people from every part of the world. Kelley wanted a place that blended and connected people who didn't usually work together or talk to one another but would benefit if they did. And he wanted a place that taught design thinking, used it to tackle tough problems, and was packed with people who had diverse talents and connections—people who would improve design thinking and expand its reach.

A glance at the more than fifty classes that the d.school offered in 2012 and 2013 shows that Kelley's dream has come true. To give you a taste, these classes included "Disruptive Solutions for Poverty in America," "d Media: Designing Media That Matters," "Sex and Design," "Design for Science," "From Play to Innovation," "LaunchPad: Design and Launch Your Product or Service," and "Rebooting Government with Design Thinking." The d.school is part of the Stanford School of Engineering, but it brings together students and faculty from all corners of the campus: business, education, medicine, law, sociology, psychology, philosophy, and art, as well as engineering. Some classes are taught by full-time faculty, but many are taught by people with "real" jobs outside Stanford. For example, Maryanna Rogers, who teaches "d.science," is the director of innovation at the Tech Museum of Innovation. Brendan Boyle, who teaches "From Play to Innovation," is a partner at IDEO. In addition to these fifty classes, the d.school has hosted an endless parade of projects, executive programs, community outreach efforts, workshops, tours, alumni reunions, and parties over the past decade.

While many people deserve credit for the d.school's success, none of this would have happened without Kelley's masterful brokering. We've boiled down his efforts to five key elements:

1. *He is curious about strangers and their ideas*. Kelley has such a broad network, in large part, because he is relentlessly interested in and eager to meet people who know things that he doesn't—and to have detailed conversations with them. This penchant for

collecting diverse people has led him to meet, talk, and work with faculty and students from every corner of Stanford. This breadth is bolstered by Kelley's network beyond Stanford. He hangs out with everyone from car geeks, to architects, to rock musicians, to cooks, to actors, to the owner of the oldest distillery in Utah—as well as lots of engineers, entrepreneurs, and executives. His diverse network spills into the d.school. It isn't unusual to meet, say, a biologist, a sociologist, a physician, an M.B.A. student, the CEO of a nonprofit, a high school teacher, a filmmaker, and a sculptor during a ten-minute stroll through the place.

2. *He lives and breathes the mindset but isn't obnoxious about it*. Kelley balances this breadth of contacts, experience, and ideas with a strong point of view. Somehow, in the course of a conversation with almost anyone on anything, he manages to gently interject his view of life and design thinking. Whether he talks to a nineteen-year-old undergrad about her major or the comedian Robin Williams, he somehow teaches them an intriguing bit of design thinking and helps them apply it to some personal challenge or problem—often right on the spot.

3. *He has strong opinions, weakly held*. Kelley has and expresses strong views about design thinking and the d.school. But he does not cling to them irrationally. He routinely changes course (often radically) when he decides doing so is best for the project he is working on, the d.school, IDEO, or other groups or people whom he influences.

4. *He listens and learns*. It is difficult to learn from others when you are "all transmission and no reception." In contrast, Kelley asks more questions and makes fewer statements than any senior executive we've ever met. He gives advice only after hearing what you need. And Kelley is adept at using what he gleans from all that listening for his own benefit. For the d.school, this means using others' stories and ideas to improve design thinking and how the place operates.

5. *He convenes, introduces, and connects*. Kelley is constantly connecting people who can help the d.school teach more compelling classes and serve its students and faculty better. As one of his friends puts it, Kelley is a "convener" of people who ought to know each other but don't know that yet—through

everything from throwing parties, to planned “matchmaking,” to bringing in visitors to tour the d.school. Whether David is giving a tour to the CEO of a big company or a student who is thinking about taking a class, he connects them to others in his charming way—introducing his guest to almost everyone who walks by and then explaining why they really need to know each other.

David Kelley is skilled and relentless in his efforts to link people, teams, and organizations that need each other—but hadn’t known that before. But he isn’t unique. These five hallmarks reflect the ways that many other successful brokers whom we’ve known, studied ourselves, and read about in scholarly articles approach life and spend their time.

