Lean Culture for the Construction Industry

Building Responsible and Committed Project Teams

Gary Santorella

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Contents

Foreword

It started in Hawaii. That's where I first met Gary Santorella on vacation. Not in the traditional sense of meeting someone, but through reading the first edition of this book. You might validly question my choice of vacation reading material (or my sanity!), but I was a rather concerned man at that time. You see, a few years prior I had been tasked by my employer with pulling together the largest multifamily development pipeline of the time anywhere in the United States; some 22,000 units in total. Moreover, and with the considerable help of some of the industry's best professionals, both inside and outside the company, we had pulled it off and were now in flat-out production mode to deliver this pipeline up and down the coast of California.

From a standing start in 2011, we had completed 7,500 apartments and were in production on a further 7,000 with many more in early stages of entitlement and design. Ever-present budget and schedule pressures were conspiring to derail our ambitions, but thanks to great forethought, planning, and an impeccable team of strategic partners, we were staying ahead of our competitors. Indeed, by any traditional metric through which the construction industry is measured, we were doing a terrific job. Our production cycle times were the envy of the industry, our budgetary management expertise was as good as any, and our product quality was world-class.

But I was troubled. Something felt very wrong. Our teams were miserable, beat up, dragged down, exhausted, frustrated, and fearful. Our churn rate for field talent especially was dreadfully high. In short, there was very little fun being had and we were quickly losing our ability to retain or attract top talent onto our projects. None of this sat well with me, either personally or professionally. How on earth could we sustain our scale and pace with the attrition we were suffering, and how on earth were we managing to have such a terrible time building world class assets at an historic scale? Personally, I was at a loss as to what to do next; we had worked hard to change our culture for the better and had made painful decisions along the way to get to the right leadership team. I was proud of my inclusive, collaborative leadership style and felt that I enjoyed the respect and trust of the teams. Nevertheless, we were failing our people; those who gave

their all every day to achieve the seemingly impossible and who would ultimately ensure our continued success were deeply unhappy. Something had to change.

I went in search of inspiration. Lean was something I recalled reading about many years prior but my recollection was that it was an approach to eliminate waste in targeting greater production efficiency. As mentioned, we already boasted some of the fastest production times in the industry, so production efficiency gain didn't resonate for me for the task at hand. That's when I found Gary Santorella's book and everything changed. Gary did a great job of getting after the very issues that had plagued me for months…and rightfully addressed them as waste.

Gary's unique background in behavioral psychology allows him to view the construction industry from a very different perspective than most. His focus upon how attitudes and behaviors impact the productivity of teams struck an immediate chord with me as something we had not paid nearly enough attention to as a leadership team. You see, construction is quite different than most production processes. It requires the collaboration and teamwork of a diverse set of individuals and organizations to deliver on what is more often than not a custom building product in a unique location. Moreover, for the most part, construction does not occur in a controlled environment on a factory floor or on an assembly line, so production teams must compensate for that by striving for seamless communication and collaboration. Alas, this is rarely recognized, much less achieved. More typically, this diverse group of people and organizations converge upon a project not with a common goal but with their individual priorities, wants, and needs—with their own set of motivations and means of maximizing results.

Reading Gary's book told me it was time to change this paradigm and, moreover that as the Owner (in the Owner-Contractor-Architect relationship), our organization held the greatest responsibility—a responsibility to reset the culture of our internal and external organization.

Over two years on and we have completely reset our culture and enjoy high-functioning relationships with just about every member of the team across multiple organizations. We have aligned those efforts through a highly collaborative building information modeling (BIM) model and are closer than ever to having a level of ownership and accountability for the results shared between all organizations with which we interact. Most importantly, we have a level of engagement, positivity, and mutual respect that wasn't recognizable just two years ago. Our outsized attrition rate

has been alleviated; our people are actually enjoying their work. We still meet regularly but we now meet to discuss how we jointly resolve common issues, concerns, and processes rather than engage in the age-old "blame game" that besets this industry. We are still a work in progress but are very proud of our accomplishments and quick to recognize that they would be impossible without our team alliance.

To me, the distinction is that as an organizational system, we are becoming known not just for what we do but for how we do it. One could arguably suggest that this is a true distinction between a results-driven, micromanaged, fear-based culture and a highly collaborative team-based culture. We are now a "company" of many organizations who converge upon highly complex tasks to solve them as teams every day. We used to be a "factory" that produced apartments. Factories kill people; companies grow them.

Gary Santorella has become a personal friend of mine. I thoroughly enjoy his knowledge, insights, and unique perspective and the passion he brings to his work. His work in helping me become a better leader is something for which I will be eternally grateful; my entire perspective on the responsibility of the role has changed immeasurably and for the better. His contributions to our organizations over the past two years cannot be over-stated. He has met and interviewed literally hundreds of our representatives, conducted comprehensive intercompany Lean assessment and follow-up surveys, personally curated Kaizen work sessions, and facilitated value stream mapping sessions across the organization. He remains on hand to personally counsel countless members of our teams and has even been credited with improving some marriages!

The tools in this book are indispensable to any organization that wants to get serious about creating a winning sustainable culture in the construction industry. I want to give the leaders reading this book fair warning, however. This will not be easy. Lean is not easy. It isn't lenient, it isn't about making everyone happy, and it isn't about a quick fix. It is a lifelong commitment to a winning culture, the results of which will only be apparent in any tangible sense over a sustained period of time. It is a relationship with people that you are investing in, with all of the messiness that stems from that. If you believe that the implementation of one of the Lean "tools" such as pull planning, value stream mapping, BIM, etc. will, of itself, set your organization or your project on the right track, you are destined to fail. Without a firm belief and commitment that your people are your greatest asset, and a cultural shift that actually embraces that fact,

you will fail. Changing an organizational culture is one of the most challenging things for a leader to accomplish. It takes courage, it takes commitment, it takes a willingness to press on when others are discrediting the effort, and it takes a blind faith that a relentless pursuit of great culture is the single most important thing you can ever do as a leader.

The good news is, it is worth it. I have had the great opportunity in life to work on world class projects of many asset classes and have worked with some of the brightest and the best people this industry of ours has to offer. Never have I been so fulfilled in my own work, however, than when I successfully charted a path to cultural change and now see the results of that. There are no amounts of project accolades or awards that will trump getting an email from a site superintendent that you haven't even met thanking you personally for changing his life. What I now realize is that what started out as a Lean journey has not only put our organizational system on the right path from almost certain failure but it has been one of the greatest learning experiences of my life. It has prepared me to become a 21st-century leader and has awakened me to the realities of leadership in the modern era—that culture governs everything and that the careful crafting of it needs to constitute the core of our responsibility; that great things can only be accomplished by great teams acting together and that unleashing the power of people to amaze you is one of the most humbling and rewarding experiences you will ever have.

Enjoy this book; for me, it changed everything.

Chris Marsh
President, Apartment Development, Irvine Company
Newport Beach, California

Acknowledgments

Introduction

Proving that continuous improvement is a life long endeavor, quite a bit has changed since the first edition of this book appeared. In 2011, I was still viewing Lean largely through the lens of traditional team building and partnering models, bridging this with what I knew about interpersonal flow stoppages and standard Lean practices. But, as one does in a rowboat, I was surging ahead into uncharted waters, while still looking backwards toward the past.

Soon after the first edition was published, I met Larry Rubrich of WCM Associates who introduced me to the concept of Lean as an Operating System, and, suddenly, I was no longer looking backwards. Over the past five years, I have partnered with Larry and several other Lean process professionals, and, together, have brought forward a unique blend of skills to assess and address both cultural and process waste. I also have helped to facilitate several companywide and intercompany Lean implementations, the most satisfying of which has been an implementation between a developer, an architect, a general contractor, and prime subcontractors. Though these companies had worked together for many years, and would continue to do so for the foreseeable future, they were clearly not leveraging their relationships to achieve maximum efficiency and cost-effectiveness. Instead, the system was fraught with fractured processes, out-of-control costs, recriminations of blame, counterblaming, and an employee turnover rate that made even the most battle-hardened of headhunters look the other way. But, because of the full-on commitment on the part of the top leaders from each of the key entities, and a complete emersion and adoption of Lean principles, the changes they have made in both their relationships and productivity have been nothing short of phenomenal. They have streamlined their cumbersome preconstruction process in line with their goal of increased budgetary accuracy, achieved improved unit turn rates via early engagement of their Quality Assurance/Quality Control process to ensure build quality, and are now bringing both internal and external designers into the fold to align goals around the brand, budget, and schedule. Most importantly, the unwanted outflow of talent has ceased. In a system that measures success based on meeting specific design standards, as well as proforma criteria, losing the very people who

understood the brand, and what it took to achieve it—within tightly compressed schedules—was an enormous source of waste. Stemming this outgoing tide was paramount. This was not something that could be achieved by buying people's tenure with bonuses. The entire culture, and the way people did business with one another, needed to change. And, because of the leaders, and everyone who was willing to give themselves over to the process, it has.

While a good deal of the early focus was on developing a fully functional precon process across multi-company platforms, and the joint development of a comprehensive building information modeling (BIM) model, this is not where the president of the development company chose to set his sights; it was on changing, what he was viewed as a "meat grinder" of a culture—or, as one brave soul put it, "In our system, the bullet was fired the day you were hired; you just didn't know when it was going to hit you." Chris Marsh, whose intelligence is only exceeded by his compassion, knew full well that the real driver of waste in this system was fear and the resultant collusional dance of micromanagement and withdrawal, blame, and counterblame, which dominated the interactions between the entities. The cost of this dysfunctional choreography was in the millions. And this is what we set out to change—one project team at a time. Through a series of system-wide Lean as an Operating System overview trainings and project-level Kaizen events, every employee was invited to be a part of our war on cultural waste. In the project sessions, we established common ground by identifying common worries and concerns, areas of cultural and process waste, and establishing plans to meaningfully address both. The hard work that people from all of the entities put in to make these changes was humbling to say the least. Each person dug deep to identify the things they had been doing to negatively impact the team, and what they were going to do to contribute to the team's success—regardless of what others chose to do. Their introspection allowed them to climb out of their silos, blur the lines between the companies, and act as one team in order to achieve a common goal.

To truly change a culture, you will also need to establish new parameters in terms of how people's performance is measured. We generally measure people against metrics such as Work in Place (WIP), accrual accounting targets, or successfully completed milestones per schedule. But how often do we measure people for bringing up problems in a timely manner; volunteering when they have made a mistake; clearly delineating roles, responsibilities, and expectations among teammates; storing

electronic information where it is supposed to be stored; having an actual conversation to resolve an issue rather than firing off an email; or identifying issues and resolving them without pointing fingers? Rarely are these contributions toward team success acknowledged, even though we intuitively know that, when they occur, they contribute greatly to project success. (This is akin to only paying attention to our child's report card, and ignoring such behaviors as attending class, taking notes, completing homework assignments, actively asking questions in class, and eating and sleeping well—all of which contribute to a better report card.) In construction, these behaviors contribute toward project success for one simple reason: they keep the workflow from stopping. What we often fail to recognize is that whenever someone stops what they are doing because they are confused, or feel the need to deflect blame, the workflow stops. So, this is what we set out to do in our multi-company system: eliminate the waste that occurs when people don't freely exchange ideas and work as one team, and instead filter what they say and work in silos. This change flowed from the very top-down. So, instead of beating people up for not hitting milestones, they asked, "Why?" and "How can I help?" The leaders gave praise to people for voicing issues early on, rewarded those who sought to solve problems as a team, and corrected them when they fell back into old patterns and resorted to blame. And, when there was a budget bust, all parties took responsibility for it. This was a signal to everyone that things in our system were indeed changing, which, in turn, reinforced more of the new behaviors and attitudes that they wanted. And the upshot of all of this is that it worked. Not only was the environment more pleasurable to work in, but they were also hitting milestone dates with more regularity (or coming up with realistic schedule adjustments that everyone agreed to), quality improved, and budget busts that did occur were minimized. To be honest, not everyone chose to take part in this brave new world of transparency, vulnerability, collaborative waste identification and problem-solving that this new Lean culture required of them. Sometimes, people are far too attached to their own anger, or ways they have always done things to be able to let go of them. But, for those who chose to do so, they have been amply rewarded. As I heard from numerous people during follow-up interviews, "Last year at this time, I had already accepted a position with another company—I was done. But I wanted to see if this Lean stuff was actually going to make any difference. I'm glad I stuck around, because I actually enjoy coming to work now—that's something I never thought I'd ever say."

It is through their hard work that I continue to learn the value and importance of culture within the Lean framework—and what good people are capable of when the top leaders are courageous enough to commit to doing what is right.

Another thing that's changed since the last edition is people's initial reaction when they hear the word Lean. In 2011, most people wanted to know all about 5S, Value Stream Mapping, Kanbans, Vendor-Managed Inventories, and Pull Planning—and the measurable improvements these tools could bring to their companies.

Now, when the word Lean is mentioned, you can actually hear people's eyeballs roll to the back of their heads. Why is an approach that has painstakingly accumulated empirical data to back up its efficacy now being viewed as just one more trendy set of buzzwords whose time, not unlike Total Quality Management, will soon pass?

Part of this is due to an American culture that often has the patience and attention span of a puppy on crystal meth. Let's be honest; we're a nation of sports addicts and adrenaline junkies who favor emotional highs over positive results derived gradually through scrupulous planning. We all want the equivalent of the 3-run homerun and the 80-yard bomb, and have little patience for the incremental changes that are the hallmark of Lean. Bill Belichick, the head coach with the highest winning percentage in the modern football era, should be revered. Instead, he is largely reviled, particularly in the media, because he is deemed as "lacking emotion." Instead of relying on rah-rah speeches to motivate his players, he relies on constructing meticulous game plans that each player is expected to execute to the letter. Boring!

Because of our impatience, Lean is often taken out of its operating system context. Instead, many companies focus on tool implementation, hoping that, by doing so, they will come upon the big hitter that will carry their company over the top. Or they create complex measurement systems— ones that only a few people within their organization understand or utilize—again, believing that if they can just find *the* magic measurement, they will unlock the proverbial Holy Grail of their company's success. These are the precise things that Liker warns against in *The Toyota Way*. Even though the Toyota Management System emphasizes the importance of simplicity over complexity, and the paramount importance of culture, when it comes to Lean implementations, American companies can't seem to help themselves when it comes to seeking the wrong shortcuts or layering on the complexity. And then, these very same executives who allowed

their company's initiatives to go far off beam from the start, are shocked to discover that their Lean efforts, which started out with such promise, plateaued before they have barely gotten off the ground.

But the other reason why Lean is now being met with resistance and skepticism also falls squarely on Lean practitioners. First, there are those who like to demonstrate how much they know about Lean by throwing around as many Japanese terms as they can, thus making Lean principles seem more complicated than they really are. Lean, at its core, is simple. To convey these principles otherwise does all of us, particularly our clients, a great disservice and erodes a prospective adoptee's patience and good will.

The second resistance point occurs because of who most practitioners of Lean are by training, aka, engineers. Please let me be clear about this; I like engineers. Some of my best friends are engineers (or at least they were before reading this introduction). But I haven't met an engineer yet who didn't secretly believe that all of the world's problems could be cured via the creation of *the* perfect process.

And herein lies the problem. Though many Lean practitioners give lip service to the importance of culture, most spend the vast majority of their time trying to deploy Lean tools to eliminate the vagaries and variations caused by us messy, unpredictable human beings. While I applaud their efforts, they can often leave people feeling as if the ideal state of every worker is to be subservient to a process.

Even the Lean Construction Institute (LCI) falls into this type of thinking. For all of the great things that the LCI has done to advance Lean principles in the construction industry, when you strip down their message to its bare essentials, it often comes off as an elaborate sales pitch for their Last Planner System, as if it is a magic panacea for all of a jobsite's ills.

Whenever we overfocus on any of the Lean tools, we are violating our own precepts by extracting them from their proper context. The Toyota Management System works because of the prominent and consistent role that goal setting and culture plays in the implementation of all of their tools and processes. At the heart of the Toyota Management System is respecting people, and creating an environment that allows their employees to flourish by providing a clear target for them to hit, and empowering them to find ways to get there.

The data about Lean implementations in the United States is very clear: 74% of companies that institute Lean initiatives see little bang for their buck. And, I believe, the root cause of this 74% failure rate (lets call it what

it is, and stop blaming our clients) is the failure to meaningfully address the cultural aspects of Lean.

You can find much better books for deploying 5S, or Kanbans, or doing value stream mapping, or any of the other various Lean tools than this one. This book will help you to understand the key cultural elements that are required to support your Lean efforts, and provide you with the know-how to create them. Again, Lean tool deployment alone will not bring you the results that you seek. Keep this simple formula in mind: New Tools + Same Culture = Resistance ≠ Improvement. This means that you will need to devote as much time to develop of the proper culture as you do to tool implementation.

Think about this in another way: When there are breakdowns in your company, and people are gathering around the water cooler, what are they discussing? Are they having philosophical debates about the virtues of expansion joints? No! They are talking about the boss with the bad temper who uses their honesty against them or belittles them for asking what he thinks are "stupid" questions; or the department that works in silos, ignores their requests for help, and doesn't store information where they are supposed to; or the supervisor who doesn't listen to what his or her employees are struggling with and leaves them to sick or swim; or the boss who would rather micromanage or point the finger of blame than ask for help from their staff; or the coworker that would rather hoard information to make themselves look good than share it with the team; or how confused they are about who does what, or what they are supposed to be doing. These are the things that cause consternation, frustration, and waste in the form of workflow stoppages as much as any broken process. And these are the things that fuel the ultimate form of waste—high turnover—as people conclude that anyplace has to be better than where they are working now. The fact is, people quit their company's culture—not their company—regardless of the tools that a company employs to try to improve things.

This isn't to say that the root cause of many conflicts in the workplace isn't due to bloated or broken processes that simply can't go as fast as we need them to go. They are, and these will be discussed thoroughly in this book. But fixing the process alone, and not addressing the underlying cultural issues that allowed the broken process to flourish in the first place, will only net you a partial yield.

Make no mistake; creating a Lean culture isn't easy. That's because much of what we ask of people, (i.e., vulnerability, transparency, cooperation,

collaboration), runs counter to our competitive American upbringing and our biological wiring. But I am convinced that the long-term viability of any construction company in the 21st century will reside in its ability to master these counterintuitive means and methods and override their autonomic responses of aggression, hoarding, self-protection, blame, and counterblame. Believe it or not, these responses can be overridden and replaced by new Lean attitudes and behaviors. I know this because I've seen it happen.

To aid you in your journey, you'll find that much has been revised in this second edition. The forward, this introduction, and the first two chapters are entirely new and reflect the Lean culture change work that I've engaged in since the previous edition. While the remainder of this book may have a familiar feel, new examples have been included to improve the message and to help you to become an even more effective Lean construction leader. After all, successful Lean implementations don't come about because of Lean consultants—we're just the catalysts. They take hold because of the General Managers, Operations Managers, Project Executives, Project Managers (PMs), Superintendents, General Foreman, Foreman, and Department Heads who decide that their company will be far stronger once everyone comes together to work as one team, within a culture that allows everyone to grow and contribute. It is for all of you that this book has been updated.

People often ask, "Isn't your work highly stressful? Why do you enjoy doing it? How can you handle listening to people's problems all day long?" On the first point, in my youth, I worked with severely emotionally disturbed teenagers in both group homes and psychiatric hospitals, and as a hospital Social Worker who carried a large AIDS caseload in the 1990s, so, comparatively speaking, this work isn't nearly as stressful. But that's not why I enjoy this work so much. I do it for those moments (and they happen more often than you might think), when people who have been toiling and suffering in silence as individuals come together and realize that everyone else has been suffering as much as they have—and that the only way to truly relieve their own suffering is by relieving the suffering of others. We're often led to believe that the best way to eliminate our own suffering is to "work on ourselves." And to a degree, this is true—but only if it serves to alleviate the suffering of others. This is when the fog of mutual suspicion and recrimination is lifted, and people go on to produce truly amazing things. In the multi-company system that I will refer to many times, I had the privilege of watching these moments happen over and

over again, spurred on by people such as Chris Marsh, Joe Dominguez, Todd Keller, Tim Blue, Jim Gilly, the Kennedy Brothers, Dale Long, James La Page, Amadeo Nevares, Nick Garcia, PMs and Superintendents for Western National Group (WNG) who are far too numerous to mention, Rick Emsiek, Raymond Albenisi, Jean Pitts, Ed Wu, Darin Schoolmeester, Kurtiss Kusumoto, and countless others—all of whom put aside their own frustrations, and committed themselves to the idea of helping others— regardless of the company they worked for—and trusting that in doing so, they would make everyone's lives, including their own, not only more satisfying, but more productive as well.

And I do this for the opportunity of meeting people like Bob Gullickson. Bob is a vice president at Turner Construction who lost his brother, a fireman, rescuing people in one of the Twin Towers during 9/11. Such an experience could have left Bob bitter and angry. Instead, he approaches his work with a heart full of generosity, and is willing to give of himself freely to anyone. His focus on developing the people he works with—regardless of a person's ethnicity, color, or gender—is both touching and inspiring. Anything that I can do to further Bob's and countless others' efforts (because they are the ones who do the real work of Lean culture, day in and day out) is a privilege beyond measure.

Gary Santorella

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Lean in Its Proper Context

Many of the struggles we are currently experiencing when attempting to implement Lean in the construction environment are the direct result of applying Lean tools out of their proper context. Understanding Lean as an operating system will help you to avert this all-too-common pitfall.

As discussed in the Introduction, the annual Industry Week Census (released in 2007) reported that 77% of manufacturing plants surveyed were utilizing Lean as an improvement method. Of these, 2% reported that they had achieved World Class Status, 24% reported significant progress, and 74% indicated that they had attained some or no progress. These are not exactly stellar results. And there is no data to suggest that Lean implementations in the construction industry are enjoying any better success. Given the multiple players and competing interests that come together to produce our product, it isn't difficult to extrapolate that the success rates for Lean in the construction industry are even lower.

But even this is difficult to ascertain. In his incredibly comprehensive thesis, "Measuring Lean Construction: A Performance Measurement Model Supporting the Implementation of Lean Practices in the Norwegian Construction Industry," published by Norwegian University of Science and Technology in June 2015, David Herranz Limon provides an extensive review of current Lean theory (Last Planner, Pull Scheduling, Concurrent Engineering, and Virtual Design Construction) and measurement methods (Balanced Scorecard, European Foundation for Quality Management Excellence Model, Key Performance Indicators, and Lean Six Sigma) and concludes that given the "lack of measurement culture" as exists in the construction industry, and with so many variables at play, it is difficult to precisely state what improvement gains are specifically derived by employing Lean methods.

Those of us who have witnessed labor rate productivity improvements, cost reductions, quality improvements, and schedule enhancements—all

of which were the direct result of targeted waste identification and elimination efforts—can easily point to quantifiable gains as a result of implementing Lean. Recently, a CEO we worked with said, "We are having the best top and bottom line year in our history. When we engaged with you we had come off of a tough year earning only $450,000 EBITA on $128M revenue. This year we are on track to earn $15.5 million (!!!) on $270M revenue." Clearly, not all of this was due to their Lean implementation, but it certainly was a contributing factor. Yet the niggling sense that Lean is not making big "bang for the buck" inroads remains. Is this just a matter of statistics and of finding the right data points to "prove" Lean's validity and success rates? This is an interesting question and one most vexing for the construction industry. With so many variables at play, this may prove to be a fruitless quest, though this hasn't stopped the engineers among us from trying.

Part of this quantitative quandary is due to the fact that, in most cases, Lean is implemented out of context. Instead of being applied as an operating system company wide, meant to eliminate waste in the office and the field—from Request for Proposal (RFP) to Project Delivery or Service—Lean is often applied in piecemeal fashion: Last Planner on a project here, Value Stream Map (VSM) on a process there. As such, it is harder to gain a sense of what Lean is doing for a company as a whole.

But I think there is another issue at play—and it has more to do with the human element than finding the right quantifiable measure. As Neil Postman states in his book *Technopoly*, we have become far too reliant on data and technology to guide our decision making and assessment of the effectiveness of various improvement methodologies. His contention is that "we live in a self-justifying, self-perpetuating system wherein technology of every kind is cheerfully granted sovereignty over social institutions and national life." Though I am a huge proponent of basing decisions on objective rather than subjective data, I believe, at times, practitioners of Lean and its first cousin, Six Sigma, are overcompensating for a lack of measurement in our industry by instituting overly sophisticated statistical analysis in order to justify Lean methodologies. As a result, we have inadvertently contributed to what Postman describes, as a "…grand reductionism in which human life must find its meaning in machinery, measurement and technique." As he asserts, in so doing, technology supplants culture, and in our quest to define what is effective, we inadvertently reduce people to machine-like entities while elevating our view of machines (in particular, computers) as some sort of "ideal" that people should aim for, i.e., able to make reasoned, rational decisions at all times, based on data that we define as relevant. Allow me to point out just

how wrong-headed this approach can be when applied to construction. This example is extracted from one of my assessment reports:

> As much as we love measurement in Lean, it is possible to have too much of a good thing. And at XXXXX, you have truckloads too much. You are drowning in metrics—and many feel this is creating more waste, rather than eliminating it. Numerous people are wondering *loudly* about how much it is costing the company to generate reams of data and information that virtually no one uses—and worse—that most see as counterproductive. Let me give you one example.
>
> Currently, the company is tracking overtime usage and publicly ranking field people in terms of overtime usage—the assumption being that overtime is a wasteful expenditure and is the result of poor planning. I'm sure this is the case at times. But this can in itself be an erroneous assumption. Overtime can also be caused by:
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> - An owner that makes numerous changes, yet due to their proforma, needs to hold to the same end date, thus dramatically compressing schedules. If they are willing to pay for overtime and view it as value added (and are, in fact, demanding it to stay on schedule), why would this not be factored into the rankings? (Currently, it is not.)
> - Market conditions, i.e., when other trades that are piecework driven provide incentives for workers to stay on the job for additional hours—thus putting these trades ahead of schedule. If the superintendent or foreman allows their job to "get buried" by these other trades, this company will incur increased back charges for damaging their work, or slowdowns while attempting to do workarounds. And the impacts of these slowdowns will increase the further the work falls behind the other trades. Overtime, in such instances, may better serve the system by preventing waste.
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> These rankings also seem to ignore the role that internal design, engineering, and estimating play in our system. After all, the field is merely the repository for all of the other broken process pieces that came before them. That's not to say that the field doesn't have its own role to play in terms of waste, but I don't understand why field people would be singled out, when clearly this is a systems issue.
>
> Rankings such as these often drive a stake into the heart of teamwork. Why would any superintendent or foreman send any of their guys to help out other projects if it meant, by doing so, it could result in a higher overtime ranking for the person they helped out and a lower one for themselves? Measures like this inadvertently add waste, rather than eliminate it, by discouraging collaboration and teamwork. I know that your

qualitative analyst believes he accounts for such factors under the umbrella of 'exceptions,' but in reality, he does not. If you are a foreman or superintendent whose job is currently beating the projected budget, yet find yourself ranked at the bottom of overtime usage, this data is demoralizing and pointless—not fruitful or instructive. Further, it will lead them to resist further usage of metrics, or encourage them to provide false data, in an attempt to improve their own metrics. All of this is counterproductive to a team environment.

Lastly, what is the end game of ranking field people? If overtime were the result of poor planning, I don't understand how shaming people is going to help them to improve. As stated above, I think this will have the opposite effect. Rather than seeking ways to improve, people will resort to not-so-productive ways to avoid shame. Wouldn't it be more prudent to use this data to mobilize the management team to bring company resources to bear and come up with a plan to help them improve?

Is there any wonder why people sometimes roll their eyes when we utter the word Lean?

Lean isn't about perfectionism, though sometimes people do apply the notion of continuous improvement as a way of feeding their obsessive-compulsive tendencies, and thus end up driving everyone else crazy in the process. Perfectionism is exhausting and demoralizing. Continuous improvement is about optimism—that we can exert control over the things we can control and make our world a little better every day. At its core, Lean is uplifting and motivating. And when we come to realize that it is through seemingly small acts, such as saying thank you, recognizing the actions of others, taking the time to explain something, or truly listening to what a person is struggling with, that we are making a contribution toward making all of our work lives just a little bit better—every single day.

One of the joys of being in this industry is that it is dominated not by machines, but by people. It's people that do the work: weird, quirky, diverse, wildly intelligent, dumb as a bag of rocks, zany, funny, sometimes downright scary people. Unlike a mechanized assembly line, we can't fully "error proof" our projects. So, that means all of us are stuck dealing with our messy, sometimes irrational, flesh-and-blood compadres. Some Lean practitioners try to get around this by doing the next best thing: standardizing as many repeatable practices as they can—attempting to "idiot-proof" our job sites in the same way that McDonald's idiot-proofs the keyboards at their cash registers.

Don't get me wrong; I actually practice a branch of psychology (cognitive-behavioral) that focuses on isolating independent from dependent variables, demands statistical analysis, and subjects findings to peer review and replication to cull fads from practices that are empirically sound. So, I am a big fan of the scientific method. And I would be the last one to say that the standardization of repeatable practices is wrong. In fact, a tremendous amount of waste in the form of hunting and searching for information is due to the idiosyncratic ways that engineers and designers notate documents, populate submittals and Requests for Informations (RFIs), and store information. Standardize these areas and you'll see a measurable reduction in waste. But if measurement becomes our entire focus we're missing something vital: the human element. Creating the perfect process as the be all and end all doesn't encapsulate Lean. The heart of Lean is about people: collaborating, sharing information, and helping each other to improve workflow. It isn't about people being subordinate to a process; it's about processes making people's work lives better. It's the same thing that happens when we lose sight of why laws were created in the first place. People don't exist to serve laws; laws were created to serve people. Think about this in another context. Let's say, that upon reflection, you weren't happy with your current state of lovemaking and were determined to improve. After creating a goal, and conducting a thorough Current State Value Stream Map (VSM) of your lovemaking practices, you could set out to create the perfect Future State (FS). Assuming that your significant other is your "customer" and is willing to provide information as to what they consider to be value-added activities, you could take this feedback into account, benchmark best practices, and cut out any unnecessary steps. You could take this one step further and rehearse every step in the FSVSM in order to perform each one absolutely flawlessly and in sequence. So, will this new process ensure the desired results every time? Sadly, no. If you lack empathy, passion, and the ability to adapt to your partner's ever-changing needs—you'll still miss the mark. And, no amount of redoing the map is going to get you any closer. (Sorry, engineers!)

Ignoring the human element is where most Lean practitioners truly miss the opportunity to drive waste out of systems. While most of us pay lip service to the importance of culture, the majority of Lean practitioners tackle most issues as if they were engineering problems. If you don't believe me, go to the Internet and search out articles on Lean construction and print them out. Then, take out a ruler and measure how much of the

devoted space in any given article is focused on meaningfully addressing cultural issues versus the amount devoted to resolving engineering-type process methodologies and you'll have your answer.

To bring more balance to the body of Lean construction literature, this book will take the opposite approach. After engaging in six extensive companywide Lean implementations, two of which involved creating a multicompany system among an Owner, General Contractor (GC) and Architect, and Prime Contractors, I've seen first hand the positive outcomes that can be obtained when Lean is established as a culture-driven operating system. Just to illuminate this point, this is what a number of people on the Owner side of one of these multicompany systems recently observed after having a year of Lean under their belts:

> I attend meetings where people have received Lean culture training, and meetings where people haven't. The productivity differences are striking. Those trained in Lean culture get right to the issues, and speak openly and honestly about problems and concerns. In short, our meetings are productive and we get things done. In meetings where people haven't been exposed to Lean culture, the posturing and defensiveness starts almost immediately. We get a fifth of what we need to get done compared to our Lean meetings.

LEAN AS AN OPERATING SYSTEM

A number of Lean practitioners are now actively bridging the gap between the process/analytical side of Lean and the cultural side, viewing Lean as an overall operating system that links company goals with waste identification and the Lean tools specifically designed to eliminate the waste that gets in the way of accomplishing these goals. And the thread that links all of these elements together is culture. (See Figure 1.1.) As far as I'm aware, Larry Rubrich of WCM Associates was the first to coin this term. This holistic view of Lean is designed to bring about needed change throughout an entire organizational system—from RFP to Project Delivery, Facilities Management, or Service—and is highly consistent with what is espoused by the Toyota Management System.

Unfortunately, most of you won't be implementing Lean strategically. Instead, you will be employing Lean on a more tactical, project level. But it is still vital to understand the contextual underpinnings of Lean as
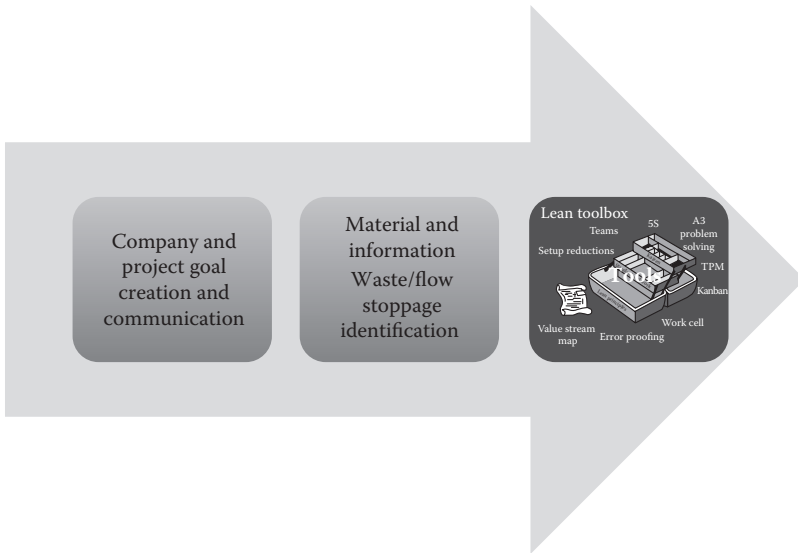
FIGURE 1.1
Lean operating system flow.

an operating system so you can employ it as systematically as possible. Figure 1.1 depicts Lean as an Operating System Flow when utilizing the Goal Establishment → Waste Identification → Lean Tool Deployment sequence.

The Lean Culture established and reinforced by the leadership team (shown in Figure 1.2) is the thread that weaves the Lean Operating System together.

Truly effective Lean implementations follow the formula noted above: The leaders create a set of measurable goals for the company to achieve and communicate them in an understandable format company wide. In so doing, everyone in the company knows precisely what the targets are and what they will need to do to contribute to these goals. There is a
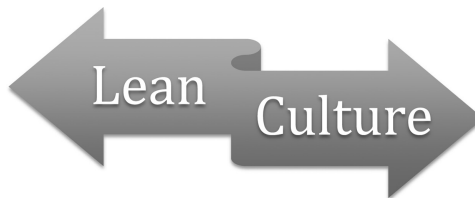
FIGURE 1.2
Culture is the thread that ties the Lean operating system together.

simple reason why this step is so important. When goals aren't clearly established, it leaves it up to each employee to figure out what the company wants them to accomplish. Maybe they'll get this right, but maybe they won't. When people are unsure, they usually fall back on what comes easiest to them or what they know how to do—neither of which may fit company objectives.

After goals are established, identify areas of waste in the form of flow stoppages that could negatively impact our ability to achieve our targeted goals. Once people are trained to identify waste, they quickly become adept at doing so. One of the biggest challenges in waste identification is that people become so used to accommodating or working around waste that they either no longer see it as such, or they have come to the conclusion that nothing can be done about it. (Overcoming a sense of learned helplessness is one of the biggest obstacles that you'll face when trying to make Lean improvements.) As Rubrich points out, "People are so used to waste in construction that we have even come up with processes and job descriptions for it. Punch lists and RFIs are standard construction practices, but in Lean terms they are 100% waste in that they represent work that was not done right the first time."

Once the waste is identified (Figure 1.3), the appropriate Lean tool is deployed to help eliminate it, such as below, when a vendor-managed inventory and kanbans were implemented to eliminate hunting and searching for the right materials (Figure 1.4), and having either too much or too little material on hand. You will discover that there are many Lean tools at your disposal, and each is targeted for a specific type of waste. Since my background is in psychology, rather than engineering, I'll leave it up to the process experts to speak to these.

But Lean isn't about simply throwing a bunch of tools at problems and then naively believing that you are a "Lean company." Yes, each Lean tool has a specific purpose, but their deployment can't be done in a vacuum. If you make changes without considering the entire system, then you could actually create more waste than you are trying to eliminate—and this is where culture comes into the picture. For instance, I could decide, as the engineering manager, that batch processing of submittals will make my department more efficient. But what is the effect on workflow for the Project Managers (PMs) as they sit and wait for the information that they need? The same holds true when we unilaterally decide not to adhere to an agreed-upon standard work practice. If I, as the engineering manager, decide that I don't like SharePoint, and therefore

FIGURE 1.3
Electrician-managed inventory. "We're in a hurry! We've got to get the task done! We'll clean it up later" (but rarely do).

I'm not going to require that my people use it, what happens to those who *are* complying with the company standards and are expecting the information to be there? These types of decisions will lead to hours of needless hunting and searching on the part of PMs who don't have that kind of time to waste, and they are largely dictated by culture. I say this

FIGURE 1.4
Vendor-managed inventory.

because when managers make these kinds of unilateral decisions, they are usually operating in a culture where the leaders believe that they are only accountable for accomplishing the work in their own departments, rather than to the entire system. These scenarios may sound glaringly obvious, but I've seen them play out countless times, and I'm sure you have as well.

Along with goal creation and articulation, the leaders need to create an atmosphere that unleashes the brainpower of the people they work with, one where everyone can freely identify waste and express ideas for improvement without the need to filter what they say. When people fear that what they say might offend, waste identification and idea generation grind to a halt. This is a pivotal piece that is often missed during initial improvement efforts, as the following example will illustrate.

During a Kaizen event at an HVAC company, employees in the service department were encouraged to identify areas of waste that impeded their goal of providing timelier servicing of their HVAC contracts. Over 50% of the time, service calls took twice as long as estimated, which eroded profits in the form of increased labor time per call, and left a wake of unhappy, unserviced customers. During the event, one service tech stated that his trucks had the incorrect belts and filters 80% of the time and that he believed the automated software system was flawed. As a result, he had to make multiple trips back to the warehouse for the proper materials. The service manager cut him off saying, "What you are talking about is an isolated incident. It's an example of when someone doesn't have a broader knowledge beyond their own jobs." At this point, the offering up of further opinions about waste stopped. When we corrected the manager, and reminded him that Lean was about truly listening to our teammates, he apologized to the team for cutting the person off. At this, other service people offered up similar experiences. As it turned out, not having the right materials was unequivocally *not* an isolated instance. There was a serious flaw in the handheld operating system's software that defaulted to the originally populated stocking list, despite each operator's efforts to correct the error. After a while, the operators stopped trying to correct the software, believing it to be unfixable, and began instead (against company policy) to overstock their trucks to avoid coming back to the warehouse in an effort to stay on schedule. Unfortunately, in doing so, they created phantom shortages of materials (and overages when equipment was returned), making inventory tracking and storage a costly nightmare.

Paying attention to culture, and allowing the problem to be fully voiced, allowed the team to hone in on the root cause of the problem (faulty software) that otherwise would have been missed.

THE HIDDEN MAGNITUDE OF WASTE

Before talking more specifically about goal setting, I would like to take a moment to demonstrate how small amounts of waste can add up to big financial losses. Let's say the average person loses one hour per day of productivity due to waste for any reason (having to hunt and search for information or materials, having to clarify an unclear expectation or instruction, double entering data into several software programs, licking their wounds after being dressed down by their boss, complaining to

coworkers after being dressed down causing others to engage in unproductive behavior, etc.). And let's say that the burdened hourly rate for the average hourly employee is $20/hour. So, one hour of lost productivity for one person due to waste = $20/day. Over the course of a week, this would equal $100. Over the course of a month, waste for this employee would equal $400. At this point, you are probably thinking that this is still a pretty insignificant impact and not worth the expenditure that investing in Lean would require. Fair enough; so, let's keep going. Over the course of a year, this employee would lose $4,800 of productivity ($100 × 48 weeks). Now extrapolate this sum company wide. If you are a decently sized company of 800 employees, over the course of a year—factored over all employees—lost productivity due to waste would be a whopping, $3,840,000. Not so insignificant now, right? And please keep in mind that the numbers I am using are ridiculously underinflated. Intel estimates that on their construction projects only 17% of the tasks are value added (i.e., the owner cares about and is willing to pay for it, and the work is done right the first time). So, this $3,840,000 is really just the tip of the iceberg when it comes to waste. This is why Lean practitioners become apoplectic when the first thing executives go after when their company starts losing money is their highest cost line item—labor. If they focused instead on eliminating waste they could actually grow their workforce (and profits), rather than eliminate it.

GOAL SETTING

This is such a vital function that it is important that we go a little deeper in terms of our understanding. Again, the purpose of goal setting is to align everyone's thinking, attitude, and behavior centered on a common target. This should never be just a "check the box" exercise. For Lean implementations to be truly effective, the leadership team needs to establish meaningful, relevant, measurable goals for their team(s) to attain. Here is an example from a subcontractor.

- Increase of 3% gross margin over original booked margin
- 2% saving in labor cost
- 25% of all labor hours in prefab or modular
- 10% increase in labor productivity by improving our material-handling process

These goals are deployed company wide, and with minimal coaching, every employee understands what the company is trying to achieve and what was expected of them to help achieve them. Though the particulars of how to get there differ from project to project, the constant (the goal) is the same.

Pretty simple, right? Well, not really. In most companies, it's hard to get leaders to fully agree on what the target should be, as too often, key leaders simply acquiesce to what they think the CEO wants to hear. So, the goals are formulated without gaining true buy-in. If the culture isn't right, this is exactly what you will get: half-backed goals that only receive half-hearted efforts. And far too often, goal formulation is done in a vacuum, having little relevance to those who will be expected to accomplish them. Let me give you an example, a variant of which occurs with alarming frequency, even in companies that consider themselves Lean.

> The top corporate leaders sequestered themselves for a weekend at a mountain hideaway with a strategic planning consultant to generate company goals for the next year. After two days of discussion, they emerged with four goals, all of which were fairly vague, and two of which only pertained to their overseas operations. The morning after they returned, they issued an email (per the consultant's instructions), outlining the goals to every employee in the company, most of whom promptly deleted it.

These are, by traditional measures, highly successful leaders—so what went wrong here? Keep in mind that these same leaders often scratch their heads and wonder why their employees feel disconnected from the company and have spent considerable sums to help increase their connectivity and engagement.

If they had taken the time to ask their employees what they honestly thought of the company goals—and truly listened—they'd have saved themselves a lot of money and effort. Here is what people said.

- "These goals are too vague. What does it mean to be 'the best construction company in the industry'? How are we measuring this?"
- "The goals don't address problems that I actually deal with on a day-to-day basis, so why bother?"
- "I only work in our domestic construction markets. Two of these four goals have no relevance for me whatsoever."

- "What does it mean to exemplify 'The best customer service in the industry'? How is this different from what we are already doing?"
- "What about last year's goals? We had one goal that said we would have full operating system adoption by the end of the year. Did we achieve this? Are we still working on it? Since it's not on this year's goals, and we never got any feedback on how we did, I have no idea."

For goals to be meaningful, they have to be SMART:

S = Specific
M = Measurable
A = Achievable
R = Relevant
T = Time bound

And, I would add, they should also be tied to the real and specific worries and concerns that your people are dealing with. This is especially true at the project level.

When conducting Kaizen events, as an opening exercise, I ask people directly about their worries and concerns, and then create goals in the form of a question so as to solicit their input and ideas on how to achieve them. Here is an example from one project—where a lack of safety planning, lack of budgetary controls, difficulties with hostile city inspectors, and achieving turn dates were the stated worries—and how they were converted into questions.

1. How can we improve our job site safety planning?
2. How can we effectively manage the budget as a team?
3. How can we work effectively with the City of Newport Beach so we can get what we need?
4. What obstacles do we need to overcome to achieve our 5/29/16 turn date?

Converting problems into questions allows people to change their thinking. Rather than wallowing in, or catastrophizing the problem, when people see it in question form, they immediately begin thinking about how to solve it. Once these questionized goals are established, it becomes everyone on the team's job to put forth ideas and decide upon actions that will

be most pivotal in achieving the goals. (I'll discuss the specific mechanics of the Kaizen event process later on.)

In a Lean environment, goals are a powerful unifier. Too often, both in companies and at job sites, in order to make the work more manageable, we divide it up into divisions, departments, or areas of focus, and then give each their own goals to achieve. In so doing, this division of labor not only divides up the work, but also becomes the embodiment of waste and inefficiency as people who are supposed to be working for the same company find themselves unwittingly working against each other.

For example, let's take goal 2: How can we effectively manage the budget as a team? The original statement of the problem centered on the perceived unwillingness of the PMs to share budget information with the field and the field's seeming unwillingness to adequately control man-hours. So, think about this in terms of having separate goals. If, as the PM, I see it as my job to manage the budget, and you see your job as General Foreman (GF) to put the work in place, then as the PM, wouldn't I be tempted *not* to share the budget with you for fear that you'll abuse it by running up labor hours? And, as the GF, wouldn't you be tempted not to share manpower numbers for fear that I wouldn't give you the people that you needed to get the work in place? And where is the customer as this tug-o-war of needs plays out?

But if we come up with a plan of how to manage the budget *together*, then we are far more likely to accomplish the overall goal.

On a broader level, a lack of unified goals can lead to massive burnout and millions of dollars lost. Let's imagine that a developer has an Acquisitions Department whose sole goal is to acquire land before their competitors can get their hands on it. In their quest, they ask the architect and the GCs Precon Department to generate quick and dirty numbers that they can base their acquisition number on, which in turn, generates a proforma for the job—that the construction team will have to manage to for the next three years. So, what's the problem? The problem is that the proforma is often unreliable to the point where millions are spent in Precon exercises to Value Engineer (VE) the job, and our construction teams have to work seven days a week to complete the jobs on time. If the Acquisitions team only cares about getting the land, (and their incentives are tied only to land acquisitions), then they will likely turn a blind eye to the achievability of the proforma. Their thinking toward the project team will be, "Hey, I got you the land to build on, what more do you want?" For their part, if the architect and Precon Department are allowed to give too much input, or to factor in

every worst-case scenario imaginable, the Acquisitions team would never be able to acquire any land because the numbers they would get back would always put them out of the running. But if their joint goal was, "How can we put together reasonable numbers in a brief time period that would allow us to purchase land before our competitors and create a reliable proforma?", then we would be far more likely to focus on the right deals (ones where we could acquire land at a reasonable price and with reasonable performance specifications).

WASTE IDENTIFICATION

Waste occurs whenever the material or information workflow stops for any reason. But you and your team can't eliminate waste if you can't see it. Waste identification is a little like looking at a "Where's Waldo?" page. We're neurologically programmed to take in the entire milieu first (a harbor, a park, a beach) and make sense of it, and it is only then that we can start focusing on the details and begin our quest to find the little bugger. But there is another cultural overlay at play here. Evolutionarily, we're wired to quickly figure out how to fit in, and continuously adapt to what we are experiencing around us, so our social standing is never at risk. That's why accommodating waste is second nature to all of us. Focusing in on details and making changes feels like making the waves, while accommodating waste and finding ways to work around it—particularly if this pleases someone in a powerful position above us—is literally second nature to us. But in Lean, we ask people to do something counterintuitive to their instincts. We *want* them to identify waste. To that end, here are the traditional "Eight Deadly Areas of Waste" that plague every construction company, drive up costs, frustrate workers, interrupt workflow, and erode profitability. Please keep in mind that these types of waste plague our office functions as well as the field. The traditional Eight Deadly Wastes are depicted in Figure 1.5.

Overproduction

Any time we make too much of anything—whether it's prefabricating plumbing, overkitting electrical, doing too many mock-ups, etc., the result is waste. Inadequate planning or a fear of "running out" is usually the

FIGURE 1.5
Eight Deadly Wastes.

root cause of this type of waste. Whatever the driver, all of this extra stuff drives up nonreimbursable costs. On the office side, the most common type of overproduction is when we produce or demand more information than we really need in the form of excess reporting. As I said in the Introduction, I love engineers; but when it comes to information, they are a little like pedophiles. Even though they only need a certain amount of information to satisfy their needs, they always seem to want more, and they never throw any of it away. If you think I'm being harsh, keep in mind that the Empire State Building was built in 13.5 months with a plan set roughly four inches thick. In my opinion, we are killing our architects by requiring an ungodly amount of detail from them, and creating huge bottlenecks and delays in the process, all in the vain hope of shielding ourselves from potential risk. Most of our jobs are drowning in information, very little of which is converted to actual useable value-added knowledge.

Transportation

Simply put, our materials don't get any more valuable the more times we move them. In fact, the more we do, the more likely it is that they will become damaged or lost, or that a safety incident will occur. How does this result in workflow stoppages? When materials are in the wrong place, this means that someone won't have what they'll need to do their work,

so they will have to search for them. The root causes of this type of waste are almost always either inadequate site planning or highly restricted lay-down areas.

In the office, information can also be stored in the wrong place, and when it is, it has to be relocated. There are two primary root causes for information waste: (A) A lack of agreed-upon standardization for information storage, (people are instead relying on their own idiosyncratic filing methods). (B) Information is sent to the wrong person because of a lack of organizational clarity in terms of who does what, and what types of information they will require. Since most information is now transferred electronically, this problem is compounded because the information often remains hidden and is even harder to find. People often try to compensate for their lack of understanding of roles and responsibilities by hitting "reply all" or "copy all" when sending emails, assuming that by doing so, the information will eventually get to the right person. But, as you know all too well, this doesn't solve the problem at all. In fact it compounds it by clogging up everyone's inboxes with unnecessary information and virtually guarantees that vital information exchanges will be missed. There is also an interesting phenomenon that occurs when people see that something has been sent "copy" or "reply all." They are far more likely to ignore the message or assume it's intended for someone else—particularly if roles and responsibilities haven't been well defined.

Excess Inventory

This type of waste occurs when we order too much material or too many tools. Depending on where this excess goes, it can either clog up our lay-down areas or weigh down our warehouses. And, invariably, some of this excess stuff will wind up in the trash along with untold profits. The root causes are largely fear driven, i.e., not wanting a bunch of skilled guys standing around doing nothing because we ran out of stuff. And indeed, we never want this to happen. But we also don't want to order materials based on fear. We want to do so based on a realistic plan. Last Planner is a great remedy for this type of waste as it focuses on planning in the ever-changing environment of construction and capitalizing on "Just in Time" delivery. On the office side, stacks of PCO's that are not looked at can also be considered excess inventory.

Rework and Defects

This is probably the easiest type of waste for people to see. Whenever we have to redo something because we misinterpreted the information, or because the information was wrong, waste is generated. Though the waste is obvious, whose "fault" it was and who will pay for it are battles that will last throughout the life of the project—and beyond. The root causes are usually insufficient postdesign analysis or errors and omissions. But there are other drivers as well. Time, or a lack thereof, drives a good deal of this type of waste. Greater pressure is being placed on architects, GCs, and subcontractors to produce high-quality, highly detailed product within shorter time frames. When this happens, something has to give, and that something is doing things right the first time. And when errors do occur, we often compound them. What I mean by this is that if someone falls behind or problems occur, we don't take the time to step back and recalibrate our original plan to take flow disruptions into account. Instead, we make decisions based on expediency rather than systems thinking, and start filling in activities wherever we can, which, inadvertently, causes more flow disruptions, more hopscotching, and more defective work. There is no ill intent behind this. In fact, quite the opposite. Since this is how we've always done things, if we don't start backfilling activities everywhere, it is assumed by others that we're not doing our jobs. But in truth, whenever we sacrifice planning for the sake of expediency, we unintentionally drive even more waste into the system.

This is where owners can be their own worst enemy. No one at Toyota would think it a good idea to switch out the chassis halfway down the assembly line. In fact, they would consider this wasteful madness. At Toyota, all design elements are worked out and planned well before production begins. Yet, in construction, we routinely accommodate such drastic changes while still maintaining our original end dates—compressing our schedules and exponentially driving up the costs of our projects as the errors mount. Owners need to break their own mindsets in this regard. They need to spend far more time making key decisions in the schematic phases of design, which will allow architects and builders time to construct a solid plan that the subcontractors can predictably adhere to. Owners who do so will be rewarded with greater schedule adherence and reduced costs. Conversely, delaying these decisions into later design phases drives up cost and burns out our construction teams. The latter is no small issue. Construction companies are having a harder time attracting and keeping

qualified talent as people opt out of construction in favor of less stressful (and often, more lucrative) industries.

Overprocessing

This is the type of waste that is often difficult to see when our focus is on trying to please the customer. It occurs whenever we do something over and above what is laid out in our contract and the customer doesn't value it (or is not willing to pay additional fees for it). This occurs whenever we put materials in place that are above the specification, or when we do "extra" studies, renderings, or pricing exercises to aid the owner's decision-making process. This may please the customer, but in reality, not only does this drive up costs for GCs, subcontractors, and architects, but it also drains valuable resources away from the activities that are explicitly within their scope of work. Typical root causes are (A) not fully understanding the scopes or (B) being emotionally overzealous about pleasing the customer. And there is one additional driver: fear. The fear that if we don't go "above and beyond" the client will award future work to someone else.

Associate Motion

One of the easiest ways to tell whether you have waste on your job site, or in your office, is to position yourself so you can observe people going about their work. The more milling about, or stumbling over each other, that you see, the more likely it is that something is out of whack. Material isn't where it needs it be, the required information is missing, or the sequence of work has been altered (and not communicated or coordinated). Whichever the reason, flow is disrupted and waste is being incurred. Sadly, our move to a more paperless electronic world has deepened rather than eliminated this type of waste. How often have you clicked on a file expecting to access information only to discover that it is empty? You then have to go on an electronic journey to search out what you need. You may not have left your seat, but the hour you spent locating a file is the equivalent of walking three miles (assuming a three mph walking rate). This type of waste is far too easy to enable precisely because it requires very little physical effort. But the waste in terms of time is the same. Interestingly, you can bet that if people did have to walk for three miles to get what they needed, this information storage problem would be fixed very quickly.

Waiting Time and Delays

This type of waste occurs whenever you have to wait for someone to complete a task in order to do yours, wait for an approval, or hunt and search for information. Again, this happens with as much frequency in the office as it does in the field. For instance, General Managers for a General Contractor were complaining that they weren't getting a report they needed in order to do forecasting and budget analysis in a timely manner. I did a Kaizen event with the team responsible for producing the report, and we discovered that the primary delay was occurring during a task called journal entry. This is simply taking specific project financial information and plugging it into an electronic ledger. Now here was the interesting part: the task itself only took 4–10 hours to complete (depending on the size of the projects being entered). But the reason journal entry was taking nearly four weeks to complete was that the information the people needed to do their work was sitting on the desk of the Financial Manager (FM) until they chose to release it. As it turned out, this was a low-priority item for the FMs; hence, the delay. And, in most cases, when they did release the information, because it was of such low importance, the FMs rarely looked at it—it was just a pass through. Because the team could now "see" the waste, they were able to take nearly three weeks out of the process. But it is important to understand the cultural element at play here as well. The Kaizen event wasn't an earth-shattering revelation—the whole team knew that getting information released from the FMs was an issue. But given their low status in relation to the FMs, no one was willing to challenge them to get what they needed. It was only after we were able to use the objective data to escalate the issue upward that we were able to gain movement and eliminate the waste.

Underutilized Human Resources

This is the greatest area of waste in construction. We often ask people to use their backs, or execute some software function, but we often fail to ask them their opinion about how something could be done better. I remember the very first pull planning session that I attended. A burly dry wall superintendent with a long gray ponytail was standing off to the side as the GC's superintendent pulled toward a key project milestone—genuinely asking each trade what they needed to have completed in front of them in order to meet their dates. I could tell that this gentleman was tearing up,

but I certainly wasn't going to embarrass him during the session. So, afterward I pulled him aside and said, "I hope you don't mind, but I couldn't help noticing that this was having an impact on you. Do you mind if I ask why?" "You're damn right it was having an impact on me. Do you realize that I've been doing this for 25 years, and this is the first time that a GC has ever asked me what I think?" Is there any worse form of waste than this?

Because we often feel compelled to go toe to toe on issues, we often assume that the other person doesn't care as passionately about what they do as we do, and that they aren't interested in finding better ways to do things. I strongly encourage you to challenge yourself on this assumption.

THE LEAN TOOLBOX

Once goals are established, and the waste is identified, we can select the proper Lean tool to help eliminate it, such as A3 problem solving, 5s, kanbans, Building Information Modeling (BIM), Last Planner, Standard Work, VSM (Value Stream Mapping), and Kaizen events. I'm only going to discuss of few of the tools as there are far better resources that do this.

VALUE STREAM MAPPING

Value Stream Mapping (VSM) is the only Lean tool not designed to eliminate waste. It is a tool devoted to identifying waste in the form of unnecessary or missing steps, ineffective routing, or inordinate wait times. With a specific goal in mind, each step of the process is identified. Once the entire Current State (how we are actually doing the process now) is mapped out, the team puts forth their improvement ideas. After ideas are exhausted and adopted, a Future State Map (FSM) (how we think the process should go) is created. The FSM reflects flow improvements that eliminate unnecessary steps and build in missing collaboration points. After the FSM is created, the activities required to transform it into the new Current State are identified and a Kaizen newspaper of anchoring activities is created.

Here is an example of a VSM conducted with an electrical contractor for their design–build process, with each of the steps and connection points defined. Figure 1.6 shows the Current State Map for the Design Build Process.

The cloudbursts that you see on the second Current State Map (CSM; Figure 1.7) are improvement ideas. They are jotted down by participants as the CSM is being created, and then later, these stickies are placed onto the area of the map that the idea is meant to impact. Later still, a discussion is had as to which of the ideas are most likely to achieve the goal if enacted, and decisions reached as to those that will be implemented via committee.

On the culture side, I have found the VSM process to be a valuable conflict resolution tool. In the above example, virtually everyone who participated

Current state design-build
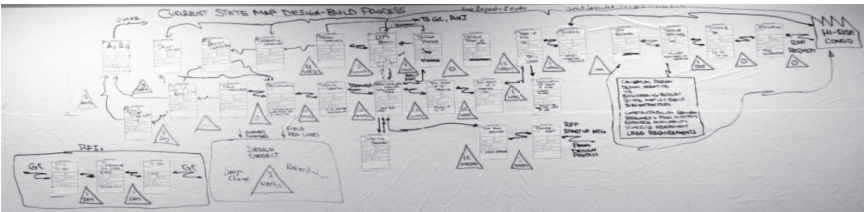
FIGURE 1.6
Current state VSM for design–build process.

Current state with starbursts

FIGURE 1.7
Current state VSM with team-generated improvement ideas.

Future state–with #s indicating where ideas will be implemented
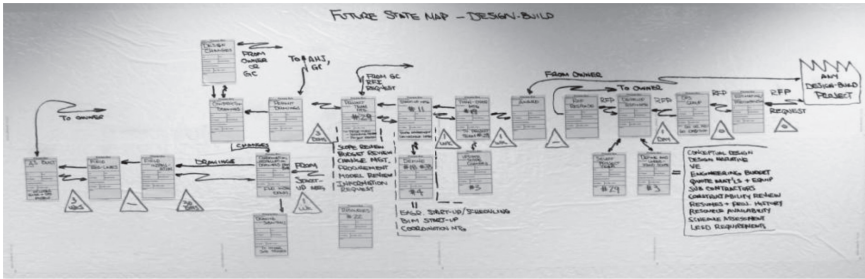
FIGURE 1.8
Future state VSM for design–build process.

(primarily Engineers and PMs), including their leaders, believed that the breakdown in the design–build process was the fault of their counterparts (the engineers blamed the PMs; the PMs blamed the engineers). It took six weeks of heavy convincing just to get everyone into the same room to do the map. But as we laid out the Current State and revealed the missing collaboration points, the lack of scope definition, and the parallel and unconnected streams that the permitable and constructability drawings were running on, it soon became clear to everyone that what we were dealing with was a broken process not broken people.

The Future State (Figure 1.8) that the team created runs on one stream instead of two, with key collaboration points built in, eight unnecessary steps eliminated, and the scopes and joint project teams identified right after the job was awarded. A year later, this has turned out to be a huge improvement over the old process. More importantly, the wasteful bickering and sniping (and requests to outsource engineering) have ceased.

Figure 1.9 shows the Kaizen Newspaper Events that need to occur to transform the Future State Map into the new Current State. Again, this won't happen magically. Specific activities are required to make this happen.

Standard Work

Standard Work is a tool that seeks to create an agreed-upon, uniform way of handling repeatable processes. The most obvious example is how we file and store information—particularly electronically. If everyone is allowed to create their own filing system, then the sharing of information will become

Kaizen newspaper–activities to turn the future state into the new current state
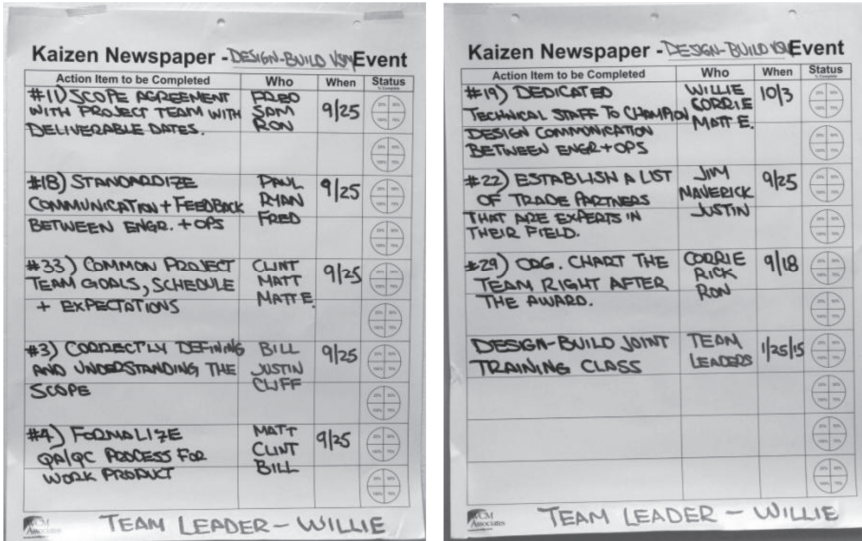
FIGURE 1.9
Kaizen newspaper and events to support the future state map.

shrouded in waste in the form of hunting and searching for information. But if we all agree on how and where information is to be stored, then much of this needless waste can be eliminated. Standard Work can be utilized for any repeatable process, including how RFIs and submittals are processed, how we extract and replace tools in the warehouse, how we buy materials, etc. Though most construction projects are "one-offs," each project has repeatable processes within them that should not vary, as variability produces waste. Every engineer on a project should be processing RFIs and submittals in the same way. Every architect should be placing notations in drawings in the same area. Otherwise, we will waste time trying to figure out what each individual did instead of doing our jobs. And this also holds true across projects within a company. For example, if I'm a young engineer working under a PM who has a unique way of processing submittals, what happens when I'm assigned to another job under a PM who has their unique way of processing submittals? Unnecessary waste is incurred as I unlearn one way and learn a new one for doing the exact same process. Standard Work allows for the sharing of human resources with much greater ease as it eliminates variability and the need for retraining as people move from place to place.

Some construction professionals object to standardization, feeling that it takes away from their creativity. I would argue that true creativity lies in solving unique project challenges, not in trying to figure out who put what information where. But I do agree that some Lean practitioners can get a little too dogmatic about there being only one right way of doing something. As a clinician, I live in the world of gray, and know that there are multiple ways of doing just about anything correctly. In my mind, true leadership is knowing when to deviate from the standard while having the wisdom to rapidly bring the deviation back in line with accepted practices so as not to blow the system up further downstream. As long as we understand, as a team, what the deviations are, and everyone knows how to execute them, we can prevent deviations from becoming waste.

The Kaizen Event

The term Kaizen is composed of two Japanese words, Kai = eliminating the bad, and Zen = for the greater good. This is what the notion of continuous improvement truly means.

A Kaizen event is simply a cross-functional gathering of employees brought together to solve specific common problems. Depending on the issues, we may very well include engineers, superintendents, general foreman as well as accountants, architects, and owners. Once the waste is identified, we formulate goals in a form of a question, brainstorm solutions as a team, and then discuss and decide on the ideas that will most likely help us to achieve the goals.

Let's go back to the previous examples, so you can gain a sense of the solutions that can be generated out of this process. Here are the ideas that the team selected to mitigate the specific waste that they were experiencing.

1. How can we make our job site safety planning more effective?
   a. Plan the safety into the activity. Bring the crew into the brainstorming process with flow chart
   b. Regular review of activities for improvement with crew input
   c. Review lessons learned from previous jobs and near misses
   d. Uniform training—one standard (can have variations from this—but we need to establish a clear baseline)
   e. Positive reinforcement to encourage feedback
   f. Standard Operating Procedures for various systems (pre-bid), starting at Personal Training. Identify experienced people, not just in management, but at the worker level as well.

2. How can we effectively manage the budget as one team?
   a. Create a mechanism for budget awareness
   b. Be transparent throughout the companies
   c. Review the numbers weekly as a team
   d. Project next week's/next month's numbers
   e. Assign responsibility regarding forecasting
3. How can we work effectively with the City of Newport Beach so we can get what we need?
   a. Build relationships by doing our own due diligence
   b. Always fully prepare the finished product and have it ready to present
   c. Maintain daily communication with the city
   d. Learn, understand, and follow city protocols and process
   e. Know city codes in Newport
   f. Monthly status meeting with city—all teams involved
   g. Ensure all documents and plans are current and available and easy to find onsite
   h. Work with field inspector on preferred setup (parking spot, desk, how do they want plans/bulletins to be presented)
4. What obstacles do we need to overcome to achieve our 5/29/16 turn date?
   a. Immediate response and clarifications of questions
   b. Freeze the plan—have direct interaction with the consultants
   c. Additional design field support
   d. Require subconsultants to attend weekly meeting
   e. Dedicated in-house block team for immediate response to questions
   f. Dropping scaffolding to install utilities
   g. Accelerate approval of mock-ups (particularly paint colors)
   h. Elevator and pool inspections
   i. Weekly hot topic (Top 5) meeting with design and construction (interior, architecture, landscape)

For each goal, the ideas are narrowed down to the top three or four (can be done via secret ballot or discussion), and committees are formed. It is each committee's job to formalize a plan and determine the best means of execution within established and realistic time parameters (usually between 30 and 90 days). When the proper environment is created, the quality of ideas that teams generate is consistently impressive and humbling. This is particularly true for leaders when they realize that they

are not alone in the struggle to solve problems. Again, it is good to be reminded that there is a whole team of folks that is more than willing to help if we allow them to.

The other benefit of doing a Kaizen event is it helps teams overcome a sense of victimhood/powerlessness that can sometimes set in during the course of a project. In several of the above examples, the team initially expressed an inability to assert control over the things that were negatively impacting them, i.e., late owner changes, uncooperative inspectors, unresponsive utilities, etc. A type of paralysis sets in when helplessness takes hold (another form of waste). We had to be steadfast in saying, "I know that there are a lot of things outside of your control, but let's focus on the things we can take control of." For instance, while you can't control the inspectors, you can influence how much (or little) they want to interact with you. While you may indeed have no control over a late owner change, we do have control over how we handle such changes as a team. There is a world of difference between simply throwing something over the wall and expecting others to deal with it and huddling up as an Owner-Architect-GC-Subcontractor team, prioritizing what is required, and formulating a plan that works for all parties. I would contend that the latter feels much less stressful for everyone and produces greater results.

Here is another example, this time between a large commercial General Contractor and a large engineering design firm.

Activity Goal #1: How, as a team, can we reduce the rejection of shop drawings and submittals?

Design Team involvement during the coordination process for coordinated shop drawings and submittals. Initial subcontractor cordination prior to design team involvement and submit design intent drawings prior to sign off. Use of 3-D model during shop drawing review. GoTo meetings, etc. "Co-location." Create unsolvable hit list before meeting with design team.

Setting expectations with subs at buy or start date for quality of shop drawings. Provide examples/templates/kickoff meetings with Design Team. Share Critical Installation Level with Design Team and get feedback on time frames.

QA/Quality Control at CM level prior to submission to Design Team.

Design Team initial courtesy review (open it when you get it).

Communication prior to critical submissions—"Hot list." Prioritize submittals with project schedule.

THE EIGHT DEADLY INTERPERSONAL FORMS OF WASTE

Earlier, we identified the traditional areas of process waste that we normally associate with Lean. Let's examine areas of waste that are just as disruptive to flow, but are often somewhat harder to identify and eliminate. Interpersonal generated waste occurs whenever the flow of work is stopped because of concerns about personal safety (real or imagined) or status. This generally occurs when the leadership and/or cultural focus is on assigning blame or protecting turf, rather than objectively solving problems as a team. While it is true that people carry their own baggage into the workplace (i.e., personal or work history) that can increase their sensitivity to perceived threats, there are things that you can do to mitigate these responses. But before we discuss this we need to identify the various forms of interpersonally generated waste and understand how they can affect the system. Here are the most common (a more detailed explanation follows; see Figure 1.10):

Misplaced value: This occurs whenever there is a mismatch between what an employee values and what the company actually values. Hoarding information and engaging in after-the-fact "gotchas" (common in traditional safety and QA/QC environments) are typical examples of when what an individual thinks is important
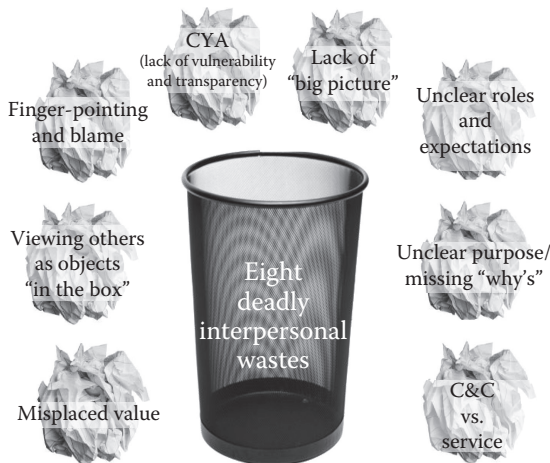
FIGURE 1.10
Interpersonally generated waste.

actually causes delays in workflow and are considered undesirable by the company.

Viewing others as objects: When we stop seeing people as people, and only see them as extensions of their tool belts or laptops, this has a dehumanizing effect on our workforce, and makes us blind to the obstacles they are facing.

Finger-pointing and blame: In Lean, we look as problems as opportunities to improve not opportunities to point (or flip) the finger of blame. Blame provokes defensive, backward justifying responses, not forward-thinking solutions.

Cover Your Ass: Whenever people feel the need to write self-protective emails, positioning letters, or unnecessary RFIs, they are engaging in wasteful activities and provoking others to do the same.

Lack of a "Big Picture" understanding: This waste occurs whenever people are unclear about the rules of the game as identified by contract modality, and what, beyond the budget and schedule, is truly important to the owner.

Unclear roles and expectations: Whenever people are unclear on their roles, or that of their teammates, it almost guarantees that there will be duplication of service (multiple people doing the same task), or that an issue will fall through the cracks. Also, it is impossible to fully service our internal customer, (the next step in the process), if we don't know what others are doing or what they need.

Unclear sense of purpose/the missing "whys": It is nearly impossible to optimally execute a task if we don't understand the meaning or purpose behind it. This waste provokes the dreaded "lack of urgency" in others as they lack the depth to understand why something might be important.

Command and Control (C&C) vs. service: This waste is generated whenever leaders mistake their true value, and believe leadership equates to telling people what to do and expecting them to blindly follow. Leaders in a Lean environment embrace the fact that it is their job to serve their people (understand what obstacles are in their way and help to remove them) rather than the other way around.

Misplaced Value

This type of waste occurs whenever people attach a value to their work that does not benefit the system as a whole. Let me give you an example.

I worked with a GC whose operations and safety people were at each other's throats. The operations people accused the safety people of acting like bullying cops, unnecessarily stopping the work and lowering morale by instilling the fear of job loss into the workers. The safety people accused operations of ignoring safety protocols, contributing to an unsafe workplace, and placing the entire burden of safety on the safety professionals. The situation had gotten so bad that the safety professionals had resorted to taking photographs of unsafe practices and posting them on the company intranet. Not exactly the means and methods that will win over hearts and minds. During a Kaizen event, when asked about the value they each brought to the company, not surprisingly, safety and operations viewed things quite differently. The safety people said that their value-add was in keeping everyone safe, the company in compliance, and avoiding costly accidents and fines. When asked how they measured themselves against these values, they said, "We know we've done a good job by the number of people that we catch working unsafely."

The operations people said they brought value by getting the work in place correctly per schedule. When I asked about their measure of success, they said, "Doing whatever it takes to get the work done right and on time." When I asked them if this included taking shortcuts on safety, the room became deafeningly silent. Thus, the root cause of waste became more apparent. Each group valued very different things, and their self-measurements reflected this.