7. Create Crossroads Where People Connect

Bazaars are largely self-organizing and sometimes rather chaotic “marketplaces” that bring together “sellers” and “buyers.” The word *bazaar* comes from the Persian word for “market.” It conjures up images of ancient people gathered in the town square to sell and buy wares, as well as modern variants such as flea markets, farmers’ markets, and street fairs. When it comes to scaling excellence in and across organizations, bazaarlike settings enable people to build new connections and strengthen old ones—largely through one-on-one interactions. Additional examples include trade shows; job fairs; “poster sessions,” where scientists from the R&D organization display and discuss their findings; and a meeting of the Vermont Oxford Network (which focuses on improving care for newborn infants) that Sutton attended, where staff from several dozen neonatal intensive care units (NICUs) gathered together for a couple hours in a convention hall: staff manned tables displaying their unit’s infant mortality rate and provided information about steps they were taking to improve the care they gave. Regardless of the exact form they take, bazaars set the stage for the informal exchange of ideas, emotions, plans, goods, and money that help individuals and teams and, in doing so, strengthen a larger network.

For example, StartX is a small nonprofit broker that links Stanford students, postdocs, professors, and alumni who have ideas for starting companies to a network of mentors and funders. Since StartX was founded in 2010, over 2,400 people from one thousand young

companies have applied to this “start-up accelerator;” ninety companies have been accepted. “Demo Day” is one place that StartX companies make connections. Demo Day used to be as much “broadcast” as “bazaar”: ten or so start-ups each did a five-minute pitch to a couple hundred potential mentors, funders, customers, and employees that attended. In 2013, Demo Day shifted to “very brief pitches on stage, without any of the typical slide shows,” so they could “get right to the good part”: talking with those mentors, funders, and purveyors of other rocket fuel that a new company needs to get off the ground.

Recall Chris Fry and Steve Greene, who grew Salesforce’s development organization from forty to six hundred people. They ran a different kind of bazaar, an internal job fair, to create connections and increase accountability among team leaders and developers. As we saw in chapter 4, developers were free to move to new teams without getting permission from bosses—and could do so every four months. Fry and Greene’s goal was to make it as easy to change jobs within Salesforce as it was to move to a new company. An active internal job market emerged as team leaders wooed skilled developers from other teams—and worked to keep their own top performers from jumping ship. Fry added that another advantage of the internal market was that it exposed weak team leaders—who couldn’t keep good people—to senior management.

This market was stoked by a job fair held every four months, just before developers had the chance to switch teams. Fry told us that, typically, about fifty teams participated and that it “worked like poster sessions at a conference; each team had boards that described their work and staffed a booth.” They served drinks to create a light and friendly atmosphere. Developers wandered around and had informal conversations with the leaders and other members of teams they wanted to learn more about and possibly join. Greene added that, although team leaders and potential new members did size one another up, the main focus was “on a developer meeting the other team members, talking about the cool work they were doing and seeing if they all liked each other and the work.” Every now and then, a leader made an offer to a developer and he or she accepted: about 20 percent of Salesforce’s developers choose to change teams each year.

Create a Common Heartbeat

Recent studies show that when people share rhythms with others they develop stronger emotional bonds and are more likely to pitch in for the common good. One study showed that even when a pair of strangers had never met before and didn't talk, they still liked each other more if both simply walked in the same direction together, rather than in different directions. Another study found that married couples that commute in the same direction rather than different directions are more satisfied with their relationships. This finding held true whether they commuted alone or with others and whether or not the partners left for work at the same time. Another "rhythm" study used the Canadian national anthem, "O Canada." When people sang or danced together as they listened to "O Canada," rather than sitting with others and reading the words to themselves as they heard the song, they were more likely to donate money to a common pot as opposed to keeping it all for themselves.

Stanford's Chip Heath speculates that rhythmic marching, dancing, and singing have an evolutionary basis: groups where members are "in synch" with each other have stronger emotional connections and are more adept at the coordination and cooperation required to gather and grow food and defend themselves—and thus have members who are more likely to survive and breed. Individual members who are unable, or too selfish, to synchronize their actions with others in their tribe or group are exposed, shunned, and thus less likely to breed.