Most people in construction readily accept this duality of values as simply the way things are—which is indeed what will happen if you assume that safety and productivity are either/or propositions. But in Lean, we look at safety and productivity as *and* propositions, i.e., it's safe *and* productive not safe *or* productive.

To accomplish this, you first have to identify common goals and then change people's thinking so they can orient their behavior and attitudes to align with them. The safety people needed to see that their true value was keeping people safe *and* not having to stop the work because of a safety issue. To get this to happen, they needed to change their approach. Rather than standing around like cops, they needed to engage with operations during the planning stages. This meant attending Owner-Architect Contractor meetings and scheduling meetings to see what activities were coming up and creating safety plans to help maintain workflow. For example, if during a scheduling meeting, we see that we have a trenching activity on Friday morning, and we've consistently had safety incidents

around trenching, then we need to make sure to get with the crews either Thursday evening or the first thing Friday morning to review our trenching safety protocols before they get on site. Catching people doing something wrong after the fact is an indicator that we are *not* doing an adequate job planning the work. Again, our goal in Lean is to not have workflow interruptions of any kind. That doesn't mean that we are now going to ignore safety issues. Rather, it means that we are going to engage with operations to do the required planning and coordination so we never have to stop the work because of safety issues.

Conversely, if you are in operations, you'll need to make a point of inviting safety people to scheduling meetings, and when you know that you have at-risk activities coming up, so you can jointly develop a work flow that won't have to be stopped for safety reasons. This is how we establish a Lean safety culture, versus viewing safety as something that the safety department alone has to worry about.

The same thinking holds true for QA/QC. If you're waiting to identify quality issues after work has already been put in place, you are actually contributing to waste not quality. In actuality, you are guaranteeing that rework will happen.

In terms of the day to day, we all have to challenge ourselves regarding the value that we bring to the table. When we hoard information, cultivate a special skill that we alone can do, compete against one another internally, or are indifferent to what our internal customers need, we are creating waste. Our true value is not in what we alone can do, but by how we can make those around us better in order to achieve team objectives. To help bring this about, Lean companies are changing their reward and promotion systems—moving away from individual recognition for personal output-toward team rewards for team achievements.

Viewing Others as Objects (Being in the Box)

Viewing people as nothing more than an extension of their tool belt or computer has a dehumanizing effect on those we work with. It signals to others that their concerns, needs, and ideas are unimportant to us and are better left unvoiced. The effect is the same whether we direct this attitude toward subordinates or external partners. What we're essentially saying is, "What I need is important; what you need isn't." This is what the Arbinger Institute refers to as being "In the Box" toward someone. And when we are "In the Box" we become self-deceived about the realities

of any given situation. The important thing for our current discussion is how this contributes to waste. When people perceive that we regard them only as objects, they tend to give only what is asked of them—and will show little interest in any continuous improvement efforts. And this objectifying attitude is not something that we can fake our way out of. Regardless of how we may try to put the proverbial "lipstick on a pig" by saying all of the right things, people will detect our true motivations underneath. The boss who engages in "management by walking around" may think he's connecting with people, but if he only does so at 4:50 p.m. people will quickly see through the veneer. They will know that the true reason he is walking around is to see if they are still there—and they will resent him for it. Even worse, people will begin to act in kind. They will stop seeing the boss as a person, and will respond to him as a stereotypical caricature, and find ways to resist him or get even. When people seek to "even the scales," even more waste enters the system.

This objectifying tendency is even more disastrous externally. When one entity looks down the nose at others, it provokes others to resist or do the same. One owner that I worked with openly referred to their GC partners as "slimy contractors," and attempted to justify this attitude by telling the GC not to take it personally—"that they regarded all GCs as slimy." When I asked them how they would feel if they were referred to in this manner, they were markedly indifferent. You can probably imagine the warlike atmosphere (and waste) that permeated this project from beginning to end.

The other variant, externally, is when scheming, manipulating, and constantly maneuvering situations to one's own advantage are a daily occurrence. This is one of the biggest drivers of waste between owners, GCs, and subcontractors. No one wants to feel like they just got worked over by a used car salesman who is always working the angle for their own benefit. And this, in turn, will provoke wasteful self-protective or retaliatory behaviors from others. Lean is about identifying win-win solutions for all parties, which means that we have to take into account the needs of all involved and see them as people first, and functionaries second.

Finger-Pointing and Blame

Though this might feel counterintuitive, finger-pointing does *not* foster accountability. When we engage in it, we are merely responding to our own fight-or-flight mechanism kicking in. Finger-pointing generates

waste in the form of unproductive defensive behaviors and counterblaming. All of this disrupts flow by diverting people's focus away from what they should be working on to move the project forward. Instead, they are looking backward. As you'll learn later, you can't establish accountability without trust. And trust never develops in a system when blame is everyone's reflexive response when problems arise. (I worked with one company whose first response when problems occurred was to call out, "Who f*&^'ed up?") While forensic analysis is a vital part of discovering root causes, this should be conducted after the problem at hand has been resolved, and it should always be done in an instructive manner. This is why the FAA argues against criminalizing airplane accidents. Once the specter of blame is cast, truth is silenced, and the opportunities to prevent future accidents are lost.

CYA (or a Lack of Vulnerability and Transparency)

Whether we are aware of it or not, we are always scanning the environment for danger—real or imagined. Once detected, our self-protective fight-or-flight mechanism kicks in. At work, since we generally can't lash out or run away when we detect danger, we do the next best things: we find covert ways to protect ourselves or fight back. Believe that you've been unfairly put into a position to have to eat something financially? Response: cover the job in unnecessary paper (RFIs) so this can't happen again. Afraid you are being taken advantage of by a subcontractor? Answer: cover the job with onerous, densely worded contracts to cover yourself for every eventuality. Perceive that the GC is writing unnecessary RFIs, draining your resources, and shifting risk onto you? Answer: simply don't respond to the RFIs, tell them that the answer is in the documents, or give multiple responses to RFIs that conflict.

Unfortunately, given the litigious current state of our industry, this type of waste happens on a prodigious scale. Why is CYA waste? Because it takes an enormous amount of time and human capital to engage in it, but adds no real value to the project. It doesn't change the shape of what we're building, the owner doesn't value it, and it only gives lip service to building something right the first time. Don't believe me? Review the RFIs written by your team in the last month, and then honestly ask yourself what percentage of these were written with the sole purpose of protecting the company from risk or liability. Then ask yourself how much time

it took to write these RFIs, and in turn, how long it took for the architect to respond to these bogus RFIs. My guess is the percentage is pretty high, which means so is the waste. Which leads me to another question. How much of your day is consumed with satisfying processes and procedures that do nothing to advance the job and only serve to protect your company against litigation? All of this takes time, manpower, and money—and is pure waste. Project managers often report that 80% of their day is taken up by activities that have nothing to do with advancing the project. And the above only reflects waste that is happening between external entities. When people start writing CYA emails internally to protect themselves against their own leaders or teammates, this is waste that goes beyond the beyond.

Lack of a "Big Picture" Understanding

I'll go into this type of waste in much greater detail in subsequent chapters, but suffice it to say, teams struggle when they lack a "Big Picture" contextual understanding of the job. The "Big Picture" is comprised of two principal elements: (A) what this particular contract is about (the execution rules of the game) and (B) what is important to the owner. If even only one member of the team is unclear about these two things, waste will inject itself into the system in the form of incorrect execution, bruised relationships, and increased scrutiny. Something as simple as executing a GMP as if it were a lump sum contract can throw a whole project into jeopardy.

Unclear Roles and Expectations

Poorly constructed or absent organizational structures contribute to waste in the form of communication misfires, hesitancy, and blown handoffs. I can't underscore this enough: creating a clear organizational structure along with well-defined roles and responsibilities aren't just "check the boxes" leadership exercises. They comprise the basic blocking and tackling of leadership. And it's not sufficient for people to just know their own job. They need to know what others—both internally and externally—are contributing to a project. Think of the waste that can occur when someone is confused, needs something, or should be handing something off but they are unclear as to who to go to, or who is responsible for what. And after a period of time has passed, and someone

believes that they "should know" who to go to, they simply won't ask for fear of appearing foolish. Which leads to an ancillary form of waste caused by role confusion: the dreaded "send all" or "reply all" email. If I don't know who does what, and I don't feel okay about asking, in my mind, copying everyone will seem justified, regardless of how many inboxes it clogs up.

A further nuance of this type of waste centers on expectations—or a lack thereof. Expectations are essentially the quality standards expected from someone in a particular role. Unfortunately, most people at the start of a job are simply handed a job description (or a set of tasks), devoid of its context, and then left to their own devices to figure out how to perform effectively. Even worse, they usually have no idea how what they do (or don't do) impacts others on the team. In Lean, we are always focused on the customer. But, in reality, there are two customers: the external customer and the internal customer. The internal customer is simply defined as the next step in the process. As such, we strive to get everyone obsessively worried about whether or not the next person, either upstream or downstream in the process, has everything they need in order to do their job. Imagine how great your project would be if everyone worried about that. So ask yourself, organizationally, what would everyone on the team need to know to gain this understanding? (This topic will be covered in depth in later chapters.)

Unclear Sense of Purpose/The Missing "Whys"

When feeling time pressured, we often dole out tasks to subordinates in piecemeal fashion. While expedient, the problem with this approach is that the person being delegated to never quite fully understands the "why" behind what they are doing. Lacking the "why," the sense of urgency or importance around completing the task becomes lost, and instead of breeding a culture of excellence, we inadvertently create a culture of "box checkers." Think about how differently the following two messages sound. Message One: "It's your job to maintain the submittal log and keep it up to date. Come to me if you have any questions." Message Two: "It's your job to maintain the submittal log. It's one of the most important jobs on site. Without approved submittals, we can't properly buy out the job in a timely manner. If we don't buy out the job in a timely manner, our schedule will slip. If the schedule slips we're going to get hit with LDs (Liquidated Damages) to the tune of $100,000/day. I can't underscore this enough:

what you are doing is really important. So, let me know if you have any questions at all." Which of these two messages would you respond to with greater urgency and care?

C&C vs. Service

C&C stands for "Command and Control." By its very nature, this type of leadership is anti-Lean. C&C leadership implies that we are disinterested in people's ideas or gaining any input as to what obstacles might get in their way. It's what we convey when we say, "Just get it done" or "I don't pay you to think, just do it." Implied in the traditional C&C model is the sense that punishment will be forthcoming if the person fails to carry out the directive. Lean leadership is the exact opposite of C&C. In Lean, leaders understand that it is their job to serve those under their direction—not the other way around. It's their job to understand their teammates' concerns, needs, and shortcomings so that they can provide them with the help that they need to do their jobs. This means that the leader has to be capable of listening as well as talking, asking questions as well as giving directives, and providing support as well as holding people accountable.

The good news about all of these types of interpersonally generated waste is that most are under our direct control. By improving our Lean leadership abilities, we can mitigate or eliminate almost all of it—and this is precisely what the remainder of this book will be devoted to.

If you are curious about whether interpersonally generated waste can also be addressed via a team-based Kaizen event, the answer is an emphatic *yes*.

Here are some examples of teamwork concerns reshaped into goals (in the form of a question), and the ideas the teams generated to achieve them:

1. How, as a team, can we improve and prioritize our tasks, goals, and handoff points, including our roles across functions?
   a. Define roles and share throughout the entire office. (Meet round-table style.) Task list follow-up at least monthly. Understand how your role affects others and cross-pollination.
   b. Utilize stretch and flex to do morning huddle. Delay stretch and flex until after logistics meeting (8:30—8:45). Safety is at the meeting. Daily download of GF meeting (maybe during stretch

and flex). BIM Plan 360—training needed. Team weekly meeting more inclusive.

   c. Needs board with name and date and by when. Expand to safety. Important task board with dates, responsibilities, etc.

   d. Clarify flow process.

   e. During handoff, am I just checking a box or am I giving the next step in the process what they need to do their job? Keep people in the loop—don't drop the initiator from the information follow-through. Share three-week look-ahead. Get on the same page about "done" drawings—field-BIM. We need proper time/communication.

2. What can we do, as a team, to be more proactive and accessible to get and release the timely information that we need and eliminate bottlenecks?

   a. Understanding and utilizing the F drive and the corporate file structure and naming the file for clarity (folders with descriptions). Utilize Lang's, Zach's and Rob's shortcut spreadsheet and maybe create others for other functions. Get IT here weekly and help them to help us (shortcuts). IT request board and give heads up. (But go to appropriate person—some are more hardware geared vs. software. Tim will address Oracle's responsiveness to managers—lack of responsiveness to others on the team.)

   b. All staff to participate in weekly "site walks." (Safety walks?) "Field trip day" with GF, QA/QC, Safety.

   c. Commit to getting back to those seeking your input. Ask those we communicate with how they would like information to come to them. If you are waiting for information, ask others. Explain why you need the information to gain buy-in. Work on availability plan for Tim and Allen.

   d. Submittals? Who? Why? When? Where? Driven by three-week look-ahead schedule—field communication. Relay through one person or meeting board for submittals.

   e. Develop and communicate a schedule for timely information.

   f. Pull in critical team leaders in morning GF meeting. Have a note taker for distribution to the team.

3. What can we do to ensure that we will be open, honest, direct, transparent, and accountable and focus purely on results between the different departments and projects?

a. Plan of the day (POD). Contractor-subcontractors-field-office.
b. Cross street office meeting to eliminate competition between jobs (field) and enabling in office between jobs (office). Team building offsite quarterly and co-team.
c. Define goals—track goals/progress. Follow through.
d. Ownership: Come to the table with a solution not just a problem. But if you can't figure out a solution, seek help—but still own the issue (just don't simply dump it on someone else).
e. Office personnel to join daily meetings Mon: What's coming. Fri: Lessons learned and next week. Schedules. PM Office Critical Support, Field.

Again, for each of these goals, the ideas were whittled down to the top three, a team of responsible parties was identified, and each team established realistic time parameters for goal completion.

I often tackle process and teamwork waste together in Kaizen events, because the reality is, they are often intertwined. How many times have you experienced the following: an unclear process provokes frustration and conflict as each person starts to assume that others aren't doing their jobs. Silos form as an "I guess I'll have to do this myself if I want it to get done right" culture starts to take hold. As resentment builds, collaboration stops, and people develop idiosyncratic ways to process and manage information. The more that people develop their own ways of doing things, the further they get from standard work. A lack of standard work creates even greater variability—which leads to even more frustration and further negative assumptions about each other's work product and motivations. And thus, an ugly negative self-reinforcing team cycle forms.

In a very real sense, process waste and interpersonal waste go hand in hand, becoming a kind of chicken-and-egg phenomenon. The fact is, it doesn't matter which came first. What matters is that we develop a culture that allows us to come together to fix them both as a team.

To this end, here is a brief checklist (Figure 1.11) to help you keep your Lean Culture implementation on track.

But let's take this one step further and climb a few thousand feet in altitude so we can gain a common understanding of what we mean by the term Lean culture and what is required of Lean leaders in order to create it.

Lean culture action or attitude	Yes	No
1. Have I fully delineated each person's role and the expectations for executing their roles?		
2. Have I made myself available for people to express their worries and concerns in an unfiltered way without the fear that what they say will be used against them?		
3. In meetings, do people open up, ask questions, and talk about important issues?		
4. Do I make it a point of asking about and listening to my teammates worries and concerns?		
5. Do I fully explain the "rules of the game" (i.e., the contract and its proper means of execution)?		
6. Have I explained the meaning behind the tasks that I ask people to execute?		
7. Do I actively encourage (and expect) people to communicate with each other and allow them to collaboratively make decisions?		
8. Do I fully explain to our team what is important to the owner?		
9. Do I articulate goals and milestones and help everyone understand how they can contribute to attaining these goals?		

FIGURE 1.11
Lean culture checklist.

2

Lean Culture Defined

Just as the theory of constraint dictates that a manufacturing process can only move as fast as its slowest machine, teamwork and collaboration can only go as fast as the system's most dysfunctional interaction. A department notorious for not returning phone calls in a timely fashion, a manager who keeps information on a "need to know" basis, a gun-shy leader who dots every "i" and crosses every "t" before making a decision, a superintendent who attends coordination meetings only when he feels like it, an engineer and Project Manager (PM) who can't have a conversation without pointing the finger of blame at one another, a consultant who says he'll get back to you but never does, an overly sensitive individual who withdraws each time they hear the slightest corrective feedback—any and all of these can become enormous waste-generating bottlenecks in terms of interpersonal and process flow, and are anathema to Lean culture. So, what is Lean culture, and how does it specifically differ from other management systems? In their book *Kaizen Culture*, authors John Miller, Mike Wroblewski, and Jaime Villafuerte identify 10 hallmarks of Lean culture:

1. Values and develops people
2. Builds trust through a shared sense of purpose
3. Works toward long-term interest of all stakeholders
4. Creates an environment in which the exposure of problems, abnormalities, and inconsistencies is not only allowed but encouraged
5. Treats controlled failures as learning labs
6. Makes decisions based on data and facts
7. Holds strong beliefs about what is "right and good" but challenges these to hold up against reality
8. Maintains a sense of humility to seek out and digest foreign ideas

9. Takes the time to plan thoroughly and build agreement but acts with a sense of urgency
10. Leadership is service based vs. Command and Control based.

We've touched upon some of these concepts already, so let's focus on 2, 3, and 4, as I believe these are the key elements that make Lean culture truly unique.

SHARED SENSE OF PURPOSE

In Lean, we emphasize the importance of building trust through a shared sense of purpose by identifying jointly established goals and breaking down the silos that often form between divisions or departments in order to accomplish these goals. Whether you are implementing Lean across companies, company wide, or tactically at the project level, this sense of shared purpose has to start at the top levels of leadership. Though most leaders are often reluctant to admit it, one of the chief reasons they like being leaders is that they enjoy the autonomy of running their own shows. If left to their own devices, many would only choose to meet with their fellow leaders at quarterly meetings or when there was a crisis. As such, they tend to see "winning" only in terms of their own department, division, or project and view their fellow leaders as obstacles that they need to either endure or resist rather than as trusted partners. Unfortunately, most company bonus programs inadvertently reinforce this "I just need to worry about myself, and you need to do the same" kind of thinking. They are usually tied to title and specific project, departmental, or division objectives, not to team accomplishments or overall company performance. So, it's not surprising that leaders will look upon their department, division, or project as their own private fiefdoms, sometimes to the detriment of the company. During Lean assessments, it's not uncommon to hear employees exclaim, "Will you please tell those knuckleheads at the top to get their heads out of their silos and work together because we'd like to start making some money!" Employees intuitively know that unless efforts are aligned at the top, a company stands little chance of being successful. Too much wasteful effort is incurred when they are not. It's interesting how obvious this is to most employees but often not as obvious to company CEOs, Presidents,

and Vice Presidents (VPs). Unfortunately, "that's the way we've always done it" is just as prevalent in the higher ranks as in the lower.

In Lean, it is imperative that the leaders see their own success as being predicated on the success of their co-leaders. Their leadership should be centered on how they can help each other make the company better rather than competing against each other for bonuses. When building a Lean business strategy, we encourage companies to devise bonus structures based on overall company performance. And, we go one step further. We believe that bonuses are something that everyone should share in. Jack Stack, CEO and President of SRC Holding Company, has helped his company achieve success by instituting a 13% bonus program (based on salary) distributed when targeted goals are achieved. Those who carry greater responsibility receive larger bonuses based on their larger salary, but everyone shares the wealth on a percentage basis because, Stack genuinely believes, they all had a hand in the achievement. Think about this at the project level. Yes, the PM and Project Superintendent (PS) carry the load. But don't the document control person, the engineers, and the receptionist also play their part? After all, if any of them fail, so does the project. These types of bonus programs foster a true sense of collaboration and teamwork because everyone has a financial stake in making the company better. The only competition that should exist within a company is outperforming our competitors by eliminating waste. Thus, collaboration and teamwork become a competitive advantage.

Most leaders—even those who were initially resistant—find operating in a Lean culture stimulating and refreshing as well as personally and financially rewarding. As one VP stated, "I used to think it was my job to solve everything in my division, and I expected to be rewarded when I did. And to be honest, I felt a little resentful when other leaders were rewarded for things that I didn't think that they deserved. Now, I see it as my job to help the company identify waste and turn everyone loose to eliminate it—regardless of the department that they work in. And since everyone has a financial stake in our ESOP and bonus structure, almost everyone gives it their all to eliminate waste, and the ones that don't stand out like sore thumbs. And the best part about all this is that I get to go home a lot less worn out."

In truth, the most beleaguered people that I encounter at most companies and projects are the people at the top—and it isn't because they are carrying the greatest burdens of responsibility.

During an assessment of a company whose leaders were deeply siloed, I voiced this observation to an associate who was working closely with them. She turned to me and said with wisdom beyond her years, "Well, it takes a lot of energy to resist one another, doesn't it?" A succinct and accurate summary if there ever was one. It *does* take a lot of time, hard work, and energy to resist one's fellow leaders. This is particularly true if one or more of the leaders consistently acts in a manner that runs counter to the other leaders' values and beliefs. If you believe in treating people with respect, and I believe that it's perfectly acceptable to belittle people as long as I get what I want, the likelihood of us supporting each other goes down dramatically. In fact, our silos are likely to become more fortified. If you are going to initiate a Lean culture, this is the first issue that you will need to address. You can't just have some of your leaders supporting the initiative. They all have to be willing to support each other as well as the people that they serve. If your leadership team has members on it who can't be relied upon to be collaborative trusted partners, then they have to go—it's that simple. If you choose to be a house divided—and this is what will occur if someone on the leadership team consistently exhibits Lean-killing behaviors and you look the other way—this is what you will be modeling for the entire company. You're basically saying that it is okay for certain select people to think only about themselves and not the greater good of the company. And your Lean initiative will die then and there. The reality is you get a company culture, whether you intend to or not. Allow me to elaborate further.

As shown in Figure 2.1, culture is comprised of three elements: espoused values, outcomes, and core beliefs.

Espoused values are what you see posted on your break room wall, in your employee handbook, and on company T-shirts. They are encapsulated in your company's values and mission statements—and comprise what the leaders have publically declared is important to the company.

FIGURE 2.1
Elements of culture.

Outcomes are anything that an employee receives as a result of engaging in what the company leaders said is important.

Core beliefs are what the employees conclude about the espoused values in relation to the outcomes they received or witnessed. Let me give you a couple of examples.

Let's suppose I'm your supervisor, and I get in front of the team and say, "Ladies and gentlemen, I'm here to tell you that there is nothing more important to this company than quality. We live and breathe it, which is why it is listed number one in our mission statement. The last thing we ever want the owner to see is bad quality work." Message delivered and received, right? So, let's say that after going about your work, you encounter a quality issue, and based on what you heard, you shut down the job to fix it. Out of the corner of your eye, you see me come out of the trailer and walk toward you. But instead of getting the pat on the back that you expected, you get a tongue lashing from me for stopping the work, and I take no notice at all of the problem that you were correcting. What are you rightly to conclude about my previous message about the importance of quality? Pure hogwash, right? But what if the opposite happened; you stopped to fix a quality issue, and I came out of the trailer and praised you for your decision. What would you conclude then? You'd likely say to yourself, "Wow, the company really means what it says." Even more importantly, based on these two outcomes, what will people choose to do in similar circumstances in the future? If you got beat up, you'll likely adopt a "keep going and fix it later" attitude. If you are praised, you'll put more emphasis on doing things right the first time.

So, why are the above examples cultural rather than isolated interactional issues? Because what happens to one person will be passed on like a virus across the company and will comprise the core beliefs of the people who either witnessed or heard of the account. The speed of this transmission will be determined by the experiences that employees have had with their own leaders. If I've had good experiences with my boss, and hear this nightmarish account, I'm likely to take it with a grain of salt. If I've had bad experiences with my boss and I hear this account, it will serve as confirmatory evidence that the leadership of the entire company is bad. Once set, core beliefs are very difficult to reset.

This is why, in a Lean culture, the leaders need to be unified around the goals that they are pursuing so that their reinforcement of outcomes is precise and consistent. And, I'll throw rational in as well. There is nothing worse than leaders who praise a behavior one day then chastise the very same behavior the next. Precision, consistency, and rationality are what

build trust among employees toward their leaders. And these same elements build trust among the leaders as well. When leaders trust that their fellow leaders are committed to achieving the same company objectives as they are, and they are consistently and rationally handing out consequence (both positive and negative) in a similar fashion, that is when the silos between them come down.

Taking this one step further, problems such as a lack of quality often boil down to a lack of common understanding among the leaders as to what the target should be. In one of the multicompany systems I referred to earlier, there were bitter disputes between the owner and the General Contractor (GC) regarding finish quality. The owner felt that the GC had taken their eye off the ball. The GC, in turn, felt that the Prime Subcontractors were not holding themselves accountable for maintaining finish quality standards. Without saying so, the applied assumption was that increasing the levels of punishment downward could cure these quality problems. But what was the real driver? In our system, seven different people walked the completed units and each held different quality standards for what was satisfactory work. In essence, each had different targets that they judged work against—after the fact. In point of fact, there was no unified, clearly established standard for quality that the Prime Subcontractors could predictably utilize beforehand to reliably hit the quality targets. These varying standards felt capricious to those on the receiving end of their judgments. So, the subs recalibrated their efforts. Rather than wasting their time trying to get it right the first time, they approximated the quality standard based on information cobbled together from previous reviews, accepting the fact that they would have to come back and complete the work to the revised standard after the job walks were completed. In other words, our current state virtually guaranteed that there would be substantial rework, which the owner usually paid for. The real solution wasn't to beat on the workers. It was to engage in healthy debate among the leaders who would be conducting the walks (something they had actively avoided to avert conflict within their own organization) so a unified standard could be established.

"WIN-WIN" SYSTEMS THINKING

Taking the above example one step further, it is vital that everyone across (or within) companies focuses on actions that are in the best interest of

the system rather than their own personal (or entity's) gain. If I consistently manipulate situations in order to gain increased economic benefit or professional status ("win" for me)—and I do so at your expense ("lose" for you)—will you want to continue working with me? In accordance to the Law of Reciprocity, you will either avoid me (to limit future losses) or you'll look for opportunities to even the scales. In fairness to the owner and GC in the example above, the reason "beat downs" felt natural was because some of the subs (and to an extent, the GC) had used the lack of quality standards as a means of enriching themselves via increased payments for Time and Material performed. People were remaining silent about the lack of a unified quality standard partly out of fear (owner will be upset if we voice this), but also because there was a financial benefit for remaining silent. "Win-lose" and the justifications for engaging in such behaviors abounded.

Everyone has a sense of equity hard wired into his or her head. This most likely has evolutionary roots given that every tribe on the planet has a "fairness" system built into their mores and governance practices. The ability to assess fairness probably increased our ancestors' probability of survival by serving as a measure of whom could be trusted and who couldn't—a very important survival skill indeed. This same notion wouldn't be important to us today if it hadn't been important to our ancestors. As such, we carry this same thinking into the workplace. If you doubt this, think about how outraged you became when you put your trust in someone and then it turned out that they had manipulated or cheated you. And think about how hard it is to let go of this experience when you are expected to continue to work with this person.

That is precisely why, in Lean, we work toward finding equitable solutions that all parties and departments can benefit from. As you can imagine, this takes considerable effort, as often the long-term future benefits to the system are harder to see for those who are making sacrifices in the present. What we ask people to engage in is what we call "win-win" systems thinking, whereby we collectively weigh the impact of present actions against the long-term benefits to the overall system. For example:

A developer has a specific "Design Brand" that they must maintain throughout all of their projects. This brand is so important to the company chairman that the company created its own department of in-house architects to ensure its consistency. And being a creative type, the chairman's

view of "brand" often includes uniquely dimensioned spaces in an attempt to avoid a "cookie cutter" approach to design.

Being passionate and highly intelligent design professionals, and knowing the chairman's proclivity toward unique spaces, the in-house designers sometimes can't resist the temptation to "pick up the pen," thus straying from their primary mission of maintaining the brand and delving into other areas of design.

So, on a particular project, when they perused the schematic drawings issued by the external architectural firm, they noticed an abundance of square footage space that hadn't been captured. Some even suggested that this was proof that the architectural company was getting lazy and relying on the in-house architects to QA/Quality Control their drawings. As a result, they instructed the external architects to make changes to capture this lost square footage space.

Upon further investigation, and applying "win-win" system's thinking, the opposite turned out to be true. What the in-house design staff would have created by capturing this "lost" square footage were 82 different unit types—as opposed to the usual 20. The external designers were intentionally opting for straight lines whenever possible to limit the amount of custom "unit types." While these unique unit types may have pleased the chairman on paper, once the work went into production, they would have resulted in budget and quality busts as the GC and Subcontractors struggled to maintain a schedule not designed to accommodate such dramatic customization.

Now here is where the cultural side of something like this can get tricky—particularly across different companies. It's almost impossible for anyone to resist negatively interpreting the behavior of others when they are under stress. Some of the out-of-house architects were starting to feel so ill used by the in-house designers (i.e., "we feel like we are just their draft's people and they think they can throw changes like this at us whenever they want so they can look good in front of the chairman") that the equity scales in their heads started to pitch, and some were choosing to stay silent about the custom unit issue, in essence, allowing the client to incur the additional costs as a kind of payback (the passive-aggressive way of righting the scales). Others were simply too afraid to push back for fear of upsetting the client, so they quietly did what they were told.

The "win-win" here was getting the in-house and out-of-house designers to see the importance of realigning around this three-company system's primary goal (100% Plan Completion Before The Start of Construction), understanding that they actually wanted the same thing (a high-quality

design that was consistent with the brand) and realize that the only way they were going to achieve any of this this was by clarifying and unifying around what was good for the overall system and improve the choreography between them. This is still a work in progress, but we are now using the primary goal to guide our actions, increasing our collaboration points during schematic design (which includes jointly "walking" the drawings and getting input from the production side of the house), and engaging in collaborative decision making rather than working in silos and throwing demands for decisions, changes, and additional studies and renderings electronically "over the wall."

CREATING AN ENVIRONMENT IN WHICH THE EXPOSURE OF PROBLEMS, ABNORMALITIES, AND INCONSISTENCIES IS NOT ONLY ALLOWED BUT ENCOURAGED

In most companies, reporting problems or concerns is akin to a little death in the family—it makes others uncomfortable, and most people would rather bury them than talk about them publically. In Lean, this way of thinking is another form of waste. Problems, in Lean, are opportunities, not to assign blame, but to improve. Continuous improvement is impossible without creating mechanisms that allow such feedback. If you do the opposite, and let it be known that you don't want to hear about problems, and in fact, will kill the messenger if they try to shine the light on them, this will virtually guarantee that you will be hit with nasty (and costly) surprises down the road. Interestingly, those who complain the most about nasty surprises are the very ones who create the environment that allows this to flourish.

In Lean, we foster cultures that encourage the reporting of mistakes, problems, and concerns. We're not talking about breeding a culture of naysayers or chronic complainers—that's not what we want at all. What we want is a culture where people are able to speak their minds about problems and concerns—as well as voicing their ideas for remedying them—without the fear that what they say will offend someone, and in turn, be used against them in the future. We call this Vulnerability Based Trust (VBT)—and it is the cornerstone of Lean culture. This goes well beyond the reporting of anomalies. When people are unafraid to request help, or

let it be known that they are confused, or admit when they have made a mistake, the team is able to save time by focusing its energies squarely on the issues at hand. But if the opposite is true, and people are afraid to voice problems, needs, or concerns, we end up diverting our energies to treating symptoms (being reactive) or "turning over rocks" to try to get at the truth—truly wasteful, energy-intensive exercises. Whether VBT is exhibited (or not) is largely determined by the culture that a company's leadership has created.

Circling back to the in-house and out-of-house designers, another issue was plaguing this system. There were numerous occasions when three different in-house designers marked up drawings independently and then passed them on to the out-of-house architect; these markups often conflicted with one another. This left it up to the out-of-house architect, who was already strapped for time, to vet three different documents, while at the same time pulling them away from their primary mission, which was to complete the plans. Here is where the issue of cultural waste again came into play. The external architects believed that they couldn't voice their objections about how marked-up plans were being passed along to them without this negatively coming back on them or jeopardizing their company's relationship with the owner. So, instead, they worked 60-hour weeks trying to complete these extra tasks, all the while silently (or not so silently) stewing in their own juices of resentment. But when I spoke to the in-house design director about this, he was genuinely shocked and dismayed. "I had no idea that this was going on. This is the last thing that we want. We want the external architect to flag this type of problem to us. It's our job to vet these discrepancies, not theirs. They just need to raise their hands and let us know." Literally, all it took to improve this situation was a simple conversation and an agreement about how to flag such situations in the future. That's it. Which goes to show how prone we are to building up situations in our heads and making them four times bigger than they really are—and making our own lives that much more difficult in the process.

The reporting of anomalies is particularly important when building a safety culture. Too often, companies rely on lagging indicators, like incident report rates, to determine whether or not they have a solid safety program. But lagging indicators are notoriously unreliable. There are many reasons why you might have a low incident rate. You may indeed have a fantastic safety program (you hope). Or, people may have been too afraid to honestly report an incident (you hope not). Or, you may have just gotten

damn lucky (truer than we'd like to admit). So, this begs the question: What would be a more effective measure?

Western National Construction has hit upon a formula that truly works, and it is right in line with Lean principles. Rather than starting their subcontractor daily huddles with a safety reminder—per industry standard—they require their subcontractors to track and report near misses. Why? Because they have discovered that the best way of building a safety culture is to get everyone thinking about safety—all of the time. In fact, a surefire way of a General Foreman getting into hot water with Western National is if they *do not* report any near misses. By tracking near misses, they develop a much richer data pool than they could have by attending to incidents alone and can thus develop much more effective preventative measures by identifying repetitive patterns in the reports. But again, all of this is dependent on people being encouraged, rather than punished, for reporting near misses and not using their honesty and vulnerability against them.

(Interestingly, Occupational Safety and Health Administration is setting a dangerous precedent via their new interpretations of "Duty of Care" by using internally kept near-miss logs against companies who fail to take action on the issues that they themselves have surfaced. This may inadvertently punish companies for being proactive and discourage them from using what has proven to be a vital safety tool.)

In Chapters 1 and 2, Lean has been presented in a broad context, applied across a wide array of systems issues. This is the way Lean should be deployed—as an operating system. But in the real world, Lean is often applied more tactically, falling on construction leaders to figure out at the project level. Even though the reach of such an approach is far less broad, you can still achieve significant productivity gains on your project by thinking more systematically about what you do and devoting yourself to creating a waste-eliminating culture. Knowing how to use yourself as a leader to bring about these changes is the key to getting there and the focus of the remainder of this book.

3

Lean Cuisine and Construction: The Benefits of a Food Industry Perspective

Lean methods sometimes fail to gain traction among construction professionals for a very simple, human reason: the world of construction and that of assembly lines seem dramatically different. And since it is in our nature to draw parallels based on comparisons, Lean's applicability to construction sometimes seems a bit of a stretch. After all, unlike construction, manufacturing assembly lines can be highly planned in advance, changes are highly controlled and limited to the design phase, and assembly lines are largely automated. In manufacturing, machines produce the product and humans are there largely to keep the process moving. Problem-solving opportunities arise in manufacturing, but these usually center around solving maintenance-related issues and effectively managing the flow of orders coming in from the customers.

So, this begs a question. Is there an industry that utilizes Lean principles that are similar to the issues that construction people can draw from? I think there is—though it may seem a little strange at first blush.

Believe it or not, construction managers and head chefs of high-end restaurants have a lot in common. Both construction projects and restaurants fail or succeed for similar reasons that are rooted in Lean principles, yet differ from typical manufacturing operations.

Like most people who work in kitchens, construction people are fiercely independent, view themselves as creative problem solvers, and relish the challenge of pulling off the impossible every day.

In contrast, we tend to think of assembly lines as fairly passive, system-driven places, where the opportunity for creative thinking and problem solving is limited. And, with assembly lines, at least on the surface, the process is what appears to be in control—not the people.

Like restaurants, job sites are loaded with colorful characters, most of whom are insanely passionate about what they do. To say the least, job sites and kitchens are highly dynamic places. Assembly lines? Not so much.

Like their restaurant counterparts, construction managers have frequent contact with owners, end users (customers), workers, and suppliers. Assembly line managers tend to be a bit further removed from board members, stockholders, suppliers, and customers—and often have to work hard to gain access to these key players for their critical input.

Both restaurant and construction managers tend to be overly enamored with their subordinates' technical abilities and tend to overlook their potential "team-killing" behaviors in deference to the highly specialized products they are capable of producing. They are also usually horrified at the prospect of cutting loose "bad actors" for fear that they will not be able to replace their technical expertise. And because most kitchens and job sites cut pretty close to the bone in terms of manpower, the loss of one key player is acutely felt.

Manufacturing managers are much less worried about dealing with such issues. Team killers are usually dealt with swiftly and harshly. Because quality is built into the assembly line process, bad actors are exposed early on. And because much of the process is automated, and many people are cross-trained, people on the line can be replaced without major hiccups.

Unlike assembly lines, which are often fully or semi-automated, both the restaurant and construction industries are fully dependent on *people* to produce a high-quality product. In both of these environments the people, in essence, *are* the product.

So you may very well ask at this point, if kitchens and construction sites are so different from manufacturing environments, why apply Lean principles to them? First, is that even though restaurants and job sites are highly dynamic environments, they each have repeatable processes that can be enhanced by standardization. Successful kitchens prepare their prep spaces, order supplies and ingredients, and provide table service in the same way, day in and day out, week after week. They do this because they know that variability in any of these can cause deadly disruptions to workflow, interrupt service, and lead to rework (improperly plated meals being sent back). Similarly, while they may buy different materials from job to job, most construction companies, regardless of the project, buy out materials in the same way, process requests for information (RFIs) in the same way, and file information in the same way. And whenever there is variation in any of these, it disrupts workflow. For instance, if one

engineer stores key information on a shared drive, while another stores it on his personal computer (and only shares information via email when he sees fit), workflow disruptions will result regardless of each engineer's output. Output isn't the issue; it's the sharing and coordinating of that output that is driving waste.

When restaurants and job sites struggle, they do so for very similar reasons. And when they succeed, they also have a lot in common. Both are dependent on the same quintessential Lean principles that Lean manufacturing plants have been utilizing for years: preplanning, preparation, well-timed actions, constant communication, consistent execution, feedback, and adaptability—all of which have the same aim, to maintain a productive workflow.

We often assume that a restaurant's success is due to innovative recipes, fresh ingredients, and a highly skilled and creative head chef. But great recipes and great ingredients, put together by skillful chefs, is only one part of the equation. The truth is, when restaurants fail—and they do so at a rate of 38% in their first year—in many cases, a creative head chef was at the helm, who also utilized the freshest of ingredients. But the true secret behind the success of any great restaurant is its staff's ability to create the same dishes—consistently and efficiently—night after night, week after week. Like an assembly line, it is about being able to effectively carry out the same processes and procedures repeatedly—with predictable results. Ultimately, success in any kitchen is heavily predicated upon the team's ability to consistently communicate, coordinate their actions, and execute timely deliverables. Failing to do so results in measurable waste in the form of rework and some very expensive ingredients being tossed into the dumpster.

So, here is a key takeaway from the food world: it is not the ingredients or the technical prowess of the chefs alone that determine the excellence of a meal, but how effectively, efficiently, and consistently all of these elements come together. And this includes the entire team—internally and externally—from wait staff, the prep cooks, the ingredient buyers, the suppliers, the people who prepare and print the menus—and even the person who hands the diners their coats after the meal is done. Everyone on the team contributes something important to the overall experience.

And the same is true in construction.

Though the specifics (like the daily specials) may change, your team will need to fully understand their contracts, plans, and specifications (the menu). They will need to be able to vet RFIs, potential change orders

(PCOs), and submittals, consistently log their actions, generate accurate budget reports, issue invoices, and make payments in accordance with an overall schedule. And if they are to be truly successful, just like in a restaurant, they can't perform any of these tasks in a vacuum.

Communication and coordination between the office and field functions has to be frequent and constant. And similar to both kitchens and well-run assembly lines, the process needs to be predictable, repeatable, accurate, and consistently maintained.

Table 3.1 describes the requirements for success in the food service and construction industries.

From a Lean perspective, it is also crucial to understand both a restaurant's and job site's failure points. Assembly lines are fairly resistant to the vagaries of people. Unless someone truly screws up or sabotages the process, they virtually run themselves and the product that comes out the other end remains relatively consistent in terms of quality. Not so with restaurants or job sites. A quick examination of Table 3.2 will demonstrate exactly what I mean.

As you can clearly see, the issues that kill kitchens and job sites are uncannily similar—and are almost entirely people driven. Anything that is inadequately planned, poorly communicated, sloppily executed, poorly coordinated, and lacks a sense of timing, will interrupt workflow and result in waste in the form of poor quality, lowered productivity, blown deadlines, and lost profits.

And let me take this analogy one step further. Where people-driven systems truly differ from manufacturing environments revolves around human emotions and the meaning that people place in them. Fail to give me a piece of critical information that I needed, which, consequently, made me look like a fool in an Owner-Architect-Contractor meeting, and you won't simply receive an "error" message from your operating system. I'm going to read all sorts of intent into it—and maybe I'll up the ante down the road—and decide to hold back a critical piece of information that you need as payback.

In the "blow and go" environment of construction, if poor communication, inadequate handoffs, inadequate execution or training, and ineffective conflict resolution are allowed to flourish, the waste generated by such problems (and the cost to reverse them) will be compounded exponentially.

To mitigate these impacts you could try to "engineer" your way out of these people-generated problems, which is precisely why Lean construction practices such as Building Information Modeling (BIM), prefabrication, pull planning, Last Planner, and process mapping have gained in

TABLE 3.1

Key Elements for Success

Success Factor	Food World	Construction World
Attitude	In the business because they know the business. Willing to put tools in place for people to be successful. Create trust by having the backs of people who work hard. Have regard for people and company policies. Leaders expect everyone, including themselves, to live up to their commitments.	Leaders understand the big picture. Want to succeed and want the people under them to succeed. Willing to provide people with the tools to do the job. Create trust by having people's backs who produce. Have regard for people and company policies. Leaders expect everyone, including themselves, to live up to their commitments.
Planning	Menu and recipes in place. Overall design (French, Italian, Vietnamese, etc.) in place. Estimate of ingredients needed (and budget) in place. Organizational structure and roles and responsibilities are clear.	Overall design in place. Contract in place. Estimate, budget, and logical sequence of work established. Plan for buy-out in place. Long lead items identified. Organizational structure and roles and responsibilities in place.
Preparation	Everyone knows the menu cold. Frequently used ingredients are prepped in advance for each station. All needed ingredients have been preordered and are available. Everyone knows what everyone else is doing and is responsible for.	People know their scopes, plans, and specs, understand the contract delivery system, and have a work plan in place. Needed materials are preordered and are on site. Everyone knows what everyone else is doing and is responsible for.
Requisite skills	Know recipes and cooking techniques. Can chop, cut, dice, and sauté. Know proper meat temperatures to produce high-quality meals. Know how to track and monitor budgets and inventory.	Can process RFIs, PCOs, submittals, and log them. Can track costs and produce budget reports. Can manage to budget. Plan in place for training if skills are lacking. Know how to track and monitor budgets, materials, and manpower.
Timing	Appetizers precede entrees—desserts follow. Sequence of meat, vegetables, and sauces determined. Each station knows cooking durations and delivery time. Pay suppliers on time. Are working off of current menu. Actions are coordinated.	Know the schedule. Know to keep design and engineering ahead of construction. Mitigate impacts of long lead items and understand importance of getting people paid on time. Are working off of current documents. Actions are coordinated.

(Continued)

TABLE 3.1 (CONTINUED)

Key Elements for Success

Success Factor	Food World	Construction World
Execution	One thing to know what to do, another to actually do it—and do so under pressure. Best ingredients are purchased for the best price. Workstation managed properly. Everyone is accountable to deliver on commitments. Failed deadlines is not an option.	One thing to know what to do, another to actually do it. Best materials are purchased for the best price. Work plan managed properly. People are able to deliver under pressure. Everyone is accountable to deliver on commitments. Failed deadlines is not an option.
Communication and coordination	Constant communication regarding where they are, what is needed, by whom, and when. The goal is to knit together each workstation to produce a seamless dinner service. People ask for help when needed. Let others know if they are falling behind or have made a mistake.	Constant communication regarding where they are, what is needed, by whom, and when. The goal is to knit together the office and field functions to produce a seamless product. People ask for help when needed. People take responsibility to let others know if they are falling behind or have made a mistake.
Waste	Issues identified before food is wasted. Goal is to eliminate replating. Effort is made to keep inventory at a minimum to reduce spoilage. Roles and expectations reclarified as needed. Eliminate deadwood and team killers. Productivity rate (successfully plated meals/waste ratio) is high.	Issues identified before they fall through the cracks. Goal is to eliminate redos or unwanted duplication of service. Effort is made to keep materials from the site until needed to prevent damage, reorders, and restocking. Roles and expectations reclarified as needed. Eliminate deadwood and team killers. Return on staff ratio is high.
Process for continuous improvement	Managers and chefs assess how the team is doing. Seek feedback from owner and customers. Seek feedback from employees in terms of frustrations or what can be done better. Probe why problems are occurring to mitigate root causes. Measure performance (number of successfully plated meals/waste ratio).	Managers assess how the team is doing. Seek feedback from owner and end users. Seek feedback from employees in terms of frustrations and on what can be done better. Probe why problems are occurring to mitigate root causes. Measure performance; increase return on staff ratio; reliability of commitments made via work plan (percent complete/deadline).

TABLE 3.2

Restaurant and Job Site Failure Points

Failure Point	Food World	Construction World
Wrong attitude	Get into the business because friends told them that they gave great parties or because they want to show off their collection of antiques. No idea of business fundamentals. Spend wildly on the wrong things. Little regard for the people that work for them. Underreact or overreact when people fail to live up to commitments. Little focus on profitability.	Leaders have no understanding of big picture or particulars of the contract. Track technical issues only—spend no time focusing on *how* to get to the result as a team—because they are not sure about the steps required to achieve the result they are seeking. Little regard for others. Underreact or overreact when people fail to live up to commitments. Little focus on profitability in favor of "just getting it built."
Absent planning	No consistency. Menu changes constantly. Theme changes constantly (one day country French, next week southern Italian). Poor planning for procurement of ingredients (buy way too much or too little—and at a bad price). Budget is a mystery. Nobody clearly knows who is doing what.	Poor understanding of project documents, drawings, and delivery system. The schedule changes constantly. No plan in place to track the budget. Work plans are a mystery. Long lead items missed. Clear organizational structure and roles and responsibilities are completely lacking. No one knows who is doing what.
Poor preparation	Wait staff don't know the menu. Prep work not done. Workstations are a mess. The "right hand" doesn't know what the left is doing. Key ingredients are missing or not purchased. People begin to quit because they don't like the way they are being treated and have no confidence in their ability to be successful.	People don't know their scopes, plans, and specs or understand the contract delivery system. No work plans are in place. Trailer is a mess. Needed materials not brought out or not on site. Actions not happening in accordance to schedule. People begin to act out (become sullen, passive-aggressive, hostile) because they don't like the way they are being treated and have no confidence in their ability to be successful.

(Continued)

TABLE 3.2 (CONTINUED)

Restaurant and Job Site Failure Points

Failure Point	Food World	Construction World
Requisite skills lacking	Don't know how to chop, cut, dice, and sauté—or if they do know, they can't do it under pressure. Don't know how to track and monitor budgets and inventory. No plan in place for training if skills are lacking.	Don't know how to process RFIs, PCOs, and submittals and log them (at least in terms of their current company's standards). Don't know how to track costs and produce budget reports. Manage budgets haphazardly. No plan in place for training if skills are lacking.
Poor sense of timing	Appetizers come out at the same time as entrees. Sequence and timing of meat, vegetables, and sauces is a mess. Each station only focuses on its own needs, could care less about what is happening on other stations. No sense of priorities (what is important right now). Suppliers paid late or not at all. Communication is thoroughly lacking.	Don't know the schedule. Construction gets ahead of engineering or design. People focus on their own areas of expertise and show little regard for others. No regard for teammates' needs in terms of timing. No sense of priorities (what is important right now). Miss long lead items. No coordination. Subs running up each other's backs. Not working off of current documents. Subs and vendors not getting paid. Communication thoroughly lacking.
Sloppy execution	Start to cut corners to save money. Lots of yelling and screaming—or simply quitting without notice. Can't produce under pressure. Workstations mismanaged. No leadership direction. Commitments drop and deadlines fail as people become more and more frustrated with each other and focus only on themselves and their needs.	Start to increase overtime to maintain schedule. People do not know what is expected of them or how to coordinate their actions. Leadership direction is nonexistent. Work plan dropped and tasks not completed. Commitments drop and deadlines fail as people become more and more frustrated with each other and focus only on themselves and their own needs.

(Continued)

TABLE 3.2 (CONTINUED)

Restaurant and Job Site Failure Points

Failure Point	Food World	Construction World
Lack of communication and coordination	Communication nonexistent. Lots of blaming and withholding as people scramble to make themselves look good. Meals not plated due to lack of coordination. No one asks for help (or gives help) if needed. No one admits to making mistakes.	Communication nonexistent. Lots of blaming and withholding of information as people scramble to make themselves look good. No coordination between field and engineering. No one asks for help (or gives help) if needed. No one admits to making mistakes.
Waste	Tons of wasted food. Inventory is not tracked. Lots of spoilage. Lots of replating because of poor coordination. Who is doing what is never clarified. Team-killing behaviors are allowed to flourish. Restaurant bleeds money like a sieve.	Tons of waste in terms of redos or unwanted duplication of service. Issues fall through the cracks due to poor communication, lack of coordination, and not following through on commitments. Team-killing behaviors (blaming or withholding information/dropping deadlines) are allowed to flourish. Project bleeds money like a sieve.
No process for continuous improvement	No attention paid to customer complaints. Change menu or theme without ferreting out root causes for previous failures. Don't ask employees how to improve things. High turnover. Number of successfully plated meals/waste ratio is low.	No attention paid to owner or employee complaints. People continue to work in isolated silos. No probing as to why problems are occurring to get to root causes. GC or subcontractors are thrown off the job. People quit in droves. Project ends up in litigation. Return on staff ratio is extremely low.

popularity. But these process improvements will only serve to alleviate part of the problem. When it comes right down to it, success on any job site will always reside on the leader's ability to handle the people side of the business effectively. This means applying Lean principles to the people side as well as the technical side, and that's exactly what the following chapters will teach you how to do.

4

The Lean Team Challenge

A few years ago, in what only can be described as a temporary bout of insanity, I embarked on a two-week driving tour of England. After adjusting to the mirror box of horrors (steering wheel on the right, gear shifter and rearview mirror on the left), better known as a Ford Mondeo, I left the relative safety of London and headed for the English countryside. After a few hours of white-knuckled driving, I arrived at the mother of all Western European building projects—Stonehenge.

What strikes you immediately about Stonehenge is the phenomenal scale of the site. Though the actual stonework structure is a modest 320 feet in diameter, the entire site spans hundreds of acres. Besides the well-known circular stone structure, the site is comprised of a complex series of earthworks, burial mounds, and avenues as well as remnants of an intricate lattice of scaffolding and connecting wooden buildings. But while most people who study the site ponder its significance (was it a spiritual hub? an elaborate burial site? a means to predict moon phases and the seasons more accurately?), I couldn't help marveling at the fact that it had been built at all. It is estimated that some 20 million man-hours went into the construction of Stonehenge. Twenty million.

Assuming that Stonehenge was not built through forced labor, just who were these motivational wizards who were able to convince their fellow villagers to leave the relative comfort of their wooden huts, and over the course of seventy-five generations (5000 BC–2600 BC), drag sixty 25-ton sarsen and bluestone slabs 19 miles across the Salisbury plain and erect them to precise specifications? Given what we know about how people are wired, why is it that after a couple of centuries, people didn't just say to heck with this? That's what I really want to know.

While it is true that we are highly social beings, we are also hardwired for self-interest. Huge portions of our brain are specifically devoted to

autonomic fight-or-flight responses that compel us to abandon the greater good in favor of self-preservation. The struggle for existence, as Darwin described it, is just that. But there is also an enormous evolutionary advantage to being connected to a group. An individual within a group has a much greater chance of fending off predators and predatory tribes than it does on its own. This is why social groups exert enormous pressure on their members (through rules, mores, and threats of banishment) in an attempt to override what comes naturally to us all. So, we are also biologically hardwired to fear ouster by our social group. Throughout history, banishment was the harshest punishment exacted by tribal societies to its worst offenders, as it meant that this "non-person" would live out its remaining days without the safety of the tribe, afraid and alone.

So how does this hardwiring affect us in our modern world? Whether at work, or driving in our cars on the way to work, we are constantly assessing our environment for danger and whether or not we should remain connected to our tribe. As a manager, this is the reality that you know all too well and are tasked with balancing on a daily basis. Compounding this difficulty is the fluidity of what constitutes a "tribe" in our modern world. Does it center on the company we work for, the state or town we live in, our religious affiliation, our generational cohort, the school we graduated from, the AA group which we attend regularly, the type of car that we drive, the football team we root for? The potential number of "tribal affiliations" open to us is enormous and varies greatly in importance from individual to individual.

So, circling back to Stonehenge, by what means did these ancient construction leaders keep generation after generation engaged in the project despite these competing biological forces? What did they say? What did they do? Unfortunately, we'll never know. Unlike the structures they left behind, the motivational tools that they used to get the job completed are lost forever. But perhaps we can draw some inferences from what occurs on modern job sites.

Currently, when a project isn't going well, many top executives point the finger of blame at the job site leader—the inference being that people are naturally inclined to *want* to work together, and if they don't, it must be due to the shortcomings of the leader. While there may be some truth in this, this is not exactly how the human equation works. Even when teams are firing on all cylinders, people don't cease being individuals within the team environment. They are constantly scanning to see whether or not it is still in their best interest to continue to throw in their lot with their teammates

(in the form of taking on extra work or eschewing individual recognition), for the good of the overall team or company goals, or whether it is better to separate themselves from the pack to maximize individual benefit.

It is far more accurate to say that when things aren't going well, what the leader has failed to do is to give his or her staff a compelling reason to remain invested with the team and set aside their biologically determined default position of "me" centeredness. After all, even the best team players expect to receive a promotion, raise, or some kind of formal payoff as tradeoff for their sacrifice.

Here is a key point that leaders need to grasp, particularly in the heat of project execution: if we are going to ask people to willingly give their best and fully contribute to team and project goals—and endure all the pain that comes with it (extra work, long hours, fatigue, and increased stress) there has to be something in it for them besides a paycheck. There has to be a win-win for the individual. It can't be just the company or project that wins.

It is true that, with enough muscle, anybody can make someone do something against his or her will. All that is required is the ever-present dread of punishment. Stalin, Hitler, and countless other draconian despots can attest to the power of invoking dread. Clearly, almost anyone can be forced to do just about anything against their will if they believe that their survival is at stake—which is a pretty big "what's in it for me" when you think about it. But getting people to *want* to perform requires a leader to tap into a very different understanding of the human condition. When they are able to do so, most leaders arrive at a paradoxical epiphany. Instead of carrying a big stick, they arm themselves with the most powerful leadership tool of all—an invitation.

Rather than relying on endless threats, effective leaders invite their staff to *want* to give their best by tapping into what people want and need in exchange. Employees want:

- A sense of purpose—they need to know that what they are being asked to do has significance and that they aren't just cogs in a meaningless, incomprehensible wheel.
- A sense of accomplishment—they want to feel that they are truly making a contribution toward accomplishing an established goal.
- A sense of intellectual or personal skill development—that they are learning new skills or ways of thinking that will benefit them in the future.
- A meaningful voice—that their ideas matter and will be sought out and listened to.

- Recognition—that they are respected and held in esteem for making important contributions and sacrifices for the greater good.
- A sense of equity—that everyone on the team will be held to the same high standards.
- Financial benefit—that what they are doing will lead to a financial benefit in the future.
- Responsibility and autonomy—that when earned, they will be trusted to work autonomously and accomplish a variety of important functions within the organization, with minimal supervision.
- An opportunity to honestly voice concerns—that if they are struggling, or have worries and concerns, they will be given an opportunity to voice them and will be provided with meaningful support (vs. being left to sink or swim). Further, that problems encountered will be viewed as opportunities to improve rather than individual failings, and that they can admit to their shortcomings without the fear of belittlement or retribution.
- A sense of rationality—that in this age of bloated processes, laborious operating systems, and out of control late changes, their leaders will rationally adjust goals and schedules and do everything they can to eliminate waste.

I cannot state this last point more emphatically. In the past six years, I've witnessed an ever-increasing amount of late changes, leading to a greater number of tasks and activities needing to be performed, within tightly compressed schedules. And it is our construction teams and architects that have borne the brunt of this compression. Rather than eliminating waste, the response by most companies is to add onto bloated processes, further increasing the complexity of submittal processes, cost processes, Revit and modeling systems, etc., all of which puts even greater pressure on our teams. Increasing system complexity guarantees that these processes won't be able to go as fast as we need them to, at a time when we need them to go fast. Systems such as Revit also create the false sense that we can implement significant changes during construction with little impact to the budget or schedule. After all, if we can change the entire design of a building with just a few movements of a mouse, and construction hasn't started in that area yet, what's the problem? The problem is that changes made via a few simple (or not so simple given Revit's complexity) mouse strokes don't equate to the planning required to successfully execute a project within a given time parameter. Just because we can build

something virtually (and this is no easy task for our architects either) doesn't mean we can execute it in the field in the time frames we are forcing on our people. Rather than simply accommodating these changes (and attempting to reap the additional profits), it is time for top construction leaders to start pushing back. I know this is an anathema (i.e., you never say "no" to the owner), but I worry greatly about the physical and psychological impacts of our current construction environment and can't help wondering how many good people will be forced out of the profession due to stress. Owners should care about this as well. Who ultimately bears the financial brunt of overtime and escalation coasts? Isn't it in the owner's best interest to help us reduce waste and change the rate of what is happening on our job sites? And isn't it their interests that we are supposed to be protecting?

But let's circle back to this notion of invitations on a more tactical level. What a project leader is saying by extending such an invitation is this: "If you are willing to work hard, share information, execute your duties, help your teammates be successful, and otherwise drop your self-interest, in exchange, I will make sure that financially, professionally, intellectually, and psychologically you are compensated for doing so." In addition, the leader gives unspoken assurances of equity, i.e., that high standards will be maintained, and that those who maintain these standards will be rewarded, and those who violate these standards will either be sanctioned, or, at the very least, not rewarded. Interestingly, these are also the key elements for ensuring uninterrupted workflow. Why do I say this? Because when people feel that the leader is already doing his or her best to provide them with what they need, they will no longer feel the need to fight for recognition, curry favor, or seek other forms of psychological or monetary compensation. When their needs are met, they will commensurately reduce their self-protective vigilance and will instead focus on desired results. But if they believe that the leader is not invested in their needs, they will read this as a signal that it is in their best interest to pull away from the team in favor of securing their own status. And make no mistake, when people are more concerned with themselves than giving what the next person in the process needs to do their jobs, predictable disruptions to flow and execution will result.

Please don't misinterpret what I'm saying. This isn't about "buying" people's loyalty, cooperation, and teamwork. It is about having their backs so they don't have to be diligent about watching their own. And believe it or

not, this implied invitation is an expectation that every employee carries in his or her head at every level of an organization. It's something that is universal. If you don't believe me, check in with yourself the next time you are at work and feel like your boss didn't provide you with what you believed you deserved.

Given the face validity of the above, you may well ask why so many leaders fail to attend to the needs of their staff.

Usually, such failures are the result of two factors that are all too common in construction: a lack of time due to task demands, and information overload. Let's look at an example. Let's say that a project manager, named late to a project, feels compelled to barricade herself in her office in order to review project documents, and subsequently, only emerges when called upon to attend a plethora of meetings called by the owner. What happens if this same leader, so stressed by what she discovers in the documents, or so overwhelmed by the deliverables generated in the owner meetings, avoids engaging with the team or becomes hostile when she does? Again, because people are constantly scanning as to whether or not it is better to remain a part of the team or to look out for themselves, if the leader intentionally or unintentionally reneges on the implied invitation, people will default to self-interest. Worse, because they will often feel betrayed, duped, or foolish for abandoning their self-protective stance in the first place, they will actively resist the efforts and decisions of the leader in the future.

Some leaders think that a clever way to avoid this type of potential failure is to simply not extend any invitations at all. Unfortunately, once you accept the mantle of leader, these promises, and the expectations contained within, are already implied. If you choose to ignore this reality you do so at your own peril.

Now do you see why so many powerful leaders throughout history have resorted to threats? Such promises aren't easy to deliver. But the point of the above example is to demonstrate just how easy it is to derail the smooth flow of work by simply ignoring the important transactional relationship that leaders have with their staff. People have needs, and they expect to have these needs met through the actions of their leader. If they don't, they will attempt to get their needs met through some other means. Now you can begin to see how fragile this whole notion of "team" truly is.

Even though we throw the term *teamwork* around all the time, we often fail to grasp the leadership implications. If a leader simply has a bad day, or in the heat of the moment, inappropriately loses his or her temper, and

doesn't make an effort to repair the resulting damage, months of hard work to establish a functional team environment can be destroyed.

It is essential for leaders to understand that the invitation espoused at the beginning of a project is not one that should be offered lightly. Many leaders simply parrot the appropriate words but then fail to live up to them. Such lip service does more damage than if nothing had been said at all. Truly effective Lean leaders quickly realize that everything done and said each day is an invitation for individuals to stay invested and committed to the overall team process throughout the life of the project and rally behind them in their war on waste—or not.

As daunting as this sounds, it is important to understand that each day is an opportunity to invite your team to stay engaged. In truth, Lean leadership requires a full-time mindset but only a part-time investment in behavior. Every question answered, every direction thoughtfully dispatched, every worry and idea for improvement that is listened to and acknowledged, is, in fact, a delivery on the promise and will keep your team invested and engaged. Because of this additional effort—rather than looking for the exits—your people will look for new ways to make contributions to the overall team effort.

But a functional Lean team process won't emerge overnight. And it requires one further element of human understanding on the part of the leader as well as a healthy dose of patience.

There is an evolutionary progression that occurs for most individuals within a company. When people first come to a job, they initially bond to a small group of people who they happen to like or with whom they share a common personal interest. As time goes on, and as they gain a sense of purpose and meaning through their work, they will bond to their immediate work group (i.e., field team, engineering team, accounting team, etc.). As they acquire greater knowledge, and learn more about the big picture, they will come to see how what they do contributes to the overall project goals and will then begin to bond to the entire project team. And as they gain a greater sense of the overall business plan, and feel a connection to the overall goals, they will begin to bond with an entire division or business unit. And as the company's vision and mission becomes clearer, and their personal job opportunities and responsibilities increase, they will then bond to the entire company.

Not everyone will choose to climb this progressive ladder of belonging. This sense of belonging has to be earned by every leader within the organization. But the more attention you pay to what is important to people,

and the more you invite them to be engaged and involved in the team process, the more likely it will be that your subordinates will *want* to be an active part of what is happening both now and in the future. This is particularly true when we ask them to engage in improvement efforts (Kaizen events). When people feel valued for their contributions toward continuous improvement, the more likely it is that they will *want* to do whatever is necessary to make contributions to the greater good of both the project and the company.

As a prelude to the next chapter, and to demonstrate just how simple yet vital this notion of extending invitations truly is, I'd like to introduce you to my own model, which I call the "Brand Your Cattle and Build Your Fences" model (Figure 4.1).

Let's use as an example a subcontractor who is executing work on site, whose leadership team is comprised of a Project Manager (PM), a Purchasing Agent (PA), and a General Foreman (GF). Intuitively, we know that for this team to be productive, and to reduce potentially wasteful flow interruptions, they will need to meet, share information, delineate problems, express ideas to resolve these problems, and form agreements in order make these ideas actionable. Further, not only will they need to understand and execute their own job duties but each will need to have a working knowledge of their teammates' roles and responsibilities. While each person "owns" his or her own circle of responsibility, critical interface points will need to be established to ensure that the work product that each person contributes is successfully coordinated among all team members. Graphically, it would look as shown in Figure 4.2.

The areas of overlap are where teamwork is required. And here is where the whole notion of invitations comes into play. To solidify these interface points, it is imperative that the leader extend an invitation for everyone to be open and honest about any problems that they are encountering so they can be handled as a team. And again, in a Lean environment, problems are seen as opportunities to improve, not to assign blame.

So, let's say that a cost problem involving manpower emerges that the GF can't solve on his own (e.g., the Foreman that the GF oversees is bullheaded and doesn't buy into the man-loading schedule that the management team has developed and believes that any cost overruns caused by overstaffing should be made up in the buy-out or elsewhere in the budget). Let's also say that the GF has made an initial attempt to "invite" the Foreman to his way of thinking but the Foreman still won't budge and continues to over-man the job and that the way the company is structured
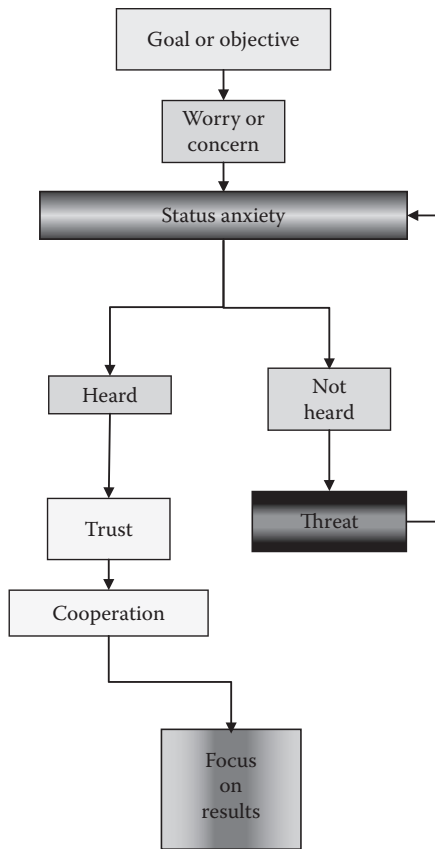
FIGURE 4.1
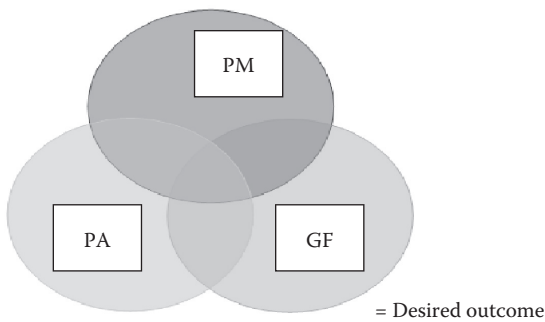Brand Your Cattle and Build Your Fences model.

FIGURE 4.2
Functional team interface.

doesn't allow him to fully confront the Foreman (only the Superintendent is allowed to do so, and won't, because he and the Foreman are personal friends). It should be obvious that the longer this problem persists, the more money it will drain out of the profits, and the more the GF will continue to worry about it. The latter is what I call *status anxiety*. Status anxiety is an anxiety state that goes far beyond the run of the mill anxiety that arises when we encounter problems. It occurs when people start worrying more about how their personal status will be affected if they are unable to get something to happen (i.e., "Will the PM think less of me if I can't get this Foreman under control?" "Will the owner think less of me?" "Could I lose my job over this?"). During status anxiety, we become so fixated on how we look in the eyes of others that we lose sight of what we are trying to achieve. The duration of a person remaining in status anxiety is often determined by whether or not a leadership invitation has been fulfilled.

Going back to our example, if the GF takes the risk to voice the problem—as initially invited to do so by the PM in his "we're in this together" speech at the start of the job—and the PM not only hears him but rolls up his sleeves, asks the purchasing agent to join them, and they jointly develop a plan to mitigate the issue (jointly meet with the Foreman to thoroughly go over the business plan, explore the Foreman's resistance points or lack of understanding, seek out his input and buy-in, or, as a last resort, let him know that they will escalate the issue to the superintendent and project director in order to help resolve the issues), then the GF will no longer remain in status anxiety mode. He will move away from his preoccupation with himself and how he may be negatively perceived, and through a renewed sense of trust and cooperation with his teammates, will focus with renewed vigor on achieving the desired result for the project.

But let's look at what happens if this scenario plays out in a different way. Let's suppose that the GF took a risk to admit that he is struggling with the Foreman, and instead of receiving support, the PM said, "Hey, I've got enough of my own problems, pal. Getting the Foreman under control is your job. If you're not up to the task, maybe I should find somebody who is."

Where will the GF's status anxiety go then? Will it reduce or increase? And as a result, where will his focus be? Feeling "unheard" produces what we don't want. Rather than feeling invited to share the load with his managing teammates, the GF will actually feel barred from the party. Through his actions, the PM will have unintentionally *uninvited* the GF from the team process and, as a result, unwittingly extended an open invitation for him to suffer in

silence and go it alone. Here is another key question: In the midst of a bout of status anxiety, and feeling otherwise cut off from his managing partners, how will the GF look upon the Foreman? Will the Foreman be viewed as a potential teammate by the GF, that is, someone to be engaged with and, in turn, invited into the team process? The exact opposite will occur. The Foreman's resistance will no longer seem like a mere difference of opinion; it will be perceived as a threat to the GF's existence—something to be attacked, micromanaged, or worked around. Worse, after his request for help was essentially rebuffed by the leader, he will now look unfavorably upon his managing partners as well, rightly perceiving them as threats in times of need rather than as potential allies. It is precisely at this point that most people in this type of predicament make a critical decision that is lethal to Lean culture: they decide to pull their circle of responsibility away from their teammates, and instead of interfacing, exchanging ideas, and coordinating their actions, determine that it is "safer" to go it alone. Instead of doing what is best for the project, they will now shift their focus onto whatever will make them look good—regardless of the impact that this may have on the overall project. From such a stance, a number of self-justified Cover Your Ass behaviors will be spawned: accusatory emails will be sent, information hoarded, mistakes denied—all in an attempt to bolster one's own position in the face of threat—hence the model's name. Instead of working together, when feeling threatened, people build fences, brand their cattle, and fiercely defend their own turf while only peripherally attending to desired project outcomes. (That's if they choose not to leave the situation entirely by quitting.) And each of these behaviors will, in turn, trigger similar behaviors from others on the team—all of which will disrupt workflow (Figure 4.3).

Here is the critical question to ask. What is the cost, in real dollars, when people decide to pull their circles of responsibility away from the team and go it alone? In today's highly competitive environment, where most jobs are estimated close to the bone, any issue that isn't coordinated with maximum efficiency, any work that has to be redone as a result of a failure to share critical information, any problem or concern that is held onto because a rebuke has impelled someone to remove himself or herself from the team process can and will turn a potentially profitable job into a write-down in a New York minute. I submit that there is a direct cost that is incurred whenever a trailer full of people performs as isolated individuals rather than as a cohesive team.

There are also indirect costs to factor in as well. In the above example, after witnessing the subcontractor's inability to execute an effective manpower plan, how likely is it that the owner or general contractor will
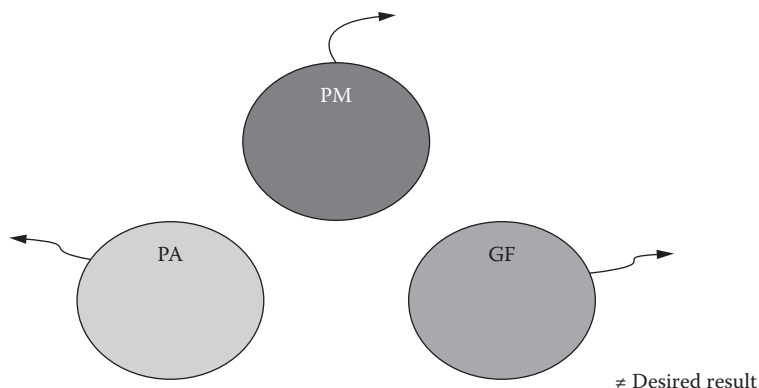
FIGURE 4.3
Team dysfunction—when teammates silo.

approve a change order or claim—even if it has merit? Rightly or wrongly, the assumption will be that the issue became a claim or change order because of poor teamwork on the part of the subcontractor rather than due to a change in contract documents. What then is the likelihood that the same subcontractor, if all bids are equal, will gain future work with the owner or GC if they are perceived as being unable to manage their own team process with maximum efficiency? Given that Profit = Price – Cost × Volume, these simple failed interactions between the GF and Foreman and the GF and PM will have a direct negative impact on the bottom line now and in the future. Think about it. Due to something as simple as a rescinded invitation, both current and future profits can and will be lost.

If you are truly going to think of yourself as a Lean leader, you will need to adopt the mindset that people issues are never just unimportant "side issues" compared to the "real work" of construction; they are integrally connected to the work—in real dollars. Therefore, it is vital that you see yourself not only as the possessor of a critical set of technical skills but also as the chief extender and holder of critical teamwork invitations. It is through honoring these invitations that effective team process happens.