When people share the same daily, weekly, monthly, and seasonal rhythms, connections among them form faster and stay stronger. The people trust each other more deeply, and coordination becomes easier because they see and experience the world in the same way. After all, they are frequently in the same place, doing the same things, and working on the same problems together. In this vein, we've encountered several organizations that use regular stand-up meetings to maintain strong bonds, keep fresh information flowing, and reinforce a shared mindset. A few years back, Sutton talked with David Darragh, the CEO of New Orleans–based Reily Foods, about the fifteen-minute stand-up meeting he has with his top management team every weekday (except Mondays, when they have a longer sit-down meeting). Darragh explained, "The rhythm that frequency generates allows relationships to develop, personal tics to be understood, stressors to be

identified, personal strengths and weaknesses to be put out in the light of day, etc. All of this not only helps the members of the team understand their individual roles but to also understand how they can get the best out of one another."

Not only do these daily meetings strengthen connections in the team, they also mean that members have a constant supply of fresh information about the challenges that Reily faces and solutions that are and are not working. This information then cascades through the company. Darragh added that news about pressing problems often emerges during the daily meetings: a member of the team is assigned as a "steward" on the spot and then quickly assembles a team to tackle it. Darragh said he prefers the word *steward* rather than *leader* because he doesn't want to let the rest of the team off the hook—all should feel accountable and be ready to jump in and help as needed.

A stand-up meeting called "the daily scrum" is a key element of most "agile" software development methods. Agile approaches are relatively rapidly paced, collaborative, improvisational, and unstructured methods for developing software, as compared to more traditional top-down, plan-driven, "waterfall" approaches. Under most agile methods, the work—writing a new piece of software or fixing bugs—is synchronized with and divided into two- to six-week chunks called "sprints." During daily scrums, each team member answers three questions: (1) What did you do yesterday? (2) What will you do today? and (3) Are there any impediments in your way? Then, much as happens at Reily Foods, fellow team members jump in to give advice and make plans to help team members overcome challenges.

Chris Fry and Steve Greene implemented agile methods at Salesforce to bond people within and across teams, focus them on shared goals, and encourage cooperative and fast-paced work throughout the development organization. Fry described these as intertwined "iteration rhythms" in a "time-boxed environment" where teams worked in two- to four-week "sprints" to produce prototypes. Every team in the development organization "had demos or sprint reviews once a month" where they showed their work to executives and other teams. This meant, as Fry explained, that "we had a monthly rhythm of getting visibility into every single team across the organization." Finally, "There was a release rhythm, which was every four months, three times a year. And they were always the same distance apart"—where finished software products were released and

made available to clients. In short, four intertwined rhythms—daily scrums, sprints every two to four weeks, monthly demos, and releases every four months—bound together everyone in each team and throughout the organization even as everyone worked on different (but interconnected) tasks. By the time Fry and Greene left Salesforce to move to Twitter, the development organization "had delivered roughly forty major releases with thousands of people working on them, all on time, down to the day." Fry concluded that, "It is not the meetings that matter; it is the rhythm that matters."

Leaders as Connectors: Three Litmus Tests

As we've emphasized in this chapter, scaling requires leaders to find or develop pockets of excellence, connect people and teams, and ensure that excellence continues to flow through those ties. We've seen that such leadership can come from people or teams at the top, the middle, or the bottom of organizations. And we've shown that there are many ways to skin this cat—from the rental of a campaign bus by Joe McCannon's team for the 100,000 Lives Campaign, to Claudia Kotchka's success at installing those "Trojan Horse" design thinkers in P&G businesses, to surgeons who learned world-class skills from working alongside Dr. William Halsted at Johns Hopkins.

The key lesson is that scaling is propelled by leaders who think and act like "connectors." A big part of this role involves exposing or creating links that ought to be made for the greater good. Many scaling veterans are adept at asking questions that reveal missing or weak links, which sets the stage for building stronger networks. For example, during the decades that HP founders Bill Hewlett and David Packard led the company, they routinely had in-depth, and often tough, conversations with the general managers and teams that ran key HP businesses: pressing them to prove that they were making great products and had even better ones on the drawing board, and insisting that they meet and learn from people elsewhere in HP who could help their businesses—or who needed their help. And while being a high-ranking and powerful connector like Bill or David helps get people's attention and spurs them to act, it isn't essential. As we saw with Joe McCannon and Master Sergeant Chad Walker, some of the most savvy connectors are skilled at asking and acting on questions that uncover

weak or missing links—but wield little formal authority and don't have powerful carrots and sticks at their disposal.