If you take only one thing away from this chapter, I hope it is this: it is your responsibility to make sure that you create an environment that allows people to perceive a value in keeping their circles of responsibility pushed together—and that you haven't given anyone a justification for pulling away from the team. In fact, creating the right environment actually takes that excuse away and helps everyone understand that no one on the team has

permission to go it alone, because if they do, everyone loses. In this context, stop thinking of yourself as a manager of individuals who are performing discrete tasks. Instead, think of yourself as a manager of interactions *between individuals*. It is your job to ensure that the necessary interfaces that need to occur actually do occur. Remember, Lean culture happens at the intersection *between* individual responsibilities. And the best way to make sure this occurs is by living up to the promises implied in your leadership invitation.

THE INVITATION TEST

Here's a quick and easy way to tell if you are doing what it takes to invite people to be a part of the team. During your next staff meeting, ask someone you trust to evaluate you on how well you did the following (have them circle yes or no).

If the answer was "no" on more than three of the items in Table 4.1, you've got some work to do on your invitation skills.

TABLE 4.1

"Invitation" Test

1.	Did you use the word *we* instead of *I*?	Yes	No
2.	Did you truly encourage people to ask questions?	Yes	No
3.	Did you answer your teammate's questions?	Yes	No
4.	Did you refrain from cutting someone off so you could continue talking?	Yes	No
5.	Did you clearly identify upcoming milestones?	Yes	No
6.	Did you show more interest in getting to the milestone as a team versus simply driving to the result?	Yes	No
7.	Did you encourage people to speak up about their worries or concerns?	Yes	No
8.	Did you respond empathetically to people's worries and concerns about reaching the milestone?	Yes	No
9.	Did you ask people what they would need from you or their teammates to help them to accomplish the milestone?	Yes	No
10.	Did you ask for people's input or help to solve an issue, concern, or possible roadblock?	Yes	No
11.	In an hour-long staff meeting, did you refrain from speaking for more than 20 minutes?	Yes	No

5

Trust: Laying the Foundation

After you have extended your invitation, what comes next? How do you sustain high levels of productivity and teamwork even during difficult times? The key can be summed up in one word: trust.

Trust is another one of those words that we throw around assuming that its meaning is clear. But what does trust *truly* mean, particularly on a job site?

Much has been written about this over the years, but the operational definition that has stood the test of time comes from Patrick Lencioni. In *The Five Dysfunctions of a Team*, Lencioni articulates two primary components of trust for fully functional teams: (A) that of giving the benefit of the doubt to fellow teammates during difficult times and (B) demonstrating and honoring vulnerability. What does this mean precisely?

First, when trust is high, and something goes wrong, the first reaction the team has is to assume best intentions rather than jumping to negative conclusions (i.e., "Something must have come up, that's why Gary failed to update the submittal log" versus "Gary didn't update the submittal log because he doesn't give a damn"). On teams where trust is high, the focus is on finding solutions to problems—as a team—not on assigning blame or ferreting out scapegoats. That's not to say that failing to update the submittal log isn't a problem, but the team's focus is on assuming best intentions so that what is needed can be attended to quickly. As we saw in previous chapters, assigning blame doubles down on waste. Not only does the problem still exist, but now we will also have to wade through a series of defensive behaviors, excuses, and counterblames, which further delays getting the team what it needs.

The second key component centers on the need for everyone on the team to freely practice and honor vulnerability. Simply put, this means that everyone is willing to risk personal safety for the good of the project. If they make a mistake, they own it; if they need help, they ask for it;

if they don't understand something, they say so; if they have an interpersonal or technical shortcoming, they admit it. Rather than covering their posteriors or engaging in a number of behaviors to create the impression that things are going well, each person on the team takes responsibility to operate in the realm of reality—even if that current reality reflects badly upon them. Similar to the power behind invitations, the reason they do so is because they have learned that there is a value add in doing so. If everyone is open and honest about what they need, or when they have messed up—rather than wading through a variety of wasteful self-protective excuses—the team can take a more direct path to the truth. In so doing, solutions are arrived at far more quickly.

So what is the leader's role in creating an environment where people are more likely to assume the best of intentions and where there is a value in being fully transparent?

The answer to this question is largely based on how the leader handles situations when someone on the team lets the side down. Your people will quickly assess whether you understand that "to error is human" or whether you see errors as something to be "expunged." If you treat every mistake as if it were the end of the world, rub people's noses in them, react harshly whenever someone musters up the courage to deliver bad news, or micromanage them to make sure that their future actions are "perfect," then it won't be much of a leap to conclude that vulnerability and trust on your team will be lacking. Rather than coming to believe, as Lencioni states, "that there is no reason to be careful or protective around the group," when leaders use people's vulnerabilities against them, people quickly learn to associate their leaders with psychological pain. Soon after, they learn that the best way to mitigate such pain is to bury mistakes, avoid responsibility, and do whatever it takes to get off the leader's radar. *Self-protection* becomes the watchword for such teams. And they become preoccupied with building their fences, branding their cattle, and otherwise attempting to manage their manager's reactions rather than focusing on what they need to do to improve. As a result, present and future productivity suffers. As Lencioni summarizes,

Members of teams with an absence of trust …

- Conceal their weaknesses and mistakes from one another
- Hesitate to ask for help or provide constructive feedback
- Hesitate to offer help outside of their own areas of responsibility
- Jump to conclusions about the intentions and aptitudes of others without attempting to clarify them

- Waste time and energy managing their behaviors for effect
- Hold grudges
- Dread meetings and find reasons to avoid spending time together

And, I will hasten to add, they will also feel completely justified in doing so.

Conversely, when leaders actively listen, help people learn from their mistakes (viewing mistakes as part of the learning process), thank and honor their staff for coming forward to voice problems and concerns, and are quick to point out past successes in order to bolster their confidence, people learn that vulnerability is not only valued, but is the very basis for the team's success—even if it means that, in so doing, they expose themselves as less than perfect. As an adjunct, in an environment where vulnerability is encouraged, people actually take on more responsibility rather than shrink from it. They discover that not only is honesty the best policy, but it is also the best way to eliminate flow disruptions, and benefit themselves.

Referring again to Lencioni's summary.

Members of trusting teams …

- Admit weaknesses and mistakes (interpersonal and technically based)
- Ask for help
- Accept questions and input about their areas of responsibility
- Give one another the benefit of the doubt before arriving at a negative conclusion
- Take risks in offering feedback and assistance
- Appreciate and tap into one another's skills and experience
- Focus time and energy on important issues, not politics
- Offer and accept apologies without hesitation
- Look forward to meetings and other opportunities to work as a group

So how does this relate back to the concept of invitations? It has been my experience that people make the determination of which type of invitee they are going to be—a trusting or self-protecting one—within the first few days of a job. The bad news is that once the notion of self-protectionism takes hold, it becomes more and more resistant to change. As the team's perceptions become skewed to the negative, they start actively scanning for confirmatory evidence that their initial impressions where correct—a phenomenon that builds upon itself. If continuous improvement is your aim, then an environment for honest discussion and self-evaluation, with no holding back, must be established and maintained by the leaders.

The payoff for leaders for creating an environment of trust is something that often gets lost. Most leaders are under the mistaken impression that it is their job to "fix" all of the issues that plague their projects. In Lean, this couldn't be further from the truth. Your actual job is to allow your team to freely identify waste and empower their improvement ideas. By doing so, you lighten your own load, increase buy-in for proposed solutions, and make your own job easier.

Given the nature of this industry, it probably seems counterintuitive to encourage vulnerability. After all, the average construction contract is replete with threats of punishment for any and all failures to perform; therefore, encouraging people to own their own mistakes might seem tantamount to recommending team suicide. Though I readily admit that there will be those who will be quick to exploit any missteps that you or your staff admits to, do you really want to replicate the waste that gets generated by the worst people that the industry has to offer—particularly inside your own trailer? Do you really want people walking on eggshells around you and wasting time doing various CYA behaviors? Wouldn't you rather have people stepping up—honestly and directly—and throwing their lot in with each other to solve problems? If we want this industry to change—and all of us do—doesn't this change start with us?

Again, this isn't just a touchy-feely issue—it's a dollars and cents issue. Whenever people choose to put time and energy into hiding problems or mistakes, or pretend to know something that they don't, what are they not spending time focusing on and what types of errors are they likely to make as a result? Wouldn't it be far better not to have to sift through all the smoke and mirrors and deal honestly and directly with the problems at hand? The reality is that a sense of invulnerability breeds an almost incalculable amount of waste.

It is important for you to honestly assess whether or not you are promoting the type of environment that allows vulnerability to flourish. Let's take an example. Suppose you are a Project Manager for a General Contractor, and your superintendent has just come to you and told you that her concrete subcontractor has informed her that they are having problems in their prefab yard, and form work will be delayed three days. You could respond by saying, "Shelley, I'm not happy about this, but I'm really glad you told me right away. Have we developed a recovery plan so we get back on schedule?" Or you could say, "Damn it, Shelley! How could you have let this happen?"

Can you feel the impact each of these responses has on trust and vulnerability? The first question assumes good intentions, honors vulnerability, and invites active dialogue and problem solving. The second, while feeling good to express in the moment, is a signal for Shelley, and everyone else on the team within earshot, to run for the hills. Rather than inviting her trust, the latter statement invites defensiveness and avoidance of accountability. And the negative effect won't just stop there. It will likely cascade down to her external subcontractor partners as well. With her status anxiety fully activated, won't Shelley be far more likely to throw her external partners under the bus in the face of such abject blame?

Some of you may feel that you do a pretty good job promoting vulnerability, yet you still hear whispers that trust on the team is lacking. There is something else that you need to consider, and it has to do with the unique environment that you work in. Construction is a process-driven industry. There is a procedure for almost every job site activity. In Lean, we consider this a good thing, provided that the procedures in place aren't so bloated as to cause unnecessary delays and frustrations for those executing them. To be successful, your staff is highly dependent on procedural clarity in order to do their jobs effectively. Unfortunately, some construction leaders view the need for producing clear job descriptions, a functional organizational structure, a well-understood and respected communication chain of command, publicly posted and color-coded schedules, and relevant and well-maintained procedures manuals as trivial, mundane, or perfunctory tasks that get in the way of the real work. A word of warning: If such basics (you'll read much more about these later on) are not provided, their absence will negatively impact your team and, over time, undermine the team's trust in you. If you are preoccupied with seemingly more pressing tasks, your staff will give you the benefit of the doubt—at least for a little while. But as the team flails about in a sea of procedural uncertainty, and as their own mistakes begin to mount, whom do you think they will assume is the source of their frustrations? It won't matter if you intended this to happen or not. Voids such as these are rarely filled in positively. They are not going to say, "Oh, poor Gary—I guess he was too busy attending meetings to put together a procedures manual." Instead, they will say, "That damn Gary! Why doesn't he give us the tools we need to do our jobs?!"

Now, you could protest that your staff is failing to give you the benefit of the doubt—and of course you'd be correct. But think about it; when you have been in their shoes, didn't you draw the same conclusion about your own boss when you were struggling? Instinctively, we link our success

directly to the actions of the leader—and for good reason. From whom else will we get what we need to be successful but through those above us in the organizational structure?

At work, having the sense that we can be successful at our jobs contributes to our sense of well-being. In real terms, our success determines whether or not we can make our house and car payments, send our kids to good schools, pay our medical bills, enhance our careers, and in general, bring good things into our lives. So quite literally, any voids that create a perceived barrier to our success will be considered a threat. And by now, you understand all too well the implications of putting people in such a state. Threats, and the fear they generate, are the biological opposite to a sense of trust.

One last critical point to make about trust, and it is particularly salient in the high-pressured, fast-paced, high-stakes world of construction. We all blow it from time to time. Yelling, shutting down, withholding information, arriving late to meetings, failing to give people our undivided attention—the list of things that leaders do when under stress that damage trust seems virtually endless. But the key question is this: Do you care enough to recognize when you have blown it? And, more importantly, are you willing to take responsibility for it? Your staff needs to know that you care enough about them to hold yourself accountable. They don't expect you to be perfect all of the time. But they do expect you to apologize when you do something that jeopardizes trust.

Remember, the best way of all for encouraging vulnerability in others is to model it. Many people (sadly) weren't all that upset that Bill Clinton had had an extramarital affair. What bothered them was that when he had a chance to step up and take responsibility for it, he didn't. He will forever be remembered for uttering the words "I did not have sex with that woman." It bothered us because we knew it was an obvious lie that needed to be owned up to and wasn't. Conversely, when JFK got up in front of the American people and took full responsibility for the Bay of Pigs fiasco, trust in his presidency actually went up. The best way to lay the foundation of trust for your team is to be the embodiment of vulnerability-based trust. As counterintuitive as it may feel, owning our mistakes, rather than denying them, is what allows our teammates to trust us.

6

Is Your Attitude a Value-Add?

In my experience, the most common root cause for interpersonally driven waste at the job site level can be traced to its leaders' attitudes. In this chapter, we'll discuss issues concerning attitude that directly affect Lean culture. Some of these, at first blush, might not seem so readily apparent. But an increased awareness of the subtle ways that your attitude can affect your team will help you to move forward with your Lean leadership efforts.

Our attitude is the well from which we draw our invitations of trust, and in turn, is the source point for the promotion of a culture that focuses on continuous improvement. But first, let's define what we mean by the word *attitude*. It is a word that we toss around with both good and bad connotations, but what does it really mean? *Attitude* is a cryptic shorthand for the beliefs that we hold about others in relation to ourselves and the constellation of justifications we use when acting upon these beliefs.

When we are leading a team, if we believe that those we work with are smart, good-hearted, hardworking, and an overall asset to the project, we will be much more likely to share information, provide them with what they need—including our time—and, in general, act in generous ways toward them.

But if we perceive them as lazy, selfish, or stupid, we will likely act in a guarded and adversarial manner and be stingy with our time. After all, why would we go out of our way to help those whom we suspect are a threat to our success? But the question then becomes, how reliable is the data that we are using to anchor our assumptions and justifications? And what if we are wrong? As the Roman Stoic philosopher Seneca said, "The wise do not put wrong construction on everything."

Yet, it is often the case that some very onerous and wrong-headed "constructions" about others are arrived at based on very limited samples

of behaviors—blended with extrapolations from past experiences with other employees—that may or may not be relevant. How does this impact our teams? If we jump to negative conclusions about the motivations of others based on erroneous beliefs, we can create massive snags in work-flow. For instance, if I jump to the conclusion that someone is "useless," how much information will I share with him or her and how much coaching will I provide? And how much will being left in the dark negatively affect this "useless" person's throughput in the future? Thus, our attitude toward others becomes a self-fulfilling prophecy and serves as justification for more shunning on our part.

In reality, our attitude reflects the regard we have for others. It is the truth that lies beneath the mask of behaviors that we acquire at leadership seminars. The following paragraph from the Arbinger Institute's *Leadership and Self-Deception* says it best:

> ...we can sense how others are feeling toward us. Given a little time, we can always tell when we are being coped with, manipulated or outsmarted. We can always detect the hypocrisy. We can always feel the blame concealed beneath veneers of niceness. And we typically resent it. It won't matter if the other person tries managing by walking around, sitting on the edge of the chair to practice active listening, inquiring about family members in order to show interest, or using any other skill learned in order to be more effective. What we'll know and respond to is how that person is *regarding* us when doing those things. (2000, p. 27)

Unfortunately, I've witnessed the veracity of this statement many times. Early on in my career, I was asked to assess two "sister" projects and was told that both were suffering from the same malady. "Both of these project managers are living in the Stone Age," the operations manager (OM) said. "They think the best way to get things done is to yell and scream at people."

On the surface, the OM was correct; both Project Managers (PMs) were relying heavily on their tempers to get things done. And the staff on both projects had plenty of tales to tell of being dressed down both publicly and privately—and neither appreciated it one bit. But after digging deeper into each situation, the data led me to very different conclusions and recommendations. For one, I suggested an intensive team-building session, with individual coaching for the PM. For the other, I recommended the PM be replaced. Now you might well ask, "Why would that be?" After all, both PMs were displaying the same behaviors—yelling and screaming at

others to get their way. So, why would I be softer on one than the other? The answer rested on the underlying regard that each of these leaders had for the people they served.

People had this to say about the first PM: "Yeah, he's a yeller and a screamer. But when he gets upset, he's usually right. And the reason he is upset is that he knows our capabilities and that we could have done better." Though he could be extremely harsh when he perceived that short-cuts were taken, he never beat people up when they had tried their best but simply made the wrong decision, though, at times he assumed that people knew more than they actually did, mistaking legitimate confusion for lack of effort. But he more than made up for this shortcoming by being fully engaged with his team. It was clear that he had taken the time to get to know his people and had a strong grasp of each person's strengths and weaknesses. He also knew whether or not they were married, had kids, or if anyone on the team had personal problems that might be temporarily putting them off their game. And he wasn't shy about giving praise when they had turned their performance around or fighting on their behalf for well-deserved raises—even though it often raised the ire of his higher-ups. In short, his people had no doubt, despite his yelling, that he was fully behind them.

Now, let's turn our attention to the second PM—or as his team had nicknamed him, "Little Hitler." People on this project recounted instance after instance of him flying off the handle and accusing them of malfeasance whenever the least thing went wrong. On the rare occasions when the inaccuracies of his initial reaction were pointed out to him, he often justified his behavior on the basis of some rather vague and spurious complaints that he ascribed to the owner. Rarely did he ever acknowledge positive performance, and when he did, he insinuated it was attributable to something he had done. He was so disengaged from his team that when he took his first job walk, one of the security guards attempted to escort him off the site because he failed to recognize him. All Little Hitler cared about, according to his staff, was making sure that nobody did anything that could make him look bad or compromise his bonus.

Do you see what I'm driving at here? There was a reason, in the first case, that the staff continued to follow the first PM despite some of his inimical behaviors, while those under Little Hitler "wouldn't have bothered urinating on him if he was on fire." In the first instance, though the team didn't like being yelled at, they understood that, deep down, the

PM cared—his high regard for them still showed through. Those under Little Hitler also "got it." They saw that the only regard he had for them was for how they made him look. Things on his team had deteriorated to such an extent that people were actually celebrating failed deadlines in the hope that he'd eventually get fired—hence, the difference in my recommendations.

Our regard for others can be revealed by something as simple as the questions we ask or—more precisely—how we ask them. For example, let's say that one of your young subordinates called for an inspection in an area that wasn't ready, and as a consequence, you received an earful from the inspector about how your staff just wasted his valuable time. When you call this young person into your office, you have a critical choice to make. You could ask, "Tell me what you were thinking when you called for that inspection," or you could say, "What the hell were you thinking when you called for that inspection?"

First, let's be very clear about something. Having regard for others doesn't mean ignoring problems or not pointing out someone's shortcomings. In fact, failing to do so actually demonstrates a lack of regard by revealing that you believe that the person in question has little capacity to improve. But *how* you draw attention to the issue is the difference between Lean leadership and cutting someone off at the knees.

At Toyota, it is believed that deep reflection, or *Hansei*, is the cornerstone of continuous improvement and creative problem solving. Or as George Yamashina, president of the Toyota Technical Center, explains,

> *Hansei* is a mindset, an attitude. At first, you must feel really, really sad. Then you must create a future plan to solve that problem and you must sincerely believe you will never make this type of mistake again. (*The Toyota Way*, 2004, p. 257)

We won't develop this mindset in others through yelling and humiliation. Nor is it achieved by ignoring problems. It is attained by inviting people to engage in thoughtful inquiry.

At Toyota, thoughtful reflection is achieved by focusing on the process, not results. They found that when managers focused purely on results and those were not attained, they tended to assume that a person or persons were to blame, and efforts toward continuous improvement stopped there. But when managers focused on the process and asked people to reflect on what caused the failure, they were much more likely to accept

responsibility for the role they played in the failure and identify ways to prevent it from happening in the future.

So, going back to our example and viewing it with the concept of *Hansei* in mind, the first question is clearly an invitation to engage in reflection. By saying, "Tell me what you were thinking when you called for that inspection," the person is given the opportunity to reflect on process issues, such as (A) timing (assuming that the area would be ready and was attempting to save time by requesting the inspection too early), (B) execution (had planned to cancel the inspection but was diverted by a competing issue), or (C) planning and judgment (due to inexperience they believed that the area in question *was* ready for inspection when it actually wasn't). The value of taking this approach is that it allows others to reflect on the root cause of failures more objectively, thus setting in motion thought processes to help prevent similar errors from occurring in the future. It also affords you the opportunity to provide strategic coaching and training with the same aim in mind.

Conversely, the only response that the question "What the hell were you thinking?" evokes is defensiveness. Rather than engaging in productive reflection the person in the glare of such an accusatory spotlight will either spin yarns or shut down entirely. The only lesson he or she will ultimately learn is how to accept a tongue-lashing or how to avoid taking any initiative in the future. More importantly, all they will remember is *how* they were spoken to, not the lesson you tried to impart.

There is another critical element at play here, and this involves trust. "Tell me what you were thinking" conveys that you believe that the person had the best of intentions, but that their thought process was a little off—something that is both understandable and correctable. The question "What the hell were you thinking?" conveys something else entirely. Such a declaration signals an assumption by the leader that the subordinate's intentions are suspect by implying that the failure was attributable to his or her stupidity, laziness, inattentiveness, or incompetence—without saying so to their face. Though not stated directly, the subordinate will pick up on the underlying message loudly and their "mental flow" will be interrupted. Rather than reflecting and learning how to improve, all they will be focusing on is how the leader maligned their character and ways to avoid blame in the future by ducking responsibility or putting it off on others.

Such a stance also has other unintended consequences. When leaders assume that problems are caused by the internal failings of others, the

only real "fix" is to start getting rid of people. Such leaders are often dumbfounded as to why they have high turnover and fail to understand that when people start reading between the lines, they will leave preemptively. Sometimes this isn't a bad thing. But when high-quality people leave along with marginal performers, this is when you know that the leader's attitude has gone askew.

Leaders also need to keep in mind that trailers are very small places. How we treat one person often conveys our regard for the entire team—whether we intend this or not.

After finishing an assessment of a team that was underperforming and incurring late write-downs on their jobs, I informed a division manager that he was largely perceived as "intimidating and unapproachable" because of his sporadic angry outbursts and this was making people reticent to come to him to ask for help. He was incredulous. "How could that possibly be? My door is always open, and in all my years, I have never yelled at a single person in this office—ever!" He was, in fact, being truthful: his staff said his door was usually open, and he never yelled at anyone on his team—at least not directly. But on the occasions when his door was closed, his staff overheard him scream at the top of his lungs at vendors and subconsultants. So, even though his explosiveness was never directed toward them, these behind-closed-doors fits of rage conveyed to his team his *capacity* to devalue others. They assumed that it was just a matter of time before he turned his rage internally, so they avoided bringing problems forward and kept critical issues to themselves much longer than they should have. Some even chose to leave, citing this leader's temper as one of the reasons in their exit interviews—multiplying the interpersonally driven waste even further. (Whenever you have to train a new person to replace someone who left for interpersonally generated reasons, this is, essentially, a rework situation for the leader.)

The problem for most of us is that in the moment, we are usually wholly unaware that we are demonstrating a lack of regard toward others. We think we are just trying to get things done or just trying to get a point across. We might have an inkling that we've done something to ruffle feathers, but we assume that if we did something truly off-putting, someone on the team would let us know about it. I can tell you that 99% of the time this is a faulty assumption. Never count on getting such feedback directly. Just as no one on the team will ever walk up to you and say, "Thanks, Boss—another great job of leading me this week!" few will ever let you know that you did something that was off-putting to the team.

To improve your awareness, below are some of the more subtle ways that leaders inadvertently display a lack of regard for their teammates:

- Not returning phone calls or emails promptly (or at all)
- Showing up late to staff meetings and expecting everyone to stop and catch them up when they do arrive
- Chronically canceling staff or one-on-one meetings at the last minute
- Reading or sending emails and text messages during meetings while others are speaking
- Promising to provide procedural tools or coaching, but not following through
- Neglecting to address voiced concerns in a meaningful way
- Conveying an air of unapproachability, i.e., that their own time is too important to be intruded upon
- Responding to questions in a dismissive, sarcastic, or demeaning way

I guarantee that if you do any of the above on a consistent basis you will inadvertently send the message that you hold your teammates in low regard.

Some of you may be wincing, recognizing that you've done some of these things. So, does this mean that you are a bad leader? More than likely, it means that you are simply a human being. In an environment as stressful as a construction environment, it's difficult *not* to do any of these things from time to time. But if the above are consistent patterns of behavior for you, be aware that your chronic lack of regard will create perceptual voids that your team will fill in negatively. They will assume, often rightly, that there is always something of higher importance for you than respecting them or responding effectively to their needs. You can protest to the contrary all you like, but your behavior will always speak louder than any of your words and will disrupt workflow.

Lean leadership is about taking every opportunity to create a culture that does not allow such problems to flourish. That's why I greatly admire managers like Terry Shugrue, a Senior PM for Turner Construction in Eugene, Oregon. He refuses to allow such missteps to creep into his team process—right down to how he schedules staff meetings. He carefully fixes a time for staff meetings each week, announces it to everyone verbally and via email, and publishes a corresponding agenda two days in advance. He then goes one step further; he copies top management regarding his

meeting schedule and lets it be known that if they should happen to schedule a corporate activity that conflicts with this meeting, that neither he nor any of his staff will be in attendance. He places so much value on the opportunity the team has each week to review the overall project plan and put their worries and concerns on the table, that he isn't about to pass it up for anything—even the opportunity to make himself look good by attending a corporate function.

A lack of regard is not something that only leaders demonstrate. It is equally important that leaders address the lack of regard that others on the team have for their fellow teammates—particularly when someone with unique technical skills is allowed to run roughshod over the rest of the team. Many PMs learn this lesson the hard way. Every time they chose to look the other way, overall waste increased. As teammates quickly learn that it is safer to avoid one another, or engage in CYA behaviors, rather than coordinating their efforts and working as a team, waste multiplies. Whenever we overvalue technical prowess at the expense of the team, we might as well say, "Forget what I said about the importance of teamwork, because what I really value is individual talent." Yes, the owner may love a particular engineer for his or her ability to crank out potential change orders (PCOs) or run an Owner-Architect-Contractor (OAC) meeting, but if, within the team, he or she withholds information, bad-mouths field counterparts, publicly belittles the administrative assistant, or in general, shows more interest in his or her own rising star than what is being produced as a team—and you fail to address it—you are, in essence, giving your tacit approval of the negative behavior and communicating that your regard for teamwork is pure lip service. I've seen many teams with "star" technical performers go down in flames because their teammates viewed their behavior as so objectionable that they went out of their way to avoid or sabotage them. Instead of planning and coordinating their work, they erected fences, branded their cattle, and let the chips fall where they may—usually resulting in write-downs and, ultimately, angry owners.

Conversely, I've seen leaders with solid but not extraordinary technical skills do phenomenal things with inexperienced staff—simply because of the high regard that they demonstrated toward them. For example, I was asked to assess a project team by a General Contractor (GC) that had landed a project in eastern Washington. In retrospect, it was a job that the company probably should have passed on. It was a design–build job in a remote area, with unfamiliar subcontractors and a prohibitive contract.

To top things off, a substantial number of those on the job were fresh out of college.

After hearing the particulars, uncharacteristically, I assumed the worst—that the team would be struggling and morale would be in the tank. The real question in my mind was how much money the company was prepared to write down—and how many promising people they would lose as collateral damage.

But when the survey results came back I was pleasantly stunned. They revealed surprisingly robust numbers for cross-functional communication, solid role delineation, solid ratings in terms of workflow and handoff efficiency, and surprisingly high overall morale. How could this be? I knew that the PM and the Project Superintendent (PS) were more than competent, but they weren't exactly human dynamos in terms of their technical prowess. And while each had ample construction experience, both were fairly new to their respective leadership roles. So, why was it that the team was not just surviving but flourishing? One factor stood out: the attitudes of the Project Executive (Jim Goldman), PM (Eric Wildt), and PS (Dwayne Goddard) were extraordinary. From the beginning, they made a commitment that, despite all the problems with the job, they would create an atmosphere that would allow their inexperienced staff to contribute their best and that they would resolve any process and training issues that arose promptly. Rather than bemoaning their situation, they used the team's inexperience to drive their leadership strategy. If they were to prevent workflow stoppages, they knew they'd need to create an environment that allowed everyone to freely admit what they didn't know, and where help would be provided when needed.

The goals that they set for themselves as leaders were fairly straightforward: to be highly accessible, to encourage people to ask questions, to answer those questions (or locate the appropriate resources within their corporate structure to do so), and to pass on as much knowledge as they could. They also created an organizational structure whereby everyone on the team understood not only their own job responsibilities but those of their teammates as well. In their minds, the difficulties of the project were not an excuse for not helping people to be successful at their jobs and getting them ready to take on future assignments. They would focus on staff development and let the productivity chips fall where they may.

I've heard such lofty ideals expressed by management teams before, but such efforts usually die on the vine in the face of external pressures. But this leadership team stuck by this strategy through the life of the project. And it worked. "Do you know the greatest thing about this job?" the staff said during the assessment interview process. "If you fall down, there is always someone there to help you get back up again—not to do your job for you—but to help you pick yourself up. It's an attitude that everybody has around here. We do whatever we can to help each other—and it starts with those guys." "Those guys" were Dwayne, Eric, and Jim.

Think about how powerful this statement is from a Lean perspective. High standards were expected, but no one was left on their own to figure out how to achieve them. When mistakes were made or people felt confused, the managers put aside what they were doing, rolled up their sleeves, and simply asked, "What can I do to help?" As a result, instead of burying problems, people took responsibility for them. The management team didn't have to turn over rocks to get to the truth because it was readily offered up to them. Instead of becoming frustrated and reflexively taking things over when things went wrong, this management team taught people how to identify and fix their own mistakes, thereby minimizing potential workflow disruptions in the future.

Don't get me wrong: this job required intensive support from top management to help mitigate budget and design issues. But against everyone's predictions (including my own), the project finished just slightly behind schedule and managed to eke out a small profit. I'm convinced that if the management team had been comprised of leaders who valued technical prowess over teamwork, and displayed a dismissive or resentful attitude toward the young team they were given, the outcome for this project would have been much different.

There is one more story to tell about this project. As I mentioned before, this was a design–build job—but for much of the time, construction outpaced the often-overmatched designers. Soon, the job became build–design rather than design–build—with all the inherent frustrations, rework, and costs that this implies. Even though no one thought the day would ever come, there was a point when design was substantially complete and the team needed to shift gears. Unfortunately, by then, everyone had become so used to thinking "design first" they repeatedly missed opportunities to execute the schedule more aggressively. Jim, Eric, and Dwayne had also recognized that the staff had grown a bit complacent about underperformance by some of the subcontractors who

also were suffering from this same design-first mindset. The management team called a meeting to address the needed shift in thinking, but they did so in a decidedly *un*-heavy-handed way. Eric calmly came to the point: "We have something very important to discuss. I know that we have to shift from being design driven to being schedule driven, but, to be honest, I'm not sure of the best way of getting there. What do you all think?"

Take a moment to fully appreciate the brilliance behind this question. Surely, Eric and the rest of the management team knew full well what it was going to take to make this shift, and could easily have resorted to issuing edicts to make it happen. If a management team is wearing blinkers and is purely results driven, this is exactly what they will do: put out edicts, punish those that fail to comply, and keep punishing until they get the result they want—regardless of the carnage that ensues. But Eric, Dwayne, and Jim realized that if they followed this path with such a green team they would be missing out on a golden opportunity to assess several important aspects of current state team functionality that could help them improve its performance for the long haul. They knew that they needed to get answers to the following questions: Do these young folks know what being schedule driven actually means in the day to day? Do they understand the tools that are in place to help make this happen? And, if they know what it means and understand the tools, do they have the skills to make it happen?

By asking the question in the manner that he did, Eric opened the door to having these questions answered honestly by the people who were in the best position to answer them—the team. It also conveyed something else that was a huge confidence boost for this young team: regardless of their inexperience, the managers held them in high enough regard to ask them to generate possible solutions. This is the very essence of what Toyota refers to as *Kaizen* (continuous improvement)—that the people who actually do the work should be involved in all continuous improvement efforts to address problems that arise, regardless of their experience level.

And through his willingness to express his own vulnerability ("I'm not sure of the best way of getting there"), Eric gave the rest of the team permission to admit the things that they didn't know—which turned out to be quite a lot. For instance, while many people knew that a schedule existed, very few of them actually knew how to read or interpret it in terms of planning their engineering duties. And this was just the tip of

the iceberg. After further discussion the team generated the following plan of action:

> **Live the schedule: Clear the path and take away subcontractors' excuses for not performing.**
> **Goal: To become proactive rather than reactive.**
> We, as a team, will not allow this goal to fail. Therefore, we commit to the following:
>
> - We will all attend a workshop hosted by the Project Superintendent to learn how to read the schedule.
> - We will read, reread, and ask questions about the schedule until it makes sense and becomes second nature.
> - We will shift our staff meeting focus from design issues to schedule-driven issues.
> - We will audit our submittals.
> - We will walk the field as engineer/superintendent partners, hand carrying copies of the schedule as we do.
> - We will generate engineering "hot lists" and conduct daily, ten-minute "What's hot/what am I worried about?" meetings, either at the beginning or end of the day.
> - If our best efforts to improve performance fail, we will call on our teammates for their assistance.
> - If we ourselves are in error, we will own it and rectify the situation.
> - And most importantly, *we will change our attitude* toward nonperformance. We will do our due diligence, but we will stop doing other people's work for them. We will insist on others doing the jobs that they are paid to do. We will act like responsible adults and will expect others to do the same.

Not bad for a bunch of rookies, right? It did take two hours of discussion to generate this plan, but by the end of the meeting, everyone not only understood it but bought into it as well, because they helped create it. Weigh that against the ostensible expediency of issuing edicts that are only fully understood or fully embraced by 20% of the staff, and you can easily calculate the additional costs associated with taking a seemingly more "expedient" route. While it takes more time to obtain a team decision, the long-term benefits far outweigh the additional time it takes to do so.

When you are attempting to create a Lean culture, it's about setting the team up to achieve sustainable results over the long haul rather than implementing quick fixes that could, in the long run, be fraught with problems

and misfires. Despite all the tools that it has to offer, Lean is, above all else, a people-driven concept. To be successful with Lean implementations, we need to take the time to treat people like human beings who have a brain between their ears as opposed to shortcutting the process and leaving them feeling like mere extensions of their laptops or tool belts. The more we treat people like human beings who have something worthwhile to offer, the greater the likelihood that they will stay engaged and invested and give us the outcomes that we desire.

By extension, this same principle applies when we need to do the hard things, such as confronting people about poor performance. If our aim is to sincerely help someone to improve—rather than merely inflicting a wound because we feel irritated and therefore justified in doing so—we can deliver a message that leaves people feeling like they *can* make the needed improvements.

I hope that you are beginning to see that creating a Lean culture doesn't require you to learn a plethora of leadership techniques or to undergo a personality overhaul. It simply obliges you to gain an increased awareness about the impacts that your attitude—both positive and negative—can have on others.

This also includes how you approach the construction documents that you have inherited from your preconstruction team. No matter how terrible you think the contracts or drawings are, own them. Complaining about your documents does nothing but show your low regard for the top management team that put them together—and encourages underlings to do the same. Worse, it gives your team a built-in excuse for failure. The message you need to give your team is clear and simple: these are our documents and it is our job to execute them to the best of our ability every single day. When you think about it, what more can you ask of your team—or of yourself?

This begs another important question. How do you regard yourself? How badly do you beat yourself up when you make a mistake or fail to execute as you think you should? Being responsible for your actions is great, but brutalizing yourself over errors isn't—and will probably lead you into committing a number of Lean-killing behaviors such as (A) being even more impatient or intolerant of the failings of others or (B) taking on even more responsibility and micromanaging in a distorted attempt to correct your wrongs.

The fact is, most managers beat themselves up ten times worse than their bosses ever would. Lighten up for gosh sakes! All you can do is your

best—so have some regard for yourself as a human being. If you are able to view your own mistakes more objectively—and less harshly—the rest of the team will benefit from this healthier means of self-reflection as well. Remember, only a fool trips over things that are behind them. Or as Seneca said,

> What progress have I made? I am beginning to be my own friend. That is progress indeed. Such a person will never be alone, and you may be sure he is a friend of all. (*The Consolations of Philosophy*, 2000, p. 103)

Seneca uttered these words 2,000 years ago, but when building a Lean culture, they still hold true today. No job is worth crucifying yourself over. The kinder you can be to yourself, the more empathic you will be toward your staff—all of which will accelerate the team's learning curve and subsequent long-term performance.

One last story. This is important because some of you may be called upon to replace a manager who has botched things rather badly, and your attitude will be the key in turning such a difficult situation around.

Scott Miller (PM) and Dennis Newman (PS) were brought in to clean up a job in San Francisco that was, in a word, a mess. The start of the job couldn't have gone more poorly. Soon after breaking ground, the excavating team came upon human remains, Native American artifacts, and an unknown underground stream. And under the terms of the contract, the GC "owned" all of these site conditions—and the number they had in their estimate only covered "known" conditions. To make matters worse, the original PM and PS—both of whom who were new to the company—had wildly oversold their abilities. Planning was a complete afterthought as they ran from one fire to another, rather than formulating and working in accordance to a plan. While everyone on this inexperienced team was working extremely hard, you'd never have known it by their work product. Their efforts resembled those of a crew on a sinking ship sequestered to their quarters. While each bailed water as hard as they could, since there efforts were wholly uncoordinated, all they managed to do was take water from their compartments and throw it into the compartment of their teammates. Predictably, morale couldn't have been lower, and the owner was absolutely livid.

This is the point where Scott and Dennis were called upon. It certainly didn't hurt that they had 50 years of construction experience between them, but keep in mind, so did the people that they replaced. But here is where the whole notion of attitude kicks in. They could have come on the

scene, puffed out their chests, and said, "We heard that you people really screwed this job up, and we're here to fix your mess." But instead, they introduced themselves, had everyone else do the same, and then said, "We know that you folks have been up against it, and we're here to help." Over the next few days, Scott and Dennis did the following:

- Via individual interviews, they found out what each person had been doing, what their experience levels were, and, from their perspective, what had and hadn't gone well.
- As managers, they made a point of staying out of their offices. They met around a formerly unused table (which was originally meant for staff meetings), pored over drawings together, and pulled others into their discussions to ask their opinions.
- Whenever someone on the team looked down or fearful, they reassured them that though the project was tough, they'd been through tougher—and they believed that this team was capable of pulling this job off.
- They produced a new organizational chart that created assignments commensurate with each person's abilities, reviewed it with everyone, and collectively went over everyone's roles and responsibilities—and established team goals to meet owner expectations.
- When someone screwed up, they laughed and said that they had done far worse in their careers, and promptly showed the person what they could do differently in the future.
- They invited people's questions and input, made themselves available to answer questions, and provided guidance and training whenever needed.

When I came back three months later, the turnaround in team confidence was astounding. Equally impressive was the quality of their work product. A job that had been utterly stagnant was now emerging rapidly out of the ground.

Unfortunately, this project didn't have a fairytale ending—it did lose $3 million. But defying all expectations, it finished on time, with favorable recommendations—not only from the architect and engineer (A&E)—but from the owner as well (saving untold millions in potential future earnings). And there is no telling how much more money would have been lost if Scott and Dennis hadn't come on board and displayed such supportive and productive attitudes.

Here is the model I penned to capture what Scott and Dennis did to such great effect, which puts a different spin on the notion of "whipping people into shape":

WHIP-C FORMULA

W—Welcome. They viewed everyone as valued teammates—rather than seeking out scapegoats—and gave everyone a fresh start.

H—Help. They actively shared knowledge, answered questions, and engaged in problem solving.

I—Invite. They invited and valued everyone's participation, involvement, and input.

P—Participate. They modeled collaboration and provided a sense of hope.

C—Clarify. They clarified roles and expectations, goals, and what was important to the owner.

Scott and Dennis were the embodiment of value-add attitudes.

7

Lean Ethics

In a word, each man is questioned by life; and he can only answer to life by answering for his own life; to life he can only respond by being responsible.

Viktor E. Frankl

If our attitude is to remain consistent, it must be grounded in something more enduring than just getting the job done. If getting the job done is our only desire, then we could be tempted to take questionable shortcuts in our leadership practice. Therefore, we need to look toward a source of more sustainable wisdom—our ethics.

Why are our ethics germane to our discussion of attitude and developing a Lean culture? Because, when distilled to its essence, leadership it is both a virtue and a sacred trust. Whether you have been selected to be a general manager, operations manager, regional or division manager, project executive, project manager, project superintendent, department head, lead engineer, or general foreman or foreman, you need to recognize the honor that has been bestowed upon you. These titles are not given to just anyone who happens to come along in your organization. It means that people within your company think highly enough of your ability and character to entrust critical objectives to your judgment.

So, does this mean that the people who work under your direction will suddenly do everything that you ask simply because a title now appears after your name? No, of course not. That's why aligning with Lean culture principles becomes so critical. In a Lean culture leadership is service based and this belief is central to Lean ethics.

ETHICS

In modern times, we tend to limit our examination of ethics to a litmus test against a legal standard. For instance, is it ethical to accept gifts from subcontractors with whom we may be doing business in the future, and would this be construed as biasing our decision in favor of their selection if challenged in court? Is it ethical for a general contractor to make a large donation to a political candidate when they may be bidding on projects within this politician's sphere of influence? Such questions are important and are specifically aimed at keeping companies out of legal hot water. But by their very nature, such questions are limited in scope.

But ancient philosophers like Socrates and the before mentioned Seneca didn't view ethics as a tool to be narrowly applied. Their scope of ethical consideration was much broader. They viewed ethics as a means toward living a good and purposeful life, something to be reflected upon and practiced each day. If they were able to travel forward in time, they would be puzzled by our response to their query as to whether or not we thought about ethics. We'd likely say, "Yes, we have HR and Legal Departments that handle that sort of thing." "Really?" they'd likely respond. "Do you have collaboration and morale department as well? Are these the only places where such important matters are considered?"

So central were ethics to "living the good life" that Socrates went so far as to posit that anyone who focused on anything other than what was right and good (i.e., money, ambition, power, or prestige) was clearly insane—because the pursuit of all of these things for their own sake ultimately leads to unhappiness. For Socrates, living a good and ethical life was the only clear path to true happiness.

C. S. Lewis, a 20th-century UK philosopher who helped maintain his countrymen's morale as England stood alone against Nazi Germany, used the following analogy to describe the importance of ethics in day-to-day leadership. He instructed leaders to imagine those working under their direction as individual ships docked in a harbor. As each ship bobs up and down, their captains await something vital from their admiral—their sailing orders. For our purposes, whether these are estimating, purchasing, engineering, or field captains, each is awaiting direction in order to commence. These orders, according to Lewis, are comprised of three elements

and answer the essential questions that each captain and their crews need to know:

1. *How to cooperate and coordinate with one another.* Otherwise known as *social ethics*, they comprise the understandings that each person on the team has of one another's roles and responsibilities as well as the responsibilities that each "ship" carries in terms of communicating their position (i.e., where they are currently and what they will need to maintain their position in support of the overall project fleet). These orders also establish the sequence in which the "ships" will leave the harbor. (For our purposes, since we always want to build the project on paper and buy it out before we begin construction, design and engineering should always sail ahead of the field "ship.")

2. *How to keep each "ship" afloat and in good condition.* These are *individual* ethics or *virtue* ethics. They constitute a thorough understanding and complete commitment to one's role and keeping our particular "ship of responsibilities" in good working order. In the construction world, each person on the team needs to be provided a clear set of expectations so they can accept full responsibility for executing said role to the best of their abilities. In Lean terms, this means that each person is tasked with developing and maintaining a work plan that is congruent to the overall project plan.

3. *What is the ship's mission?* In other words, where are we going as a team? This is the most important sailing order of all because it gives everyone on the team a target destination in accordance with the overarching plan. As the Mad Hatter once told Alice, "If we don't know where we are going, it doesn't make much difference how we get there." For our purposes, we need to ask ourselves, as leaders, the following: Does everyone on the team understand what the final destination is (end date)? Have we laid out the logic of the job for getting there (schedule)? Have we been able to transmit what we know about the scopes, plans and specs, and budgetary expectations in a manner that everyone can understand (financial destination)? And most importantly, will my teammates be able to comprehend the important mile markers that indicate that we are on or off course and be able to make the necessary course corrections if needed?

If our desire is to build the job right the first time all of these ethical elements need to be in place. And, most importantly, they need to be "owned" and maintained by the leaders throughout the life of the job. Notice the plural used here. In a Lean culture, the leaders don't passively wait for what they need. Each leader knows how their function "fits" in the overall system and seeks out the information required to be successful. In a Lean environment the leaders don't perform in silos. Their ethics lead them to understand that the success of the project is predicated on the entire fleet being successfully deployed.

But let's shift gears for a moment. To this point, I've admittedly taken a philosophical position that views mankind fairly optimistically, that is, that people want to do good and, with a little help, direction, guidance, and clarity from their leader, they will. And that is certainly the contention of most Lean practitioners. Our belief is that when problems occur, 98% of the time it is due to a broken process—that it is the process that is broken, not the people. But if you have as much gray hair as I do, you know darn well that mankind is *not* comprised entirely of those whose motives are pure. If this were so, there would be no need for locks on our doors and antivirus software on our computers. A number of philosophers throughout history have put forth their own brand of recommended leadership practices to underscore this fact.

- Men are so false, so insidious, so deceitful and cunning in their wiles, so avid in their own interest, and so oblivious to others' interests, that you cannot go wrong if you believe little and trust less. (Guicciardini, 1483–1540)
- If you are involved in important affairs, you must always hide failures and exaggerate successes. It is swindling but since your fate more often depends upon the opinion of others rather than on facts, it is a good idea to create the impression that things are going well. (Guicciardini, 1483–1540)
- It is much safer to be feared than loved. Love is sustained by a bond of gratitude, which, because men are excessively self-interested, is broken whenever they see the chance to benefit themselves. But fear is sustained by a dread of punishment that is always effective. (Machiavelli, 1469–1527)

These quotes among others, were compiled by the writer Francois La Rochefoucauld in the 17th century and were intended as a guide—a procedures manual if you will—for those entering the aristocratic court system for the first time. As he observed the French Royal Court vacillate between

aiding the nobility and threatening it, he took a rather dim view of the human condition, his assumption being that mankind is self-interested at its core and that it was a waste of time to invite others to help achieve some greater good, because at the first opportunity, mankind will turn things to their own advantage and leave the greater good in its wake. Therefore, the best approach for leaders was to preemptively assume the worst and manipulate and threaten those in their charge with punishment in order to bend them to their will.

So, this begs the question: who is right? Should we model our leadership ethics after the likes of Socrates and C. S. Lewis and become the champion of the good and trust others to help us in our quest? Or should we embrace the ugly realities espoused by Machiavelli and Guicciardini, assume the worst, and steel ourselves for the inevitable battle against self-interest that is certain to follow?

Surely, there is ample evidence throughout history (and in the present) for both viewpoints to hold water. Our own history is replete with such inherent contradictions (Jefferson taking the "noble savage" view of mankind; Adams seeing mankind as a mob in need of strong governance). As inspired as we are by the Mother Teresas of the world, don't we often feel downright foolish when attempting to follow their example? For who among us hasn't felt "taken" when we've tried to do the right thing?

It would be preposterous for me to tell you that there aren't people who wouldn't gladly lie, cheat, and steal at the first opportunity. Indeed, there will be times when you will be called upon to confront those who are dishonest, deceitful, and greedy. And there will also be times when you'll need to defend your team from unwarranted attacks by the owner or to address internal cancers who are threatening to tear your team apart. In fact, to *not* do so would be unethical. But is it truly wise and good to treat everyone—from the start—as potential enemies of the state? Is it truly prudent to convey to the individuals on our team that they are not to be trusted until proven otherwise or that their motivations are suspect every time they do something incorrectly? If we act in this manner, then we certainly will never be taken off guard, right?

Unfortunately, we are already more than primed physiologically to go in this direction from the outset. We are hardwired to detect threats from everywhere, even for such seemingly innocuous things as when the boss walks past us without saying hello—and to respond to them in kind. If you doubt the veracity of this statement, examine what you told yourself the last time you left an important message for someone higher up and they

didn't return your call. Did you assume that the reason they didn't get back to you was because they were busy, had different priorities, or simply had something come up in their personal lives? Or did you convince yourself that their lack of response was intentional and assume that they were going out of their way to make your life miserable? If you are like the vast majority of us, you probably assumed the latter.

This means that we have to be aware that we all are physiologically biased toward negative assumptions about those we work with. And this is particularly true regarding our external partners. "Us vs. Them" (with "us" equaling good and "them" equaling bad) is literally hardwired into every tribe on this planet—for good reason. The archeological record is pretty clear; when two disparate groups of people got together, it usually turned out very badly for one of them. (The Hawaiian culture was based on love and sharing until the Tahitians came along and made them pay a heavy price for their generosity.) So, this natural wariness is literally built into our genetic code.

But it has been my experience that effective leaders, while well aware of this tendency, are extremely good at keeping this autonomic threat response at bay and successfully interpreting it as a false alarm—which it often is. They are able to stay centered on objective criteria and don't allow themselves to get swept up into the emotions that compel us to enter into attack mode.

The difficulty we all face is that we tend to scan for confirmatory evidence to substantiate the rightness of our initial negative emotions as a crude means of keeping ourselves protected from potential future harm. For example, if we felt a subcontractor took advantage of us (did not provide an equal substitution in a certain instance and pocketed the difference), we start scrutinizing all of their substitutions thereafter. So, what is the problem with this? Wouldn't we be foolish not to? The problem is, if we all scan for evidence that confirms our negative view of others at every turn, we'll surely find it—and will unwittingly inject interpersonally driven waste into the system as we do. In a Lean environment, our doubts should trigger a discussion, not a negative assumption. Because once we have declared someone a "thief" or "unfair" in our own minds, it's highly unlikely that we are going to move off of this position any time soon. This means that every subsequent interaction will be colored with this belief. And, unconsciously, we will continue to scan for data that confirms our beliefs while at the same time conveniently discounting any data that might contradict them.

As leaders, we must also recognize that we are not alone in this distorted way of thinking. The people we work with, internally and externally, struggle with these very same cognitive biases. Perhaps this helps explain why, when you slid the first change order onto the owner's desk, he or she angrily exclaimed, "I knew you were going to change order me to death!"—without even so much as examining the validity of the claim.

If they are so detrimental to human interactions, why is it that we so readily adopt biases in the first place? The reason for this is largely biological. Our brains are literally organized for organization. We are hardwired to quickly see patterns where there aren't any and will skip over anything that "doesn't fit." To demonstrate this point, take a quick look at Figure 7.1.

Before coming away with the impression that I am a complete jerk, read the first line again, and the second line as well. For most of us, the discrepancy has to be pointed out because our brain simply autocorrects over the errors. This hardwiring for "sense making" serves us well—most of the time. Our ability to quickly organize and make sense of the world sets us apart from other animals. And a similar ability serves us in our interpersonal behaviors as well. Our survival depends on our ability to quickly discern whom we can and cannot trust. The problem occurs when our organizational bias sends us down the wrong path—believing there to be threats when there aren't any. This is the very definition of a bias.

We adopt biases not because we are evil, but because they are an easy shorthand for sorting out the complex world around us. On any given
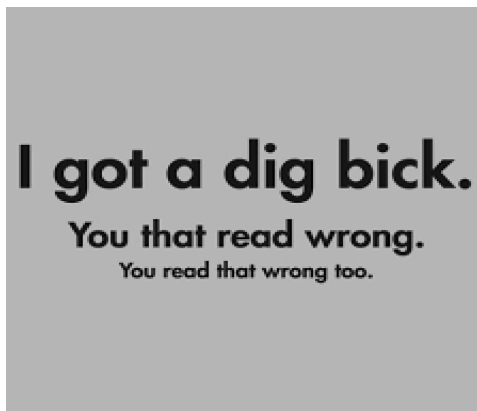
FIGURE 7.1
Our brains are wired to "gloss over" problems and jump to conclusions.

day, the average project manager interacts with scores of people: owners, architects, consultants, subconsultants, city inspectors, subcontractors, attorneys, and nitwit Lean implementation consultants to name just a few. So, how do we sort through the massive information overload that bombards us each day and wade through the varying personalities who present us with this information? Unconsciously, we look for patterns that we believe "sum up" the intentions that each person is presenting to us. The whole notion of intuition or gut feeling is nothing more and nothing less than this. We simultaneously learn and feel our way through situations—and what we unconsciously remember is what constitutes our intuition. This is actually what we mean when we say that someone is "experienced": that they have acquired a large database of intuitions by having dealt with many similar situations in the past—which they can now apply to current situations.

Unfortunately, we also acquire inaccurate biases along the way as well and actively maintain the validity of these biases because we *believe* that they will protect us from harm, and sometimes, they actually do. We all can recollect times when we've headed off a claim or detected an inflated estimate because we were able to feel in our gut that something was off and then act on our skepticism. So, why shouldn't we, like Machiavelli, assume the worst about others as our default position and constantly scan for nefarious intentions?

It's been my experience that assuming the worst about others creates more problems than it solves. In the process of assuming the worst about someone else, we inflate all of their faults, and conversely, inflate our own virtues—which distorts the objective reality of the situation. If you doubt this corollary, examine your own thought process the last time you felt that your boss came down on you unfairly. Did you say to yourself something like, "He's always such an unreasonable jerk! Can't he see how hardworking I am and how I always give my best? Screw up just once, and he's all over me!" In the psychology trade, we call this a cognitive distortion. Once we go down this road, objectivity flies right out the window, and along with it, our ability to reach mutually acceptable agreements. The fact is, in the example above, no one is "always unreasonable," we don't "always give our best," and we never screw up just once. But that is not how we see things when emotion takes over. Instead, we lock into our positions, act badly toward others, and feel completely justified in doing so. Unfortunately, all this does is invite others to do exactly the same, because the only thing anyone ever sees is our behavior

toward them—not our reasoning for doing so. It's the same mechanism that occurs when we're locked in battle with our spouse. When we feel we've been insulted, our first inclination is to fling an insult of our own—in the vain hope that our spouse will now understand how we feel and have an epiphany that will magically transform our relationship into some idealized fantasy that we carry around in our heads. But it never works out that way, does it? In reality, all the other person hears is our insult (not what triggered it), and they launch a counteroffensive of their own—also feeling completely justified in doing so. Unfortunately, when we reach this point, all parties stop looking for ways to help things improve and instead continue to seek out justifications (and allies) for continuing to act in decidedly unhelpful, unyielding, and ultimately, unethical ways.

So, how can we avoid this trap? One way is to recognize that it is our ethical responsibility as leaders to recognize and address our own cognitive distortions—not because we are seeking to become saints but because it is the best way to get the workflow back on track. Here is an example. Let's say that you are a project manager and before heading to your office you decide to walk the site and check out an area where a critical concrete pour should be occurring. But when you reach the appointed spot, you notice that nothing is happening. In fact, there isn't a single cement mixer in sight. Even worse, your superintendent, the one who you discussed this issue with just the day before, is also nowhere to be seen. His stoic closed-mouthed style that you found mildly irritating is now going straight up your back. "Who does this guy think he is?" you tell yourself. "Am I going to have to do his job as well as my own? I already do most of the work around here as it is!" If uninterrupted, this stream of thinking will lead to a full-blown workflow disruption. Since you already believe that you do most of the work, it is an easy leap to assume that the superintendent is doing the bare minimum, and at the very least, should come to you if there are problems—not the other way around. So you sit and wait, and as you do, you end up stewing in your own juices. By the time the superintendent finally enters the trailer you are close to apoplectic. When he looks over to your office, all you do is glare back at him. When he finally speaks, all that comes out of your mouth is a sarcastic remark about how nice it is that he has finally shown up. As a result, the superintendent turns without saying another word and angrily storms out of the trailer. Let's examine all of this in tabular form.

COGNITIVE DISTORTIONS

Cognitive distortions are things that we tell ourselves that push us further away from doing what we need to do, by justifying why we won't do what we should to help others (Figure 7.2).

It is important to recognize that the way we think about things—i.e., what we tell ourselves in the heat of the moment—can have a profound impact on our attitude, our emotions, and our subsequent actions. When we convince ourselves that we have been wronged, we not only commit to an adversarial course of action but become further entrenched, which only serves to increase waste by provoking others to do the same.

To head this off, we need to insert a new way of thinking that interrupts this cycle and allows us to regain our ethical footing by inviting ourselves to engage in rational mental debate. When we are able to talk ourselves down from an emotional ledge by injecting a healthy dose of reason, we

Incident	What I told myself	Result of distortion	Debate
Walk the site: Notice that work isn't occurring in areas where you believe it should be (or as was discussed with the superintendent just the day before).	"That's not my job! That's the superintendent's job. I've got enough on my plate–I shouldn't have to do his work too! And we just talked about this!"	Don't talk directly to the superintendent; instead, give him the cold shoulder and makes a sarcastic comment when he does speak. The superintendent doesn't get the message, stops talking altogether, and storms out of the trailer. Nothing, as far as you can tell, changes in the field.	

FIGURE 7.2
Tracking cognitive distortions.

give ourselves the opportunity to minimize deeper disruptions to work-flow. (Please see the last column of Figure 7.3). In our example, if he could have interrupted his emotional ramp up, the PM would have discovered that the superintendent had actually made a heady decision to cancel the pour after finding out that the electrical contractor had installed the wrong conduit the night before. The real reason the PM couldn't find the superintendent was because he was in the electrical contractor's trailer hammering out a recovery plan. As a consequence of letting his emotions run away with him, at the precise time when the PM should have given him a pat on the back for preventing expensive rework, he instead unintentionally delivered a punishment for doing good work to

Incident that upset you	What I told myself	Result of distortion	Debate
Walk the site: notice that work isn't occurring in areas where you believe it should be (or as was discussed with the superintendent just the day before).	"That's not my job! That's the superintendent's job. I've got enough on my plate–I shouldn't have to do his or her work too! And we just talked about this!"	Don't talk directly to the superintendent; instead, give him the cold shoulder and make a sarcastic comment when he does speak. The superintendent doesn't get the message, stops talking altogether, and storms out of the trailer. Nothing, as far as you can tell, changes in the field.	"Calm down. We have different jobs, but this is 'our' project. If anything fails, we all fail. Maybe something came up that I didn't consider. I need to find a quiet place where we can talk privately and calmly ask him about what happened."

FIGURE 7.3
Healthy debate.

the superintendent. As a result, what is the superintendent now going to think of the PM, and how will this color how he chooses to interact with him in the future (Figure 7.3)?

In this example, you could quibble that the superintendent should have immediately informed the PM of the problems and that a simple phone call could have headed off the ensuing conflict—and of course, you would be correct. But this dilutes the point. As a leader, it is important to remain on steady ethical ground. If we jump to conclusions and assume the worst about those we work with, we ourselves throw a monkey wrench into the interpersonal machinery of workflow. Assuming the best of intentions actually averts this type of waste.

Figure 7.4 is a blank form for you to use. The next time you are upset, examine whether or not you have fallen victim to your own distorted thinking, and see if you can find an alternative that can help you to maintain objectivity and keep the project on track.

Throughout the course of this book, extrapolations will be made, based on empirical studies, showing how we, as humans, typically respond to positive or aversive stimuli. But does this mean that we are all slaves to our environment? In other words, is how we think, feel, and act always determined by the situations that we find ourselves in—as if we have no will of our own? If this were so, then we could all invoke the Nuremberg Defense ("I was just following orders") any time we wanted and avoid the notion of ethics altogether. Regardless of the circumstances we find ourselves in, we can and should retain our ethics. In fact, this is the very essence of what it means to be ethical. Otherwise, we can start venturing down some very

Incident that upset you	What I told myself	Result of distortion	Debate

FIGURE 7.4
Blank tracking sheet.

dangerous paths. Machiavelli once said that we only have to be honest or ethical if we perceive that others are acting in this same manner toward us. But think about what this actually means. In reality Machiavelli had no ethical code; he just did, in kind, what he perceived others to be doing to him. This is mere self-justification for engaging in repugnant behavior, *not* ethical behavior. (In fairness to Machiavelli, he lived in a time when bishops not only plotted murders, but the assassinations were carried out in their own churches.)

As leaders, it is our ethical responsibility to override our autonomic fight-or-flight responses. Viktor Frankl, a psychiatrist and concentration camp survivor, spoke to this key point in his seminal work, *Man's Search for Meaning*:

> Man can preserve a vestige of spiritual freedom, of independence of mind, even in such terrible conditions of psychic and physical stress.
>
> We who lived in concentration camps can remember the men who walked through huts comforting others, giving away their last piece of bread. They may have been few in number, but they offered sufficient proof that everything can be taken from a man but one thing; the last of the human freedoms—to choose one's attitude in any given set of circumstances, to choose one's own way. (1959, p. 75)

So, when the owner pressures you to shortcut your safety program in order to speed up the job, or when the owner's rep pushes you and your team well beyond their scope to the breaking point, or when your own stress response compels you to lash out at teammates, you have a choice, and a responsibility, to rise above your biology and focus on what is right and good.

One final point, and I only add this because I see this type of situation with a fair amount of frequency. If you are the kind of leader who rewards, trains, and shares information based on whom you think has your back, and withholds rewards, training, and information from those who you believe don't, you are not an ethical leader. Though you may feel justified in conducting yourself in this manner, you have more in common with Third World despots (i.e., if you scratch my back, I'll scratch yours) than Lean leadership. Though, admittedly, much of the world operates in this manner, this is precisely the kind of thinking that contributes to so many of its ills. Over time, this thinking rapidly deteriorates into simplistic, black-and-white thinking (you are either for me or against me) and spawns a divided workplace by making normal work issues overly

personal. This way of thinking leads leaders to conclude that errors aren't simply mistakes but were done to harm them, which leads them into believing that they are completely justified in treating others harshly as some sort of retribution.

Ethical leadership is about adhering to a code that you apply equally to everyone, not just to those that you like. Truly ethical leaders aren't selective about who they choose to help, share information with, or support. They provide these things for everyone on the team—internally and externally—for the sake of the greater good of the project.

8

Construction 101: Basics from a Lean Perspective

Let's shift our focus to the nuts and bolts aspects of leadership that can greatly impact workflow. As mentioned earlier, leaders can become so preoccupied with reacting to owner demands in a piecemeal fashion that they can unwittingly worsen project flow by not attending to what I call the "basics." By not taking the time to set up the job properly, they inadvertently prime their teams to be reactive rather than proactive and push inadequately prepared people to produce well beyond their capabilities, resulting in substandard quality and leaving clients to question whether or not they are getting the value that they paid for.

So what are the "basics" of Lean leadership, and why are they so important? In a nutshell, they consist of *organizational structure*, *flow*, and *feedback and positioning*. These are the critical means by which leaders establish the overall organizational design, set the ground rules for execution, and determine the sequential logic that everyone on the team needs to follow and rely upon. But before we discuss these key elements in depth, I want to challenge traditional thinking.

Often, construction managers look upon activities such as pricing, scheduling, Potential Change Order (PCO) submittals, Requests for Information (RFIs), budget reports, etc. as disparate activities. As such, they see themselves as managers of those tasked to complete these activities. To some degree this thinking is understandable. Compartmentalization is how we gain some semblance of control over the onslaught of deliverables that must be dealt with on a day-to-day basis. It's how we manage to eat the entire elephant—one discrete bit at a time.

So, in a Lean context, here is the Lean leadership challenge: to see yourself, instead, as an overseer, not of discrete deliverables but of the entire

process—as if your project is one large assembly line—the flow of which is vital to maintain. Rather than viewing yourself as a manager of tasks, think of yourself as the overseer of the entire organizational structure and the interactions that are required to coordinate and execute tasks within this structure.

STRUCTURE

Eighty percent of "problem jobs" are lacking in some or all of the following key structural elements. The bigger the job, the more vital these elements become and the more deleterious their effect if absent.

Organizational Structure

When managers are asked to create a project organizational chart, too often they look upon the assignment as one more unnecessary chore handed down by upper management. So they simply look at staff projections, count how many engineers and field people they will be allocated, and create a chart based on the traditional model that their company utilizes and delineate roles based on the staff they have been given—filling in less vital roles with whoever they have left over. As new people come on board, they are shoehorned into whatever gaps have emerged. Managers who are a bit savvier obtain a rudimentary assessment of their teammate's capabilities from upper level managers and position people in accordance with their technical proficiencies. This is better, but it won't ensure that an effective workflow will develop. Here is the key question to ask: Have I created an organizational structure/chart that increases the likelihood of a smooth, steady workflow and minimizes the probability of structurally induced stoppages and waste? But to be able to fully answer this question, you'll need to include a key element that goes beyond people's technical abilities and ask yourself an additional question: Have I attended to the dynamics and needs of the team to prevent interpersonally generated waste?

Here's why this additional question is so important. Let's say you have a technical genius on your team, a person so technically brilliant that she could recite the entire history of exterior enclosure systems from ancient times to the present. Let's also say that this person has the ability to generate estimates and buy out a job like nobody's business and that she also

knows your company's policies and procedures so well that she could easily write a procedures manual off the top of her head. Based on these skill sets alone, you'd be highly inclined to make this person a project manager (PM) or, at the very least, a senior project engineer. But what if I also told you that this person has a track record of being a very poor multitasker, that she tends to hoard information in order to make herself look good, and that on her last job, whenever there was a hiccup, she wrote scathing emails directed at the superintendent, which she copied to everyone on the team. Still tempted?

I can't underscore this point enough: Technical skills alone *do not* determine someone's fit within an organizational structure. Right "fit" is determined by both technical competence *and* a person's ability to maintain workflow via their attitude and interpersonal competence. Where team dynamics are concerned, one size definitively does not fit all. Put a blunt person in with other blunt people, and as long as everyone is respectful toward one another, you'll have flow. But put a blunt person in with a group of highly sensitive people and you'll likely have flow interruption after flow interruption.

In terms of structure, it is important to look at your organizational chart as a system—an information assembly line if you will—with work product designed to flow from one person to another.

AMPAM Parks Mechanical & Plumbing has taken this concept to another level and has laid out their new office structure to reflect how informational flow moves through a project. Rather than working in discrete departmental silos, they have changed their physical structure—sitting design people next to engineers, and in close proximity to estimators and project managers, etc. to ensure better handoffs of information. And, to this same end, whenever possible, people who are working on the same project are grouped in work pods. But of course, proximity alone will not ensure workflow. Here are some additional questions you will need to ask when designing your team organizational structure:

- Do I have the right people in the right positions based on both technical and interpersonal skills?
- Do I have people who will require a significant amount of training— and the right people in place to train them?
- Are there any holes in the chart, i.e., missing players (e.g., a missing lead engineer or purchasing agent), that will cause others to drop what they are doing to fill these holes?

- Are there any inherent conflicts or bottlenecks that would disrupt flow? (That is, is there anyone who is performing multiple functions or who serves several leaders within the organizational structure?)

Once you've answered these questions, you'll need to formulate a plan for filling any gaps. Playing the waiting game or "figuring it out as you go" guarantees disruptions. Don't be shy about enlisting help to figure this out. Identify the gaps and ask your team about the best way to cover them. You'll be surprised by how willing your team will be to help figure this out if you let them. After all, their success is tied to the organizational structure just as much as yours is. After you've constructed your organization structure, do run-throughs of various processes and procedures and *what if* scenarios to make sure that there aren't any unforeseen bottlenecks.

One variation on this theme is an exercise that I call *org-chart-o-rama*. Simply clear out a conference room and ask people to assemble themselves as a living organizational chart. Right off the bat, you'll be able to see if there are any potential misfires should people happen to place themselves under the wrong person. Again, from a Lean perspective, this isn't a problem, but an opportunity for a meaningful dialogue that could prevent problems from occurring downstream. (For example, "I'm curious, why did you think that you reported to the purchasing manager instead of the lead engineer?") Next, select a procedure and test it. "In my hand is an owner-generated change order. Who gets it first, what do you do with it, and where does it go from there?" This is a great way to examine if we have any role confusion, a lack of clarity about expectations, or skill deficits based on a lack of experience—conducted within a safe "dry run" environment. Repeat the process for as many steps as necessary to gain clarity. This will also allow you to emphasize specific expectations based on any unique client requirements. For example,

> Okay folks, if I'm hearing you all correctly, you're seeing it as sufficient to simply pass paper through the system. Believe me, I get it. We've all been in situations where we have so much on our plates that we want to pass things along as fast as possible. But I'm letting you know now it's not sufficient for the engineers, particularly the lead engineer, to simply receive the change order from our administrative assistant, stamp it, log it, and send an email to everyone. This owner has been very clear with us from day one that they expect a full vetting of change orders. I want the engineer in charge to do everything you've described plus (take the person by the shoulders in

a professional manner and walk them over to the next step in the process), and have an actual conversation with the superintendent—letting him know it just came in, and asking them what additional information they'll need from you. I want to make sure that you all understand that relying on emails alone will not be sufficient. If that were the case, the owner wouldn't need us, would they? We have to have actual conversations with one another if we are going to properly coordinate this job and be successful!

Please don't leave out the most important person while considering the efficacy of your organizational structure. Most Projects Directors, Project Managers, Superintendents, and General Foremen grossly underestimate the impact that their frequent absences (due to conflicting job demands/meetings) will have on their team's performance. For example, the project director for the Seattle football stadium spent most of his work hours in meetings with a plethora of ownership groups. But since he was the person who had written the schedule and held the overall vision for moving the job forward in his head, every time he was out of the trailer (which was roughly 85% of the time), the team floundered. It was not until he found a way to supplant his presence at owner meetings (via the General Manager's increased involvement) and make himself more available to the team that his staff was able to tap into his thinking and gain sustainable workflow momentum.

When constructing the physical organizational chart, it should clearly reflect actual communication pathways (handoff points), who reports to whom, a brief description of each person's job duties, and the durations expected for each person on the job. In an ideal world, your project administrator or receptionist should be able to glance at the organizational chart and flawlessly route incoming calls. To this end, it's often a good idea to have the project administrator or receptionist fill in the details of the organizational chart. He or she can interview each person as to his or her job duties and create thumbnail descriptions (which he or she reviews with you prior to publication). He or she usually enjoys the assignment immensely, and, in so doing, acquires a thorough working knowledge of each person's role and responsibilities on the team. Table 8.1 shows an example of what to include.

Your organizational chart should be updated on a regular basis, reflecting any additions to the team or changes in role assignments. In this way, it becomes a living tool that keeps discussions about team process and flow in the forefront of your staff's minds. It also keeps everyone's heads in the game about possible changes in communication patterns that may

TABLE 8.1

What to Include in Brief Organizational Chart Descriptions

John Brown (ENG)	
On job	**10 months**
Foundations	Concrete
Rebar P/T	Excavation
Shoring	Embeds
Slab edges	

impact their work and what adjustments they may need to make to ensure that everyone is kept in the informational loop. (Later on, we'll discuss how to use your organizational chart to diagnose team problems.)

ROLES AND RESPONSIBILITIES

In 2004, due to a tumult of injuries, the New England Patriots named 22 different players as starters on defense, yet they still won the Super Bowl. How did they pull this off? First, instilled by their head coach Bill Belichick, they acquired an attitude that injuries were simply not a valid excuse for not winning football games. And second, everyone, including the bench players, had a thorough working knowledge of the game plan for each opponent and had a clear understanding of their own role, and the roles of their teammates, in the context of this plan. The mindset was simple: lacking the physical attributes of a first stringer had nothing at all to do with acquiring a thorough working knowledge of the plan and being able to execute properly if called upon. To ensure this, the coaching staff required each player to pass a written test about the game plan for each opponent with 90% accuracy. This begs the question: Why should we expect anything less from the people on our job sites? Everyone should know their roles and responsibilities as they relate to the overall job plan—no exceptions, no excuses. Some managers are resistant to the idea of specifically defining roles for fear that, when needed, people will not go beyond what is spelled out. Personally, outside of government work and powerful unions, I've rarely found this to be the case. Most people go well above and beyond their defined roles in this industry. On the contrary, it's been my experience that a great deal of waste is incurred when roles aren't defined and are

left up to each individual person to figure out for themselves. When such voids occur, people are much more likely to do what is simple for them (i.e., what they know how to do well) vs. what we need them to do. This becomes an even greater problem the higher up the organizational food chain we go. One General Manager I worked with was adamant that he didn't want to define roles among his fellow leaders because he wanted them all to be "responsible for everything." This belief sounds great in theory, but a significant flaw mars it: In reality, when everyone is responsible, nobody is. Each person simply assumes that someone else will pick up the ball, even though data suggests that they rarely will. It is clarity, not confusion, that maintains flow.

WORK PLANS

Every person on the management team should clearly delineate his or her work plans for his or her area of responsibility and present this plan to the entire team:

> Hi, my name is Mike Stone. I'm in charge of procurement. This is my plan for buying out this job…. Here are my first order of magnitude priorities and why…. Here are my second…. I will be primarily interfacing with the PM and each of the lead engineers as well as the project superintendent. In order to execute this plan, this is what I will need from each of you …, and here is what you can count on from me. Do you have any questions? Does anyone need me to go into any further detail about the plan?