There are also more subtle ways to expose weak or missing connections. We propose two litmus tests that emerged from Rao's conversations with a group of fifty CFOs at a Stanford executive program. Rao suggested the first litmus test to the CFOs on the basis of our conversations with other senior executives. You ask diverse members of the team, department, or organization about key aspects of their strategy, operations, policies, philosophy, and pressing problems they face. If they give you inconsistent and clashing answers to your queries, it is a sign of trouble—especially if they seem to have no knowledge or interest in the other answers that their colleagues give you. The CFOs agreed that such inconsistencies suggest that people aren't talking to each other enough and don't know enough about one another's skills, contributions, opinions, or views on how the team or organization ought to operate—that the bonds among them are too weak and that they aren't operating on the basis of a shared mindset. These are symptoms that you are dealing with an organization—or part of one—where, as writer and poet Gertrude Stein once said (about Oakland, California), "There is no there there."

The CFOs suggested a second litmus test, a diagnostic question: Is there more direct evidence that people are having a lot of one-on-one interactions, or conversely, that there is little if any interaction? The CFOs suggested watching what people do: if they talk informally, look at each other, and go to lunch together. In a healthy business, you will see subtle but frequent exchanges such as smiles, winks, and quick conversations that suggest strong human bonds and a constant flow of information. In unhealthy businesses, interactions will be infrequent and strained, and if you hang around for a while you will notice that people behave as if their colleagues were invisible. One CFO suggested that weak connections can also be gleaned from the e-mails that people send and don't send: there may be occasional blasts to the group as a whole but little evidence of one-on-one exchanges or that people are reaching out to create or strengthen ties with coworkers. Such workplaces feel a bit like a group dental practice, hair salon, or real estate office where there is a shared receptionist but each dentist, stylist, or agent has his or her own book of business and thinks and acts like a free agent. One especially bad sign (which we've seen in too many universities we've visited) is when people have been members of

the same group or department for years but don't know where each other's offices are located.

The upshot is, when a leader hears inconsistent and clashing answers from people who ought to be talking and exchanging information (litmus test #1) and observes silence, shallow and infrequent interactions, and related signs that people are "alone together" (litmus test #2), these are symptoms that people are not living a shared mindset and that smart ideas and effective practices are not flowing through a network. When that happens, a leader's job is to use tools and tactics like those described in this chapter to start connecting people and cascading excellence.

Another part of a connector's role is to snip or weaken links that create tunnel vision or distorted and dangerous views of reality. When people are too closely connected they can lose the ability to imagine, hear, or remember—let alone act on—information that clashes with their beliefs and ingrained behaviors. Consider a study by Rao and his colleagues on why it took so long for researchers at the Centers for Disease Control to correctly identify the West Nile virus—they mistook it for Saint Louis encephalitis. These researchers focused on diseases in human populations and were members of a fairly tight-knit and prestigious network—which led them to ignore twenty-seven thoughtful questions and suggestions from less prestigious researchers who specialized in how diseases spread among animals. As a result, the Centers for Disease Control misdiagnosed the disease.

Those researchers were much like many other powerful teams that try to do good work but fail. They were imprisoned in a web of connections of their own making that filtered out crucial opposing views and new information. And they intimidated and chased away people and groups that tried to give them disconfirming advice. Ultimately, their tunnel vision condemned them to waste time, reach a flawed conclusion, and embarrass themselves.

There is a similar danger within organizations and projects that are led by very tight-knit and powerful scaling teams. Leaders and other members of such teams can delude themselves about the wisdom and impact of their actions. They may suffer from what psychologists call "confirmation bias," the tendency to trust, remember, and act only on information that supports what you already believe. Confirmation bias is fueled when they reward subordinates and peers who flatter them, skew the data to confirm their views, screen out messengers and

messages that deliver news they don't want to hear—and ridicule and punish people who present them with uncomfortable truths they don't want to accept.

This challenge raises a third and final litmus test for leaders and powerful scaling teams: Have you done everything possible to make sure that the ties that bind you don't also blind you?