Work plans should be reviewed in stages, so that in subsequent staff meetings, each manager can report on whether or not they are on track.

It is strongly suggested that you extend the work plan concept throughout the entire project. Since a construction team's success is predicated upon each person's ability to successfully deliver on the commitments that he or she has made, each person on the team should have a thorough understanding of the work plan developed by their manager within his or her discipline, highlighted by the identification of specific weekly deliverables. As a manager, you should gauge the reliability of these work plans as measured by percent of plan complete (PPC). This next point is crucial: when a deliverable is not completed by the deadline promised, it is time to engage in the Five Whys (please see Chapter 15). It is important to use this

tool to identify the root cause as to why the plan was not completed, *not* as an interrogation with the intent of extracting a confession in order to assign blame. Once you have fully ascertained the reasons why the failure occurred (usually an unforeseen obstacle), then you can help that person or team make the necessary course corrections to help them get back on track.

IMPACT AWARENESS

This point is often neglected when establishing roles and responsibilities. Everyone needs to be cognizant of the fact that they *do not* work in a vacuum, that what they do—or don't do—will have a definite impact on those around them. A responsibility matrix should be issued so everyone on the team can gain a thorough understanding of what their teammates are doing and how they are impacted when logs are not maintained and procedures are not properly followed. When we talk about teammates being dependent upon each other, this is precisely what is meant. People depend on each other to do their portion of the work—correctly and timely—so they can do theirs. The leaders should take every opportunity to verbally reinforce this reality at every turn. Should you notice that a protocol has been breached, call an impromptu meeting:

> Folks, this is why filing documents in their proper spot is so vital. Carlos just wasted two hours tracking down a miscellaneous metals drawing that has apparently been sitting in the back of the conference room for the past three days. As a result, he was late getting the updated information to his subcontractor. Let me clarify something; it is not the sole responsibility of the document control coordinator to keep track of our plans. It's on all of us. What can seem like a little thing isn't so little when it wastes someone else's time.

This is even truer in the electronic age. Someone who decides that he doesn't like SharePoint (and therefore that he doesn't have to use it) or develops an idiosyncratic way of storing information that works only for her—but is cumbersome for everyone else—needs to understand the negative impact that they are having on workflow for the entire system.

On a broader scale, another way of building this awareness is to create what is referred to as a war room. It is a room specifically designated for

posting organizational charts, the master schedule, schedule updates, and all pertinent work plans so the entire "theatre" of a project can be gleaned in one place. If done correctly, anyone on the project should be able to walk into the room and ascertain the project's progress and who is responsible for doing what without having to search through multiple binders in various trailers and offices scattered throughout the site. If updated regularly, the war room will increase the accuracy of coordination efforts by enhancing the team's ability to consistently go to the right people in a timelier manner rather than wasting time trying to figure out who is doing what.

Know Your Audience

It's vital that you gain a working knowledge of your staff's various skill sets, not just in terms of their technical prowess but also for how best to interact with them. Not every team is composed of the same types of people; each requires a slightly different focus and approach. Believe it or not, this is also the most efficient way to determine how best to use yourself as a leader. For example:

> A senior project manager with twenty-five years of experience with his company found himself in a quandary. He inherited a team that was long in the tooth in construction experience but short in years of experience with his company, and they were balking at his leadership style—frequently accusing him of being a micromanager. But from the PM's perspective, they were making simple mistakes, and quite a few of them, so it was easy for him to dismiss their complaints regarding his leadership. In his mind, his "micromanagement" behaviors were justified based on their "screw ups," and he was beginning to have doubts about just how truly experienced his teammates actually were. "Maybe in their old company they were 'A' players—but not here." To break this stalemate, the PM intensified his efforts. But the more he attempted to micromanage them, the more the team resisted his efforts, which resulted in even more mistakes and, consequently, even more micromanagement by the PM—a classic recursive cycle (i.e., a self-reinforcing cycle where one undesirable behavior leads to another).

To break this type of cycle, it is important to look for the objective reasons for the difficulties. Just a little bit of digging into the PM's history quickly revealed the root cause of the problem. For most of his career, the PM had managed people who were straight out of college and—from all

accounts—did a terrific job leading them. Given how overwhelmed they often felt, most of these inexperienced underlings welcomed his highly directive approach and didn't mind his management style at all; in fact, most viewed him as an asset to their career development. But the veterans on this new team held an entirely different view. They knew what they were doing and were eager to demonstrate this to their new company—and boss. What they lacked was the ability to translate their knowledge and experience into the language of their new company. So, how did this situation become so misaligned? When they did things incorrectly, instead of honoring their experience and helping them to translate what they knew into the particular vernacular of their new company, the PM would launch into long remedial lectures about the importance of basic processes and procedures. Not surprisingly, these lectures didn't improve performance. While his usual green staff valued these "contextual" lectures, the seasoned staff resented them. They knew damn well the importance of policies and procedures—what they needed to know was how their new company did these things. And what they certainly didn't need was another round of him talking down to them. As a result, they began avoiding the PM, which only served to compound the errors that they were already making, which in turn, solidified the PM's doubts about their abilities.

To the PM's credit, when he was made aware of how his approach was negatively impacting the team, he decided to change his own attitude and behavior rather than trying to change them. Instead of assuming that a lack of basic knowledge was the root cause of execution errors, he instead asked them what they were attempting to accomplish and how they traditionally did this in their old companies. By gaining this understanding, he was able to help them then connect the dots within the framework of their new company's policies and procedures. As a result, the team dynamic changed dramatically. Instead of avoiding him, the staff began to seek out the PM's feedback and advice, and as they did, the PM's trust in them grew. More importantly, the quality of work improved at a rapid rate.

RESPECT FOR CHAIN OF COMMAND

Believe it or not, this isn't just a respect issue—it's also a productivity and workflow issue. Bypassing the chain of command may seem expedient in the moment, but in the long run, causes untold negative disruptions to

workflow. A Project Executive (PX) who was instrumental in selling a $375 million hospital job in a remote area of Oregon demonstrated just how disruptive breaks in chain of command could be. This PX had an excellent relationship with the owner, and since he wrote the master schedule, his expertise on the project was unassailable. But given the location and the fact that he carried multiple assignments meant he spent only one or two days physically on site. Not being one to shy away from making decisions, if he observed something that made him uncomfortable, rather than voicing this to the PM, he'd redirect a junior staff person to correct the issue. Now, you might well ask, what's the problem with this? Wasn't the PX simply being an engaged and expedient problem solver? Yes, in some ways he was. And this was certainly his intent. But since he rarely looped back to discuss his redirections with the PM and Project Superintendent (PS), when each checked on the progress of an activity that they had assigned, they'd discover, to their dismay, that their charges had dropped their assignment in deference to the PX—thus throwing their own game plans into disarray, and putting doubt into their minds about what the PX actually thought of their capabilities. To complicate matters further, the PM and PS were both extremely experienced and had a great deal of respect for the PX, so neither felt comfortable letting the PX know that they didn't appreciate him going around their backs and countermanding their assignments. Though they remained silent, the resentment within them grew. This unspoken conflict impacted production further downstream as well. The people below the PM and PS were well aware of the growing conflict—even though their bosses tried their best not to acknowledge it. Many stated that they felt like they were caught in the middle of divorcing parents as they tried to figure out, "who it was safer to piss off." Rather than doing what was best for the project, they often resorted to doing what was in their own best interest (i.e., following the direction of the person they believed had the greatest influence on their performance evaluation/career). Needless to say, as the leaders covertly competed to provide direction, workflow suffered.

The good news was that once given the feedback, the PX, PM, and PS were duly appalled at their own lapse of leadership. They immediately arranged to meet once a week as a leadership team. There, they would discuss "hot issues" and formulate a plan to address them to ensure that no one would ever have to pick and choose (and worry about) who to listen to. They also agreed to take personal responsibility for adhering to and honoring the chain of command. And if they ever felt that someone had

violated it, they agreed to speak directly to the person in question—rather than everyone but that person—and not allow such issues to fester. To their credit, they stuck to this plan for the remaining two years of the project—with excellent results. Can you imagine how costly this dynamic would have become if this negative pattern had not been interrupted?

In terms of chain of command disruptions, it is also important to be mindful of those created by the owner. A classic example was a joint venture between a Dutch company and a U.S. company to build a fast-track pharmaceutical plant in the Netherlands for an American owner. Just four months into the project, the ownership group had become extremely frustrated with this joint General Contractor (GC) effort, accusing them of not executing the job in accordance with a cohesive plan. Upon examination, there certainly were some critical execution issues. But what also became clear was just how much the owner was unwittingly contributing to this problem.

The job was set up to have a single point of contact between the owner and the GC—the owner's representative. Technically speaking, all communication between these two entities was supposed to flow through one individual. But when I asked the GC management team how this single point of contact system was working, they all laughed to the point of tears. They informed me that everyone on the eight-person ownership group called "anyone they damned well pleased" on a regular basis. A typical day for the GC's Project Director (PD) looked something like this: Two sips into his morning coffee he would get a call from an irate owner. Ten minutes earlier, the owner had spoken to a young engineer looking for a specific piece of information and was greatly displeased by the answer he received. Caught off guard, the PD would then have to spend the next two hours piecing together the answer given to the owner, obtaining the correct information, and passing this information along and reassuring the owner that said issue was indeed being handled correctly, and fending off accusations that either he was lying or the subordinate in question was incompetent. In the meantime, his voicemail messages stockpiled as other owners cued up to register their displeasure. This process replicated itself like a virus until sundown, when the owners finally left for the day and the PD and the team could get some actual planned work done. I recall thinking that it was fortunate that Holland has such strict bans on handgun ownership, because I think the PD was more than ready to start taking hostages. You could certainly understand his frustrations. He was being criticized for the very thing that the owner was inadvertently preventing

him from doing. Any hope that the PD had of formulating and executing a plan with his team was blown out of the water by 8:10. And this happened every single day, five days a week. This was further exacerbated by the fact that the engineer of record was back in the United States, and given the six-hour time difference, everyone was already behind the proverbial informational eight ball.

As uncomfortable as it can be to do, limiting owner disruptions by truncating unnecessary meetings, demanding adherence to specific points of contact, or instructing your staff to redirect all calls that should come to you back to you is the best way to prevent unwanted disruptions of this type. This isn't being selfish or uncaring toward the owner. In fact, quite the opposite. By minimizing disruptions, you will preserve workflow, increase productivity, and eliminate a key source of waste. In essence, you are protecting the owners from themselves, which, believe it or not, is one of the ethical "oughts" of your job. But should you find it necessary to take such actions, please don't omit this crucial step: contextually educate the owner as to why you are limiting his or her contact with the project and what you are trying to prevent in Lean terms. You aren't doing so because you don't value their input. You are doing it because it is in his or her best interest not to disrupt the flow of the job.

POLICIES AND PROCEDURES

One of the biggest Lean killers in the industry is the preponderance of paperwork that sucks untold man-hours from every office and job site in order to mitigate risk. It is ironic that the very efforts designed to protect us from lawsuits are our greatest source of waste—fueled by the ever-growing legal industry. In California alone, from 1993 to 2003, the number of construction law attorneys in the state rose from four thousand to ten thousand—a truly staggering number. One can only shudder at the number of woodland creatures rendered homeless in order to paper our jobs against potential lawsuits.

Having said this, not all paperwork is unnecessary or wasteful.

Many well-run companies spend a great deal of time, effort, and money establishing solid policies and procedures that do advance the building process. If developed and executed correctly, policies and procedures create a responsibility chain that, similar to checklists in manufacturing,

ensures a smooth flow of production. In such companies, top managers are able to examine the paper trail at any given point in the chain and determine exactly whether the job is progressing as projected. Despite these efforts, there are still some managers who hold the belief that "no paper is good paper." I have known managers who, when confronted about their rebellious lack of adherence to policy and procedure, insist that they can keep all of the important agreements and promises in their heads, and in fact view this as a mark of distinction—even going so far as to belittle subordinates who can't (or won't) do the same. If you are of such an ilk, I have just one question for you: What happens to all these lovely agreements and promises that you have in your head if, God forbid, you were to be run over by a bus at 2 p.m. this afternoon?

Well-crafted policies and procedures (standard work) don't create a useless paper trail. They ensure that everyone in the process has the correct information to do their jobs effectively. It is yet another way to minimize disruptions.

Here's another way to think about policies and procedures. No company is composed entirely of A+ players. In fact, following the law of normal distributions, the larger the company, the more likely it is that it will have a fairly sizable distribution of "B" and "C" players as well. Effective procedures are a means for A+ players to pass their knowledge and expertise to the rest of the company. In a very real sense, they are able to convey to those who are less experienced (or perhaps, less capable) "how to think" about the job that they are doing. By following policies and procedures precisely, B and C players can execute nearly as well as A players, even though they lack their in-depth knowledge and experience. (Later on, we'll talk about how to use policies and procedures as an assessment device to diagnose team problems.)

Tools to Do the Job

It is one thing to have proper policies and procedures in place, and quite another to know how to utilize them. If confusion exists about how to properly use your operating systems (Prolog, Suretrack, Accubid, SAP, Buzzsaw, Oracle, etc.) or any other SOP (Standard Operating Procedure), it is as if the tool does not exist at all. It is imperative that you have a training plan at the ready for those who are new to the industry or to your company, and this should be part of your onboarding process. This is particularly true if you have systems that are idiosyncratic to your company.

(As an aside, this should also include a primer for any unique acronyms your company might use.) Relying on "catch if catch can" methods or "tribal knowledge" for passing on this type of information is a recipe for waste. One company that I work with has a unique way of handling this type of issue from the start. Whether the recruit is fresh out of school or is a grizzled veteran, he or she is not permitted on site until he or she has gone through an extensive two-week "boot camp" that consists of a formal orientation program and rigorous training on all company policies and procedures. So focused are they in getting this right that they actively encourage employees to go through boot camp more than once. They have found over the years that this up-front expenditure provides a great return on their investment by helping new employees become fully acclimatized in the earliest stages of their employment. (It also has the side benefit of weeding out the truly clueless at an earlier stage.) Retaking a shortened version of boot camp serves to strengthen learning and corrects any bad habits that someone may have been encouraged to drift into. It also serves to alert the company to changes that need to be made (adjusting a process that can't go as fast as we need it to go) in a more systematic way.

In terms of "hard tools," though we love no cost or low cost solutions, cell phones and walkie-talkies are a great way for people to close the informational loop in real time. iPads, or other devices used to take photographs to accompany RFIs, or by which a superintendent can walk through a BIM model or updated VICO drawings while out in the field, in the long run, usually pay for themselves many times over (provided that people are properly trained in their use). Emails, which are convenient and relatively inexpensive, in my opinion, have limited value, are extremely overused, and add waste. Emails are great for tasks that require simple one-way communication (i.e., announcing a meeting, or when a conversation needs to be documented and confirmed). But all too often, people supplant actual interactions with emails. Instead of picking up the phone and engaging in healthy debate—particularly when decisions are required—they fire off an email (aka edict) that is invariably misinterpreted. If you truly want project flow, please insist that for situations that require decisions to be rendered, the team engages in actual face-to-face (or at the very least phone) conversations. While this appears more time consuming, as someone who has had to wade through and dissect long back and forth email trails in order to resolve conflicts, emails are *not* more expedient than face-to-face interactions.

At the job site, invest a decent amount of your fixed operating budget on your plan room. There is no greater way to observe waste than by watching people search for documents that they can't find—or far worse, sending jobs out to bid based on obsolete drawings. It's one of the first meaningful steps you can take to ensure high productivity. Projects that have solid document control procedures in place, and solid people to manage them, are simply more productive.

In this same vein, demand clean, orderly, and well-maintained work areas. 5S (Sort, Set in Order, Shine, Standardize, Sustain) doesn't only apply to the field. Your trailer needn't resemble an army barracks, but managing by piles is a needless waste of time and energy, unless, of course, you actually want to create a bad impression in the minds of your owners, architects, and subcontractors who visit your trailer.

For those of you who have gone paperless, the same rules apply. Companies that scrimp on IT expenditures, and don't put solid people in place to help manage data storage and the flow of updated electronic documents, pay the price for not doing so in the long run. Personally, I think the electronic age has made document control more, not less challenging. Having all of the managers agree on how and where information will be stored and the methods of keeping these documents current should be the first order of business for any team. Failing to agree upon this invites chaos and prodigious amounts of waste in the form of hunting and searching for information.

FLOW

I learned the concept of flow at the project level from Gus Sestrap, an Operations Manager with Turner Construction. Put aside the fact that Gus is able to create a schedule by visualizing the completed project in his head, then deconstructing it backward—which is just plain scary brilliant—and consider his resume. His teams have consistently delivered stadium and hospital projects ahead of schedule and on budget. Gus's philosophy is freakishly simple. To him, a well-run job is *not* one where subcontractors are pushed to the breaking point and every moment on the job is crammed with activities to the point where trades are hopscotching around one another. Instead, it is about establishing a well-planned even flow determined by a logical, predictable,

and doable rhythm that is sustainable throughout the life of the project. With subcontractor input and buy-in, he is able to construct a schedule that can be used as a reliable tool by the subcontractors for material buyouts and manpower escalation. Internally, inherent to his philosophy, he establishes buddy systems between field and engineering functions. Each activity has a corresponding field and engineering person assigned to it to ensure that the project consistently is built on paper *before* any actual construction activities begin, and the hand-off of information between engineering and the field (and back) is as seamless as possible. (The equivalent for subcontractors would be to ensure that project managers are walking the field in concert with their general foremen on a regular basis.) When this system is working properly, RFIs are fully vetted and researched *before* they are sent over to the architect to eliminate wasteful RFIs clogging up the system, and returned RFIs are also vetted for constructability before being forwarded as a directive to the field.

Unfortunately, I've witnessed the opposite philosophy play out on far too many jobs—with predictably disastrous results. For instance, on a $400 million public hospital OSHPD project in San Francisco, a GC decided to put a hardnosed, hard-driving, independent-minded superintendent in charge—someone who did not believe in working closely with his engineering counterparts. For the uninitiated, OSHPD is the California agency that, by law, *must* review and approve all structural elements and changes—for every single hospital built in the state. It is specifically charged with ensuring the seismic integrity of every project that comes under its purview. To be fair, this agency does good work but is chronically undermanned and underfunded, so it is not unusual for a project of this type to come to a screeching halt as revised drawings and specifications pile up on the agency's desks for review. In such a scenario, a well-meaning but hard-driving superintendent, who is constantly pushing subs to get work in place as fast as they can—but isn't fully engaged with the engineering side of the house—does little more than run subcontractors straight into costly and unproductive brick walls—often resulting in work stoppages and rework (as well as finger-pointing and back charges). Relentless pushing creates workflow patterns filled with stops and starts that are fraught with failed work plans. Given that manpower is the greatest risk that any subcontractor carries, you can imagine how difficult it was for this GC to get these same subcontractors to bid on future phases of this project.

PULL VS. PUSH

When we use traditional push models, we miss golden opportunities to engage in Lean thinking. It is much more effective to pull than push. What do I mean by this? When we push people to go as fast as they can, we are, in essence, driving them toward a result regardless of the obstacles that they may encounter. What's wrong with this approach you ask? Plenty. When we don't understand, from a systems perspective, what is required to produce a desired result, yet continue to push people to perform, we inadvertently multiply waste exponentially. Whether it is pushing a sub to get ahead on the schedule that ends up interfering with the workflow of another trade, or internally, prodding people to crank out PCOs or submittals that wind up clogging up someone else's inbox because they weren't ready for them—all of this results in waste. When we choose to "pull" instead of push, we are actually asking people to weigh obstacles in front of them in a considered manner and formulate a plan that takes them into account. The result is a more coordinated and integrated process. Yes, this takes more time to plan up front, but planning eliminates the rework that often results when we leave out this step.

  Here is how it works at the project level. Between milestones, gather your subcontractors and ask them to brainstorm in terms of what they will need, and what will need to happen, in order for them to hit the next milestone. By looking to the right (scheduled milestone) then shifting to the left (what is needed to get there), and then asking the subcontractors to commit to a coordinated work plan, it is far more likely that important dates will be kept. And if milestones are reviewed on a weekly basis, subcontractors can make the necessary midcourse corrections to ensure that the targeted milestone does not fail. Instead of purely driving to a result, this type of thinking invites key players to engage in preplanning and strategizing. It is far more useful for identifying and clearing obstacles, and as a result, the trades will be far more likely to achieve the result you are seeking. It is certainly far superior to bellowing, "I don't care how you get there, just get it done!" By actively engaging the key trades and treating them like trusted partners, you will be inviting them to be part of a solution, as opposed to pushing them into failure and then treating them like adversaries.

THE SCHEDULE

The schedule is your primary tool for helping others to visualize flow. The schedule determines the speed at which this giant conveyor belt moves as well as conveys the vital activities that are required along the way to feed the line and keep it moving.

First and foremost, the schedule should be realistic. For instance, if you have an OSHPD job as described in an earlier example, float time for potential delays needs to be built in from the start, particularly for areas where you anticipate potential structural design changes. If not, there will be a bust built into your schedule before you have even broken ground. This is proving to be an ever-greater challenge with owners. Owners are demanding that projects move at ever-faster rates and are often skeptical about building in float time since they are under tax and cost performance index (CPI) pressures. The flip side argument is this: What, in the long run, is going to be more cost effective, maintaining flow or incurring the costs (overtime, rework) due to flow disruption?

An effective schedule also anticipates the time required to allow critical engineering and design functions to get out and stay out ahead of construction. You should also take into account the decision-making capabilities of the owner. Private jobs manned with experienced owners usually have faster decision-making capabilities. The public sector is another animal entirely. Your counterparts in this world are well aware that they can't get fired for saying "no," but they can get fired for saying "yes." So you can anticipate long lag times whenever key decisions need to be made. After all, it takes time and effort to spread the risk of potential negative repercussions onto your coworkers.

Make sure to take the time to fully educate your staff regarding the schedule. The best schedule in the world is useless if the people on the project don't fully understand it or fail to grasp its implications. Not providing the necessary training—particularly on how to use the schedule to guide your daily activities—is like not having a schedule at all. Review it thoroughly and take every opportunity to bolster people's comprehension, particularly when it has been updated. I guarantee that your up-front efforts will pay big dividends in the long run.

This last point is critical. Make sure to actually publish the schedule. The correlation of troubled jobs, paired with the failure to meaningfully produce (or update) the schedule, is staggeringly high.

Flow and the Individual

When considering flow, it is also important to evaluate each of your team-mates' skill levels. In his ground-breaking book entitled *Finding Flow: The Psychology of Engagement with Everyday Life*, Mihaly Csikszentmihalyi describes flow as the internal state of optimal productivity. It is the exact opposite of the Peter Principle, whereby people rise to their level of incompetence, thus killing all forms of Lean. It is when what is *asked* of people *matches* what they actually know how to do. If people are asked to do something they don't know how to do (state of feeling overwhelmed), or are asked to do something far below their skill level (state of boredom), they are far less productive than they could be. Both of these latter states interrupt workflow. To counteract this, you need to meaningfully assess each person's skill level as measured against the unique demands of the job, and based on your findings, either provide necessary training, shift people into positions that better suit their skill sets, or manage upward to acquire those who possess a better skill fit. You may need to make a little noise with your superiors in order to acquire what you need. Remember, it is the well-informed squeaky wheel—the one that makes a good case for what is needed—that gets the grease.

FEEDBACK AND POSITIONING

Often, due to circumstances beyond their initial control, leaders find themselves behind the eight ball when jobs start. As a result, they fall into a reactive posture, playing a seemingly endless game of catch-up. This usually happens when they are named late to the job, or the project breaks much quicker than anticipated. Leaders in such situations often give a cursory nod to objectives and milestones in staff meetings, but more often than not, they find themselves locked away in their offices, cranking out contracts and attachments, while barking out various demands that make little sense to the people they are managing. As a result, their stance toward their own team is often one where they are standing behind their people, pushing them toward an objective that, from their staff's perspective, is fuzzy at best. And when the leader does stop long enough to give feedback to his or her staff, it is usually to inform them that they missed the mark. While pushing does impel people to work harder, since they

lack the vision for the overall product and the context for many of the activities that they are engaging in, pushing also tends to produce a great deal of waste in the form of incorrectly or poorly coordinated tasks.

I'd like to suggest a more productive alternative. Going back to our kitchen analogy, remember that the goal for any restaurant is to have a successful dinner service. This means that each successfully plated meal is a subassembly, and each table in the restaurant represents a milestone toward the goal of a successfully completed dinner service. The key for accomplishing this is for everyone—from owner to bus boy—to do their part to communicate what they need in accordance with the overall service goal. But coordinating all of this requires a bit more than simply communicating.

For those of you who are fans of *Hell's Kitchen*, besides taking in the ritualistic humiliation of others for our own entertainment, do you notice where head chef Gordon Ramsey positions himself? He's not in the kitchen, but at the pass line. The pass line is where the orders come in from the waiters, and the fully plated meals come out to the waiters. Why does a head chef position him- or herself there? It's actually quite purposeful. Since the head chef is the person who holds a clear vision of what the finished product should look like, standing at the pass line serves as a final quality control checkpoint. In this way, incorrectly plated meals (polenta instead of the intended risotto as a side) can be detected and corrected *before* the product goes out to the customer. In any process, you always want to catch your mistakes *before* the customer does. This still causes disruption, but not as much as a meal being sent back by the customer, or worse, them saying nothing, then going home and Yelping you out of existence.

But there is an even more important reason for standing at the end of the production line. Because the head chef not only knows what the finished product should look like but also what is required to produce it, by positioning himself at the end of the line, he or she can observe the team process as it works its way toward the final result. He or she can literally track execution, spur coordination, and ensure proper timing—thus providing pertinent, real-time feedback to ensure a successful outcome. By doing so, they increase the likelihood of the meal being plated *correctly the first time*. Hence, the head chef can urge the meat person to speed up, ask the vegetable person to slow down, or ask the potato chef to put aside what he or she is doing and lend a hand to another chef. The head chef can also coordinate with the waiters to push the specials if there is an inventory

surplus or to take items off the menu if there is an unexpected run on them. While you may find Gordon Ramsey's interpersonal tactics a tad on the abusive side (in real life, he's evidently a great guy to work for), do take special notice of what he harps on his teams to do: "Talk to each other!". He knows that without the additional element of communication—and reminding people what the true goal is—the cooks in the kitchen have no shot at coordinating their actions and completing a successful dinner service.

Let's look at this same scenario from a push perspective. If all the head chef did was stand in the back of the kitchen and bark at each chef to work harder, they would likely put their heads down and crank out product as fast as possible. But this would be no guarantee of success. The far greater likelihood is that they would produce enormous piles of properly cooked product that would go to waste because it came too early or too late in relation to the product produced by their counterparts. This is what happens when people work in silos. When people only care about their piece of the process, the overall product suffers and waste is generated. Figure 8.1 shows how all this would look graphically.

Though we often fail to recognize it, these exact same principles apply in construction. What is the point of an engineer cranking out one PCO after another, or the superintendent pushing subcontractors to work as fast as they can, if, because they have failed to coordinate their actions, mountains of paperwork are produced that are never looked at or the work performed is so out of sequence that it impedes other trades and has to be redone?

Instead, as a leader, position yourself just beyond the upcoming milestone, and pull your team toward the result. As you did with your subcontractors, use staff meetings to identify what needs to happen, share your concerns for readiness, and make the necessary preparations as required. Feedback given in this manner is in real time and is largely proactive rather than reactive. Also, make sure to create a space for your staff to express their concerns and what they will need by encouraging their forthright honesty. By obtaining real-time status reports on completed work plans, you'll be able to gauge if course corrections are required or where you may need to shift (human) resources to ensure that a milestone does not fail.

There is another advantage to delivering feedback in this manner. It gives your team a context by which to judge their own actions. Because they are working on real issues, the feedback provided won't be as readily tossed aside as theoretical posturing. Think about how easily the constant

"Push" model

Head chef

Meat chef   Veggie chef   Potato chef

Waste   Meat   Veg   Waste

Potato

"Pull" model

Meat chef   Veggie chef   Potato chef

Meat   Veg

Potato

Head chef
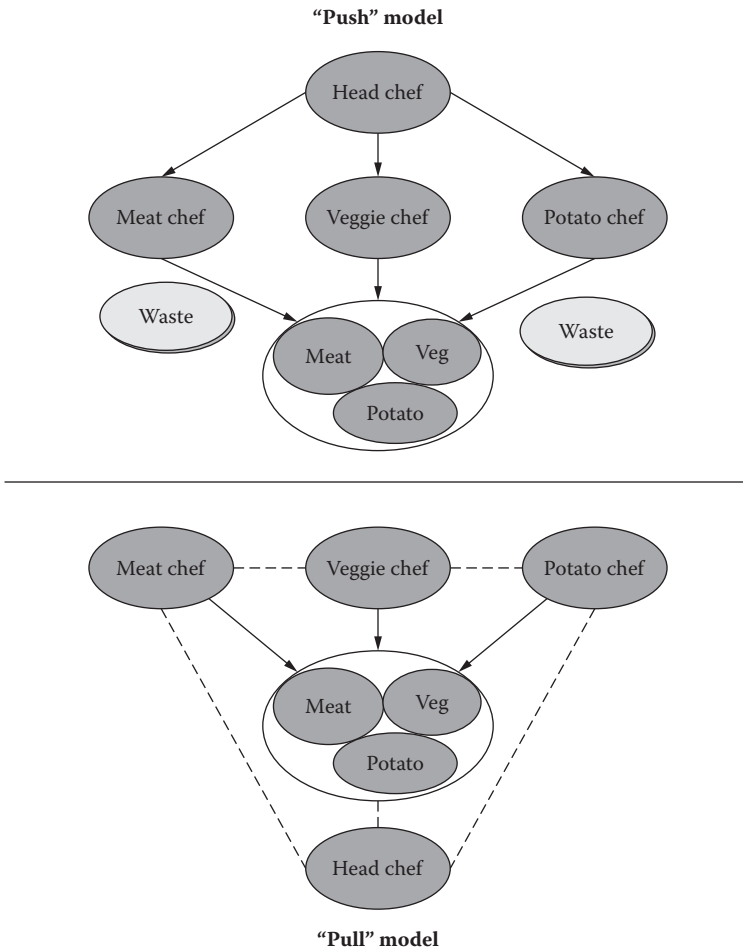
FIGURE 8.1
Pull vs. Push.

harangue of "Okay folks, it's important to keep up with our RFIs" can be dismissed. But if instead what is heard is "Okay, Sarah, where are we with RFI 216? As I understand it, we need to have an answer by Wednesday or EFG plumbing is going to be impacted. What help do you need from me to get an answer and process RFI 216 on time?" not only will you stir up a needed sense of urgency, but because she now has the proper context, Sarah is far more likely to stay on task.

There is another side benefit of the pull model: It also allows you to give real-time *positive* feedback and praise for successful planning and execution.

Receiving praise from your boss for successfully completing a task and contributing to the team's success compels people to want to do even more.

Positioning yourself in this manner also allows you to manage information and the plethora of decisions that need to be made much more effectively. There is usually such a flood of both that most teams gain a decided advantage when the person at the top is able to filter the chaff from the wheat and keep what is truly important in the forefront of everyone's mind.

Please do take the time to give thorough feedback offline—particularly for your inexperienced personnel. If they know what they are doing right, and what they are doing wrong, then they will be far more likely to hit the desired target. This doesn't have to entail a lengthy or elaborate discussion; it just has to include the following:

- How their performance is measuring up against established expectations
- What they will need to do to improve performance
- What they are doing right, and in what ways they are meeting or exceeding expectations

Also, include global feedback on the following:

- How we are performing per the schedule
- How we are performing per the budget
- What the owner is pleased with
- What the owner is upset about

This will help to broaden your team's awareness of the context of their actions.

While on the subject of feedback, don't forget to build in the most important feedback process of all—from the staff to you.

If you've extended the proper invitation, with the right attitude, this will be a breeze. Everyone on the job needs to be encouraged to be active engagers versus passive witnesses. Therefore, they need to speak up when they

- Detect obstacles in the process that they can't solve themselves
- Have inadvertently been given conflicting directions from various managers

- Are suddenly performing multiple roles, and this is impeding their productivity
- Notice that the communication chain of command has been broken
- Are attending unnecessary meetings that are intruding on their ability to execute their work

The usefulness of a team's feedback rests entirely on the leader's ability to see it as a vital contribution to continuous improvement versus viewing it as a threat to their authority. If the leader's ethics and motives are pure, he or she should have no problem making this distinction.

One important caveat: If anyone on your management team has the audacity to say, "Yeah, I saw that coming—I knew that was going to be a problem," and didn't speak up beforehand or do anything to help prevent the problem from worsening, you have my permission (provided that it is done professionally) to flog them. As Tom Sorley, CEO at Rosendin Electric, frequently reminds his leaders, "I've checked with HR; we don't have any positions titled Project Witness. When we see a problem, it's all of our jobs—including mine—to do something to help."

Attending to the basics is the best way of preventing the most frequent types of problems that plague most projects and produce waste. Unfortunately, many managers feel that they don't have the time to set things up right. Let's interrupt that thinking now. If you want to be Lean, you don't have the time *not* to set up the job correctly. Interestingly, the very managers who believe that they don't have the time to plan always seem to have the time to do the required rework. I challenge you to now use a portion of that time to do the necessary planning up front so you won't have to do so much rework on your next job.

9

Execution and Overarching Philosophies

As an extension of the basics, the execution and overarching philosophies further establish the ground rules that everyone on the team needs to play by. Do you know those complaints you hear about people not understanding the "big picture"? This is what they are actually talking about. They want to know *how* they should be approaching their work per the contract (the execution philosophy) and what they should keep in the forefront of their minds based on the specific promises made to the owner by the Business Development team (the overarching philosophy). Though these philosophies may conflict at times, it is essential that you help your staff synthesize them. Even if your contract isn't utilizing an Integrated Project Delivery (IPD) approach, Lean opportunities abound for both increasing your value-add to the client and improving profitability.

OVERARCHING PHILOSOPHIES

Why was this job awarded to your company in the first place? I'm guessing that it had something to do with how well your company's Business Development team convinced the client that they were in the best position to meet their unique needs. When not bound by price alone, owners select General Contractors (GCs) and contractors because of their perceived ability to handle a variety of important variables, such as

- Ability to manage and execute unique technical requirements (i.e., high-tech tool installs or clean room environments, biotech experience, ability to navigate OSHPD requirements, ability to mitigate and incorporate unforeseen conditions, etc.)

- Ability to manage and execute unique sustainability factors (LEED certification, incorporating solar, wind, waste water reuse, new technologies, etc.)
- Ability to manage and handle true one-offs (stadiums, music museums, etc.)
- Ability to acquire and retain top-flight talent (many clients know that a company is only as good as the people that it can put forward)
- Ability to manage change (effectiveness at handling late owner changes, working within/managing a design–build environment, etc.)
- Lean efficiencies (i.e., transparent accounting and communication methods, building information modeling [BIM] capabilities, prefabrication capacities, Kanbans, Vendor Managed Inventories, supply chain management, pull planning, etc.)

The owners' needs often include concerns that they are reluctant to overtly express for fear of being taken advantage of, such as

- Managing the things that they have no idea how to manage (material and labor escalation costs, permitting, hazardous soil/site conditions, etc.)
- Managing the budget, i.e., our end-user "wants" often exceed our budget (providing cost analysis, value engineering, etc.)
- Identifying the needs that we didn't know we had (i.e., did the initial design take into account our company's growth and future space/technology needs?)
- Managing the job throughout the life of the project (please don't abandon us!)

Everyone on your team should know what is of primary importance to the owner, and on what promises the contract was sold, because these will establish the baseline expectations by which the team will subsequently be judged by the owner. Therefore, if your business development team promised state-of-the-art BIM 360 Glue capabilities, or top-notch design–build drawings, there should be no second guessing of their importance after the fact or failing to deliver on any of them. This is not just a matter of means and methods—it is a matter of trust. By way of analogy, let's say that you are remodeling your kitchen. What would it mean to you if you said to the contractor that you hired, that above all else, you wanted to see

a variety of cabinet facings, and they promptly showed up at 8 a.m. the next day with twenty cabinet samples in hand? The immediate impression you would have is that this company heard you, and that you could begin to take them at their word. And your anxiety-driven need to scrutinize them would start to lessen. Now imagine instead of bringing cabinet facings, this same contractor arrived two days late, armed with nothing but excuses and countertop samples. Wouldn't your first impression be that you'd made a terrible mistake and that you'd better watch them like a hawk throughout the rest of the job?

Rightly or wrongly, judgments about GCs or subcontractors are usually determined within the first few weeks of the job. A company is not judged by its "first date" behavior that it displayed during the proposal. It is judged by *how* it delivers on its promises at the very *beginning* of the job. Rightly or wrongly, it is believed that our true intentions are revealed by our initial actions. And once the impression is set, it is very difficult to alter it—particularly if the first impression is negative. Psychological research is pretty clear—whether it is a jury trial, a romantic relationship, or a buying experience: what we remember is what happened at the beginning and the end. What happens in the middle gets lost. That is why it is so vital to start and end projects well.

Circling back to our discussion about biases, failing to fulfill a promise early on automatically cues up all of the owner's predisposed bad thoughts about GCs and subcontractors and will register loudly as a hit on their danger-detecting radar screens. And once registered, the owners will continue to scan for similar behaviors and will feel increasingly justified in second guessing you and your team's subsequent actions. In Lean terms, the impact caused by perceived mistrust can be severe. Once mistrust enters the system a number of unwanted behaviors are cued (posturing, increased scrutiny, delayed decisions), all of which add waste—usually in the form of altered work plans/office rework.

This notion of first impressions goes both ways. If you produce a mockup on ground level with easy access, the owner needs to understand that the time and cost of doing this same work 100 feet in the air, off of a scaffold, in poor weather conditions will be different than if it is undertaken in ideal controlled conditions. It's important to spend time with the owner to explain that situations like these aren't "hits" on their radar screens but legitimate field conditions that are more expensive and require more time.

In the heat of battle, it's easy to stray away from our primary focus of serving the client—particularly if we feel like we are being taken advantage

of. It's important to empower everyone on the team to speak up if they believe the team is starting to lose focus or becoming adversarial.

One simple tool to make sure that the team is on the same page is to ask the owner what is important to them at regular intervals (this can change over time) and post their response on a laminated card in the trailer. I've yet to meet an owner who wasn't appreciative of this simple act.

EXECUTION PHILOSOPHIES

The type of contract that the team is operating under dictates the execution philosophies. Each delivery system carries with it a set of unspoken expectations about how the work is to be carried out. Because they have become second nature to most experienced leaders, most take for granted the amount of understanding that their subordinates actually have of contract terms. The reality is that in many cases, the grasp they have isn't nearly as strong as needed—particularly regarding the subtleties of each delivery system. And it is not just inexperienced staff members who struggle. People with a great deal of construction experience, but who have worked with companies that offered limited contracting modalities, can struggle mightily when they change companies. While what follows is surely old hat for most of you, I hope that you will find the following scripts (with a Lean twist added) helpful in aiding your efforts to broaden your staff's perspective.

> **Traditional GC role:** "As the GC, it is our job to be the driver, that is, to be out ahead of the project in terms of budget, schedule, quality, safety, and buy-out. To be effective, we need to know our scopes, get the job out to bid, review shop drawings, and get the building built on paper as quickly as possible. The team's particular focus needs to be on identifying hiccups like long lead items or funky complications in the drawings that need early clarification. It is also our task to create, with subcontractor buy-in, a master schedule that establishes a dependable workflow and alerts the owner to specific areas when critical decisions will need to be made. As the GC, it is incumbent upon us to make sure that the owner has all the information required to make informed decisions—well before the issue has reached a critical stage. In this role, being reactive is a recipe

for disaster. Everyone's focus should be on studying the drawings, knowing their contracts, and working hard to get the job set up right from the very first day. (Don't be afraid to raise the bar. Lean does not equal lenient.) I'm sure each of you is diligently studying your plans and specs, so what I'm about to ask you shouldn't be that difficult. At next week's staff meeting, I want each of you to come prepared with a ten-minute presentation about your area of responsibility, your prioritized game plan for executing your work, and most importantly, what you will need from your teammates in order to effectively execute your work plan." (Let them know that they will be asked specifics. Nothing raises a sense of urgency like the specter of doing a little public speaking in front of one's peers.) "We'll use the remainder of the time to identify any gaps so they don't fall through the cracks." (During the meeting, take every opportunity to reinforce the message that we are mutually dependent on one another for overall project success and to drive home systems thinking.) "I think Jennifer has come up with a solid plan for keeping the submittal log updated. But what I hope is clear to everyone is that this plan falls apart if we don't continually feed her the updated information that she needs. In turn, when Dennis tries to implement his work plan in the field, he'll be unclear as to whether or not he's installing the proper materials, so he'll to have to stop dead in his tracks to hunt the information down. That is waste that we can all help to prevent."

Traditional Construction Manager (CM): While often performed by GCs, this modality requires the team to adopt a very different mindset. "In this role, we are not the driver. We are literally an extension of our client. It is our job to administer the project and ensure the delivery of plans, specs, and contracts. But the final direction comes from the client. We are tasked with gathering all the information necessary to allow the overall project team to stay focused and organized and to help the owner to make wise and timely decisions. This means that our primary job is to obtain all the information that the owner needs in order to make that happen. Our approach needs to be collegial. While we understand the GC's pain, our job is to be a trusted advisor to the owner. This sometimes includes letting our client know (tactfully) when they are cutting off their own noses to spite their faces should they get into conflict with the GC on any particular issue. Please heed this warning: if we become overly confrontational, pushy, or directive—particularly with the GC's subcontractors

(with whom you should have no direct contact), we'll gum up the entire works and end up driving a wedge between all of the entities involved. That is the exact opposite of what we are being paid to do. Our job is to help keep the workflow moving by filling in the informational gaps that come up, not drive a wedge between the parties." (Note: This is where those who come from a lump-sum environment usually struggle. Not being the driver just doesn't feel right to them.)

CM/multiple prime: "This is a hybrid CM role. We are responsible for producing a master schedule, keeping it updated, and for keeping the paper processes moving. But the responsibility for coordination, direction, and key administrative functions shifts to the subcontractors who are in privity (direct contract) with the owner. In a very real sense, the subcontractors become GCs of their work. The CM in this delivery system resembles an orchestra conductor, who also happens to own the master schedule—the sheet music, if you will." (Unfortunately, most jobs of this type tend to misfire, as people within the various entities unconsciously drift back to more familiar roles and expect the CM to act more like a traditional GC. Expectations for this type of job need to be established early, and reinforced often, so everyone can adjust. Your staff needs to be explicitly coached to stay within the scopes of their contract. But they need to find a non–passive-aggressive way to express why they are not acting like a traditional GC versus simply choosing to not return phone calls in order to "teach the subcontractors a lesson.")

GMP (Guaranteed Maximum Price): "The great advantage of this delivery method is that it allows us to move money around from pot to pot. The overall focus is to save the owner money. Since the overall price has been negotiated and guaranteed, the owner is less invested in worrying about what pot we pull the money from. In other words, if we need to take some money allocated for drywall, where we are experiencing a savings, we can shift it over to light fixtures, where there was a bust in the estimate. We can do this without the usual hassles you'd experience in a lump-sum environment. The key from a Lean standpoint is that the field and engineering functions need to be completely open and honest about their budgets and the work that has been put in place to date." (Note: I once saw a team struggle because a Project Superintendent [PS] wasn't used to shifting money around. With the best of intentions, he continually hammered the subcontractors, when instead, he should have gone to his PM and let

her know about the difficulties he was having. For her part, the PM kept accusing the PS of not being a "team player"—not recognizing that the PS had never worked in this type of delivery system before.)

"It is in this environment where we can still practice the lost art of construction. We can use our relationships to help a contractor, while at the same time getting something back—like getting a change order to disappear—later on down the road." (One story typifies this type of artistry under a GMP. A superintendent for a GC heard complaints from subcontractors about their inability to easily access the site. So he scoured the contract, located some money, and authorized funds for a ramp to be built. He didn't have to do this—it wasn't in the GC's contract to provide this—but it ended up paying huge dividends. The subs were much more efficient and productive, and when he needed some change orders to disappear down the road, the subcontractors had no problem accommodating him because of the savings they had realized by working more productively because of the ramp.)

"Speaking of change orders, unlike the lump-sum environment, for GCs there is no money to be made from change orders in a GMP—they are included in the overall price. That's why it is so important for us to be looking ahead as much as possible—to prevent change orders from happening. The project makes money by being efficient. Since the price is guaranteed, any savings realized by saving on labor costs or improving efficiency is money in our and the subcontractors' pockets via savings participation. Being Lean, in this modality equals profit." (Do be careful with this. Make sure that your ethics stay on rock solid ground. An owner will immediately smell a rat if you use your Value Engineering exercises to maximize your savings participation bonus at the expense of quality. Remember, everyone can always tell the true regard you hold underneath your words.)

Note: In terms of the owner, the biggest hiccup on this kind of contract centers around what the term *GMP* actually means to them. The price includes what is delineated in the contract documents. It does not include any unforeseen conditions or what the owners or architects decide to add or change later on. We need to clearly underscore "what is in and what is out" at the very outset of the project, or the owners will think that you are pulling a fast one on them when they get hit with the bill for an unforeseen condition that they thought was covered by the GMP. In this regard, I've always thought

it was a little nutty for companies to perform work—sometimes for years—before getting the GMP signed. While I understand the drivers for such a decision, it seems to defeat the whole purpose of the modality.

The other plus of a GMP for the owner (and do make sure to point this out) is that this delivery system allows us to select from a choice pool of preferred, reliable, and professional contractors—rather than being stuck with just any low bidder that comes along. This means (at least theoretically) that we can utilize the relationships we've developed over the years to deliver a smoother, faster, and more efficient product.

Lump Sum: This is by far the most contentious and adversarial type of contractual arrangement—and the one most people associate with construction. "This is how it works. A job goes out to bid, plans and specs are issued, a price is established with an agreed upon markup, and that's it—you own it. If something was missed, well, that's just too bad. Because after the contract is signed, it is not subject to renegotiation. Further, it is up to each contractor to prove that what is being required falls outside of the original plans and specifications. That's why these types of jobs are flooded with change orders; this is the only means at the subcontractor's disposal to make up for estimating busts or job site inefficiencies. The mindset for the GC is that any deviation from the contract documents results in a change order with a value of four times the real cost."

Note: Some owners actually prefer this type of arrangement, even though it means that the contractors are not necessarily working in the client's best interests. In the same way that the courts believe that they will eventually get at the truth by allowing opposing lawyers to tear each other's arguments to shreds, the owners believe they will get the true contract value by having the various entities cannibalize each other. The GMP route seems too cozy to them. (In the public works arena, there is usually little choice. Most public work has to be done via lump sum.)

Unlike the GMP delivery system, the lump-sum environment locks the GC into accepting bids from the lowest responsible bidder. It's all about the price.

The temperament required in this environment—and there is really no polite way to put this—is to become an asshole as fast as possible. Phrases like "That's yours, not mine," "Tough shit, you

bought it," and "Prove that's not in the plans and specs—I dare you," unfortunately, need to be incorporated into your daily lexicon. (This is the world of the grizzled veteran—not the newbie that just graduated from university. Place the latter on these types of jobs at your own peril.) In my mind, this is the least Lean contracting method due to the adversarial postures that need to be adopted.

A quick public works primer: The biggest mistake that GCs and subcontractors alike make on public works jobs is to assume that all of the various "clients" who are involved in a project actually care about the job getting built. Most times, they don't. The sooner you realize that the primary thing that most in the public sector care about is how you are making them look, the better off you are going to be. This is not to say that there aren't some great folks in the public sector. But if they are efficient, effective, and actually willing to make decisions, their tenure is usually truncated. They soon become frustrated or will be passive-aggressively forced out by their coworkers. In the public sector it is all about dotting your *i*'s, crossing your *t*'s, and avoiding anything that could negatively come back on you. That's not to say that there aren't such characters in the private sector, but they tend to be the exception rather than the rule. Too often, GCs and subcontractors naively try to get ahead on the schedule so they can save the owner money, only to be told that they didn't fill out some seemingly trivial piece of paperwork correctly. When this happens, GCs and subcontractors often become filled with righteous indignation about how their tax money is being spent. All I can say is get over it. Do what they said was required, per contract, and move on. (Even if you have to appoint one person to be the front man for expediting and bird-dogging red tape, it is worth it in the long run.)

Whether the job is public or private, Lean is still about providing what the *client* considers value-added. Remember, in the public sector, no one gets fired for saying "no," but they can get fired for saying "yes." One strategy that sometimes overcomes the fear of decision making in the public sector is to create cognitive dissonance, i.e., altering the normal contingencies and making it feel "unsafe" to say no. For example, "I guess you could drag this whole process out further by not making a decision. But I'd hate to be you when the powers that be find out that it was you who caused this delay because you couldn't make a decision that would have kept the workflow moving." But if you use this strategy, do your homework. Calculate the

actual cost of the delay, and your willingness to attach accountability and responsibility onto any particular government official, because, trust me, they will never forget it, and if it goes south, they will find a way to get even. Therefore, don't make these kinds of decisions in a vacuum; make sure that your own upper management buys into this strategy. If you do decide to take this tack, it is vital that you pair their "yes" with a complete willingness to fall on your sword should the decision prove to be a bad one. And this is important: be sure to heap on plenty of lavish praise should the decision go well. By mitigating the pain and increasing the gain, you'll actually help this public official in question feel more comfortable about making more decisions down the road. Is this manipulative? Damn straight it is. But it is for the greater good. Don't forget, it is *our* tax dollars—yours and mine—that are at stake here!

Time and material: "Time and material contracting is just as it sounds. Agreed upon pricing is determined for both materials and labor costs. Due diligence is required for the tracking of bills of material and labor. We need to be focused on tracking them both methodically, then determining the realism of the submitted invoices. Standard unit pricing and workflow rates are established for most construction activities and checked against what is invoiced. For example, the average electrician should be able to pull a certain amount of wire per hour. If what is billed doesn't come close to matching the actual work in place, then there is a problem. There is not a whole lot of art to this approach. The issues center on accuracy. For the contractor, if its crew goes faster than the average, while maintaining quality, then this is well-deserved money in its pockets. If there is a deviation, they should be able to document why there was a discrepancy (unusual condition, unforeseen obstruction, clash with another trade forcing them to go slower, etc.)."

Design–build: "The advantage of design–build contracting is that it allows us and the subcontractors to assert a bit more control over the design and building process. Instead of the owner holding the architect's contract, we do. Problems arise when we don't work closely enough with the designer—or the designer is simply in over its head—because once construction gets ahead of the design, problems arise. There is a simple axiom in this modality: the A&Es are your friends! Besides, it is us, not the owner, who owns their work. You can't blame the architect in design–build work!"

Note: During construction of the Denver Broncos Stadium project, the Project Director, Emil Konrath, now of The Konrath Group, foresaw this problem and addressed it proactively. He made sure that he and his counterpart from the architectural firm had adjoining offices and that the bulk of the architectural staff were on site for all phases of the project, thus ensuring that the builders and the designers had constant access to one another. It was the primary reason why the project moved ahead so effectively even though market conditions at the time were less than favorable.

Integrated Project Delivery: IPD replaces the conventional design-bid-build model and is synonymous with Lean construction methods. IPD brings designers and builders together from the start. As described by Kate Moser:

IPD calls for the project's team of designers, builders and owners to assemble early in the project's life and work collaboratively, sharing both risk and reward. Each member of the team can only succeed if the entire project is successful. But the method isn't altruistic; it also has legal implications as well. The legal basis of this new structure is a contract called an integrated form of agreement, or a tri-party collaborative agreement. (2009)

In May 2008, the American Institute of Architects (2008) released templates for IPD legal contracts. They define IPD as an "approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants." Mutual respect and trust are fundamental as well as the method's four key ideas: "collaborate, optimize, couple learning with action, and consider the project as a network of commitment and interrelatedness." Technology is also fundamental to IPD. Three-dimensional BIM is frequently employed as a tool that allows earlier and more accurate cost estimates and facilitates greater collaboration among designers and builders. Applying lessons learned, reducing waste, continuously improving, monitoring results, and maximizing value, workflow management, and coordination of material handling are hallmarks of the approach.

The approach isn't for everyone, as it requires up-front costs and a great deal of trust (vulnerability). And many have only attempted to utilize it in naïve or superficial ways. But for those who have truly employed the method, they have experienced significant success. I firmly believe that this is the model of the future.

BRIDGING STRATEGIES

Bridging strategies are internal tactics that are utilized when you need to get your team's attention and focus their energies in a particular way. They are helpful whenever the team is floundering and you need to raise the team's sense of urgency. They sound like

> Folks, it's time to follow the letter of the law! We've stubbed our collective toes because we haven't been clear about our scope. This afternoon, everyone is tasked with going back and reading their portion of the contract. From now on, there are no excuses for not knowing our scope of work and putting in place anything that hasn't been signed off.
>
> It's time to move forward. We've been hanging back accommodating changes, but we have to stop this way of thinking. In the long run, the owner will thank us for making this happen. Let's focus on building what is shown in the drawings instead of waiting for addendums.
>
> Budget, budget, budget. Funding is tight as a drum. We can't afford any more mistakes. I'd rather we slow down and get it right the first time than get it wrong and think we can fix it later. If you see something that doesn't make sense, by all means, please raise your hand!

Please notice the phrasing of how these alarms should be raised. In Lean, it is all about "we," not "you people." If there is a lack of urgency on your team, you need to take a look in the mirror, because more than likely, you did (or didn't) do something, which in turn, allowed a sense of complacency to fester. Ninety-nine times out of a hundred, it wasn't intentional on your part. But the only way to correct for it is to place yourself in the middle of the situation and right the ship as a team.

10

Lean Purpose

If we were at a party, and I asked you what you did for a living, how would you respond? If you're like most construction professionals, you'd probably mutter, "I build buildings," and quickly move on to the appetizer table. But let's say we'd both had more than our fair share of cocktails. If I pressed you, you might say something like, "I baby-sit subcontractors," or if you're a subcontractor, you might grunt and say, "I make those know-nothing GCs look good." Then it would be my turn to hit the appetizers. But I'd like you to think about this question far more broadly, because I'd like you to appreciate what you do as much as I do.

Most people in construction often think of themselves as mere builders. There is something noble and humble about this. But whether you are a general contractor or a subcontractor, you are, in actuality, much more than simple builders. You are in the dream business. Come on, put down that drink and hear me out for a second. This isn't just a bunch of philosophical hooey.

Think about the project you are working on currently, and all those that came before; they came about because someone had a dream. Maybe it was for a block of mid-rise office buildings that were designed to be environmentally friendly featuring new sustainable technologies. Or perhaps it was a high-rise condominium set against the backdrop of snow-capped mountains, with locally quarried granite incorporated throughout. Or maybe someone took a vacation and brought back the notion of a Tuscan styled shopping center nestled next to a sunny hillside in Texas. Or maybe the dream was much more down to earth, but no less important: a tilt-up warehouse and distribution center that created hundreds of jobs to a town where there had been few. Whatever the dream, the holder of it soon

turned to an architect to capture it on paper. What the architects delivered wasn't just a set of calculations. Their work included artistic renderings designed to entice the senses and capture the heart.

So, as a construction professional, where do you fit in amid all this dream weaving? Front and center. It's your job to analyze the feasibility of the design, determine pricing based on specifications, measure these against what the dreamer has to spend, and—if the project is a go—develop a sequential building plan that, literally, turns this dream into reality. Without your experience, analytical ability, and the checks against reality that you bring to the table, the dream would never be more than just that. Now, I ask you, how cool is that? Most people spend their workdays doing the same boring thing over and over again. But you get to take something that was just an idea—a mere set of lines on a piece of paper (or an interesting Revit model on a computer screen)—and turn it into a piece of functional art that literally has the ability to transform people's lives. Think about it: we rightly opine the glories of nature, but in reality, we've spent the bulk of our human history creating manmade environments that allow us to thrive and create. In fact, our ability to create would have been impossible without them. In just a few hundred years, we've gone from wandering about with candles from one drafty room to the next to working in buildings that house technologies that allow us to literally design our ways to the heavens. Watching just a couple of episodes of *Naked and Afraid* should be reminder enough of the important role that controlled environments have played in the evolution of humans on this planet.

The reason that this doesn't feel quite so magical in the day to day is largely due to the role you play in this process. Since, as an industry, we haven't yet evolved to designing to a budget (vs. budgeting to a design), the role you are often forced to play is one of dream squasher. After all, no one wants to be told that the lovely structure drawn up by the architect can't be built without an additional outlay of cash (or defying several laws of physics). When you envision getting a BMW, who wants to settle for the Chevy Cobalt that you can actually afford?

As thankless as this can feel, you help people come as close to their dreams as humanly possible, checked against the realities of market conditions and budget limitations. And when it does finally come to fruition, because of your expertise, the dreamer can rest assured the resulting building will stand the test of time and will be the most tricked-out Chevy Cobalt possible.

When I describe your job in these terms, doesn't it make what you do for a living seem pretty damn amazing? And doesn't it make all the discomfort, inherent conflict, and long hours it took to pull it off much more worth it? That's the point of having a sense of purpose in life—it helps to sustain us—particularly during tough times.

The psychiatrist Victor Frankl, an Auschwitz survivor, had much to say about the importance of a sense of purpose. While in the camp, he observed that physical strength alone was not a significant factor as to whether or not someone made it out alive. Many of fairly weak physical constitutions survived far longer than did their more robust counterparts. He came to the realization that there was another key psychological determinant at play, and that was whether or not that person had managed to maintain a sense of purpose compelling them to continue on. Perhaps it was their faith ("God commands me to survive"), their family ("I want to see my wife and children again"), or a defiant human spirit, ("I will not let these bastards take away my humanity!"); whatever it was, those who survived retained something intangible within them that helped them to endure. Conversely, Frankl knew well the look in someone's eye that signaled that they had lost their will to live. Often, they perished within days of making this psychological transition into hopelessness or what Frankel called "provisional existence," where the present lost all meaning (1959, p. 80).

These observations had a profound effect on Frankl. So much so that they led him to develop a new branch of psychotherapy known as logotherapy, which literally translates to "meaning therapy." In contrast to what many today believe, it isn't a feeling of "happiness" that sustains us. Happiness is an emotion that is fleeting and transient. Instead, it is a deep sense of meaning and purpose that gets us through tough times. Current research confirms this finding. In their book *Mean Genes*, Terry Burnham and Jay Phelan refer to a common fantasy that most of us carry around in our heads, i.e., that if we had enough money and were free from having to do anything at all, then we would know bliss. But, as they point out, the opposite is actually true. Having nothing to do, for most of us, eventually drives us to misery. This is probably why so many retirees return to the workforce. Unless we have a sense of purpose, we tend to become miserable. Conversely, a strong sense of purpose allows us to endure almost any pain, or as Nietzsche once said, "He who has a *why* to live for can bear with almost any *how*." This may account for the variance

in suicide rates between developed and underdeveloped countries. In developed countries the suicide rate is 13 per 100,000 people. In underdeveloped countries, the rate is less than 6.5 per 100,000. The current thinking is that in underdeveloped countries, people are preoccupied with survival. Everything they do is toward that end and therefore loaded with meaning. In developed countries, the notion of meaning, as it pertains to survival, is much more abstract. Things like lost status, boredom, and an overall sense of alienation or pointlessness—which have nothing at all to do with survival—play a much larger role. Suicide is, evidently, the psychological "luxury tax" for living a much easier modern lifestyle.

So, what does all this have to do with being an effective Lean leader? I certainly don't mean to compare a job site with a concentration camp (though some of you who have worked on particularly trying projects may disagree). But I believe that there is something that holds true for all teams when times are hard; they can endure the toughest owners, the most difficult contracts, and the most challenging site logistics when the leader at the helm is able to evoke a strong sense of purpose. Maybe it is something as simple as establishing common goals and developing an esprit de corps where no one ever wants to let a teammate down. Or maybe the leader is able to get the team to focus on something larger than themselves like growing the company or expanding their ESOP stock price. Whatever the reason, as long as a team has a sense of purpose, they will endure. Without one, they will tend to flounder and divide. They won't drift into oblivion and die like at a concentration camp but will likely either transform into underperforming zombies (the psychological equivalent of quitting) or fixate on "what's in it for me" to the exclusion of everything else.

Let me give you an example. I was hired by a contractor to resolve a dispute between their field payroll and IT departments. The people in IT complained that those in field payroll were overly hostile and tenacious when they didn't get their demands met. For their part, the field payroll people were incensed that the IT folks appeared unresponsive to their needs and seemed to exhibit a blasé attitude—often making them wait hours for what they viewed as fairly simple fixes. Clearly, neither side was caring a whole lot about giving their counterparts the benefit of the doubt. But there was something about this dispute that made it far more interesting from a Lean perspective.

Early in the field payroll manager's tenure, she had pulled her troops aside when it appeared to her that they were just going through the motions. She said,

> Do you want to know something? When people look at us, they think that all we do all day is data entry. They think that we just mindlessly plug a bunch of numbers into a software program, and could care less about what we do. But let me let you in on a little secret: That's not what we do—not by a long shot. What we really do is help our fellow employees pay their mortgages. When their parents get sick, we help them pay their hospital bills. When their kids are hungry or need new clothes, we help to feed and clothe them. Think about all the things that people depend on a correct paycheck for, because that's what we actually do for a living!

She gave this speech three years prior, but it was burned in her staff's mind as if it were yesterday. So what was the upshot to this story? While I did have to ask the field payroll people to dial their intensity down a notch and communicate their needs more clearly, the last thing I wanted to do was dampen their passion. My message to the IT folks was simple: "The field payroll people will be more mindful of *how* they ask for things, and be more considerate of your time constraints, but they are not going to stop pushing for what they need. I suggest that you find a way to tap into their passion and meet them halfway." Unfortunately, the IT manager never took this message to heart and allowed his team to keep working at their own pace, rather than focusing on the needs of their internal customer, and was replaced a year later by a leader who was more responsive.

Now here is a key question to ask yourself: Do your people feel like each of them plays a vital role in the overall success of the project? Does your receptionist understand that a lot of the opinions held about the entire job site staff and, by extension, the company will often be determined by how competently and politely he or she answers the phone and whether or not he or she redirects callers to the right person? Does the document control person fully understand that everyone on the job—and I mean everyone—is dependent on him or her for easy and accurate access to the latest documents? Further, does he or she know that A&Es, owners, and inspectors of records (IORs) will often judge the competency of the entire staff by how well the documents are maintained? Does every electrician pulling wire, every plumber laying pipe, and every sheet rocker installing drywall know, beyond getting a paycheck, the pivotal role they play in

helping the company to get paid on time, which in turn, is one of the key determinants as to whether or not a bank will extend a short-term line of credit to their company?

Believe it or not, all of the above statements are absolutely true.

Do you see what I'm getting at here? When people feel like they are a vital link in the chain, regardless of the job they do, they will embrace their role. As a result, a mutual sense of interdependency and accountability goes up, while complacency and waste go down. Conversely, when people feel like mere cogs in a wheel, they often do the bare minimum each day. As human beings, we are all hungry for meaning and purpose in our lives. If our work doesn't provide it, then we will drift toward something else. Maybe it's that football fantasy league that we just joined, or that new bicycle riding club that just started up, or maybe it's simply meeting up with friends for one more night of drinking. We each will fill the void in lots of different ways—not all of them productive. But when people feel like their work fills that void, something interesting happens: they want to give their best every day. And when someone wants to do something well, it also means that they are open to finding new ways to improve upon what they do. When we're bored, we believe there is little hope to change our circumstances, so we just do what we've always done and work around our psychological angst. We're not looking to use our time wisely; we're just doing time.

So, if you haven't done it for a while, take the time to remind your people of the vital role they play on the project.

But enough about your staff. What about you? What floats your proverbial boat? What makes you look forward to getting up in the morning? I'll bet it isn't just a paycheck.

I remember sitting high up in the stands with the director of the Seattle Football Stadium Project, Gus Sestrap, a month before the project was to be completed. With the finish line in sight, and the complicated problems behind him, Gus was in a reflective mood. He was recalling, how, in the early stages, the project was beset with conflict and infighting. But he and the leadership team persevered, and now the team was truly firing on all cylinders. Information was flowing freely between the field and engineering, and any conflicts that emerged were openly aired and resolved. Trust on the team couldn't be higher, and victory was in everyone's sights. Finishing on time was not only *not* going to be an issue, but they were actually on target to deliver the job a week ahead of schedule—something unheard of for most stadium projects. Throw in the fact that the books

were looking good and the owner was more than pleased, and what more could you possibly want at the end of a job?

So, I asked Gus if there was a turning point on the job, i.e., a day that the project had turned a corner and he knew that everyone was willing to throw in their lot with one another. He thought for a minute and relayed this story:

> We were about halfway through the project when we (the project manager [PM], the two senior project engineers, the two project superintendents, and the quality control manager) were sitting around after lunch. By this time, a weekly lunch to talk about how things were going and recalibrate priorities had become a ritual. But out of the blue, Joe Lucarelli, the project superintendent, asked us this question: "At this stage in your career, what is it that you like doing the most—I mean really enjoy doing—that you would do for free if the company didn't pay us?" We all thought it over for a moment.
>
> "You know," I said, "I was just thinking about that the other day. I've been doing this for thirty years and have built just about every type of project there is. I've realized that just getting the job done doesn't do it for me anymore. Don't get me wrong, I still love the challenge, but it's not what drives me. What I really get off on is watching the young people grow and sharing what I know—that's what I really enjoy."
>
> There was a lot of head nodding around the table. It turns out that all of us had been thinking about this same question and had reached a similar conclusion. At that point, a lot of the icy bickering for turf that had been going on started melting away. An unspoken competition suddenly arose between us. We began trying to outdo each other for who could develop the most people the fastest. The unintended payoff was huge. The team truly began working together—from top to bottom. Information, coaching, and mentoring flowed freely. And by the end of the job, the unsure kids with tiny voices (and there were about thirty of them) became lions with confident roars.

And there was one more unanticipated benefit. Unlike most jobs, where at the end, the managers look as spent as the Spartans at Thermopylae, this management team was surprisingly spry. By helping the staff become more competent, the managers had actually made their own lives easier and were about to cross the finish line with an incredibly well-developed group of underlings who were poised to take on the responsibilities of their next assignments. At the end of the job, the only thing people felt truly bad about was knowing that it was highly unlikely that they'd ever have the opportunity to work together again.

So, who says philosophy is just a bunch of hooey?

Opportunities for establishing a sense of purpose abound if you are willing to look for them. They often start with the small stuff—right down to the paperwork that your people have to process. I don't know about you, but if I understand the importance of why a certain piece of paper needs to be filled out, I can do it all day long. But if filling out that same piece of paper seems meaningless, I won't do it unless you stand over me with a can of gasoline and a match.

So, the next time you are having difficulty getting people to adhere to a specific policy and procedure, or your team is simply in the midst of a mid-project malaise, take a step back and try a little experiment. Take the time to explain *why* what they are doing is so important. You'll see a spike in their performance as a result.

11

Conflict Paradox: Encouraging Debate without Letting It Become Destructive

At the risk of dating myself, I wonder how many of you remember the *Twilight Zone* episode entitled "It's a Good Life," in which Billy Mumy plays a little boy named Anthony who possesses special powers to do just about anything he wants. Being an omniscient child had its scary side. The things he took delight in were, in equal measure, facile and horrifying. His self-absorption amplified his insecurities, compelling him to demand complete and unwavering assurance from the terrified, yet powerless, adults around him, that everything he did was the most marvelous, beautiful, funny, or intelligent thing that any of them had ever seen—even when he had given into his most craven and grotesque impulses. And if anyone questioned his actions or broke under the unrelenting pressure of maintaining this delusion, they were either transformed into some pitiable deformed creature or "sent to the cornfield." We never do find out what being sent to the cornfield actually means, but by everyone's terrified and sycophantic exclamations of "That's a good thing that you done, Anthony, real good!" to stay on his good side, we know that it must be something truly awful.

The story was a metaphor for a society's suffering under the yoke of capricious, foolish, and tyrannical leaders. The episode was based on a short story written in 1953, when memories of Hitler, Mussolini, and Stalin were still fresh in everyone's minds, and speculation as to why so many seemingly good people were capable of abetting so many grievous acts gave everyone pause. Years later, psychologist Stanley Milgram was able to replicate these findings in the laboratory and provide us with some answers. He discovered that test subjects, in the presence of a stern authority figure (in his case, a forceful university professor), would deliver a

series of progressively stronger electric shocks to fellow participants (who were actually actors)—even when they reported severe pain or even heart-attack-like symptoms. Milgram concluded that when we are under the influence of a powerful leader, most of us are highly likely to conform our behavior to the leader's will rather than exerting our own and doing what's right—not because we believe the leader is correct, but because most of us feel powerless to defy authority. And though you may think that you would stand strong in such situations, the data is clear that most of us abandon our own moral code in the face of such pressure—particularly if we perceive personal risk for opposing the person in authority. Debriefs that I had with mid-level managers at several financial institutions after the mortgage crisis point to how pervasive this effect can be. Though most had a "gut feeling" that something was "off," most just assumed that their bosses knew something they didn't and went along. And those who knew better were too afraid for their own careers to say anything. This same formula holds true when oilrigs blow up, automobile ignition systems are known to be faulty, and emissions tests are rigged. Sadly, we simply abdicate to those in authority and justify our self-protective actions, while turning a blind eye toward our own moral responsibility.

Since we know how people will behave in the face of authority, we need to turn our waste reduction attention to the root cause of such break-downs. Though not as prevalent as in years past, there is still a temptation for some project leaders to seize control of every aspect of the job, and inadvertently squelch everyone in their path. By dismissing questions, mocking ideas that are different than their own, and withholding bits of key information, these leaders attempt to ensure complete obedience to their plan. And since they often, at least perceptually, control people's fate by writing their performance reviews, few have the courage to buck their authority. Even those with comparable experience will find themselves either tacitly agreeing or holding their collective tongues for fear of being banished to the construction cornfield. ("How's that tilt-up in South Dakota grab you?")

Sadly, the very thing that should be lifting the team to greater heights—the leader's experience—is instead held over their heads like the sword of Damocles. As a result, the team usually underperforms—doing little more than what is doled out to them in dribs and drabs, while resenting every minute of it.

In most cases, creating such a dynamic isn't the leader's true intent. Though there are those for whom being in complete control is a

psychological obsession, most of the time, the person exhibiting these behaviors is simply overwhelmed by all that needs doing and is resorting to behaviors that they believe have worked in the past.

Compounding this problem is the fact that most people in construction are heavily lauded early on in their careers for the very behaviors that make them such terrible leaders down the road—their ability to exhibit control and dominance of those they are tasked to oversee. What we know from years of psychological research is that, when under stress, people will revert to "over-learned" behaviors that they believe brought them success—and the greater the perceived threat, the more they will increase their engagement in these behaviors. So, if we believe that on a previous job, a good result was attained through a little yelling or by being a little controlling, we will now double down on both.

Unfortunately, managers who rely on control, bullying, and manipulation as their primary management tools rarely experience a smooth path to their intended target for two primary reasons. First, because they are so results driven, they are usually oblivious to how they are negatively impacting others and are subsequently blind to the workflow interruptions in the form of resentment, resistance, and hostility that they create in their wake. And second, because the seemingly willing often feel forced into promises that they have no ability to keep, they inadvertently set up the situation, as described by Hal Macomber, where any promises made by teammates are completely unreliable. What would be a firm "no" if vulnerability-based trust were intact becomes an "uh, sure." Why are these unreliable promises such Lean killers? Because this creates an environment of cascading dropped deadlines and broken information chains. By mistaking a forced "yes" for buy-in, the leader inadvertently ensures that time sensitive deliverables will not be delivered on time. And because of the nature of highly interdependent tasks in construction, like dominoes, this sets in motion further dropped deadlines. This also creates a two-step communication process where there should be one. For example, a Senior PM was considered very approachable one-on-one but would defend his positions ferociously in team meetings. People quickly picked up on this and instead of offering opposing opinions in the meetings, sought him out one-on-one. What should have been a one-step process (immediate discussion of ideas in a staff meeting by the entire team) now became a two-step process—and often became elongated because of the PM's busy schedule. Worse, others who should have been privy to the dissenting view didn't hear it because it was voiced to the PM behind closed doors.

This led to several missed deadlines because obstacles were not voiced early enough in the process.

Worse still, team members actually become infantilized in the face of a strong leader. Even capable team members will revert to a more childlike state and increasingly shrink away from taking the initiative to prevent problems or avoid making decisions, assuming that this is the sole domain of the top leader.

I can picture a number of you experiencing a little tightness under the collars right about now. If what I've described sounds painfully familiar, all I can say is—you are not alone. And it's not all bad. You got to this place because you care—not because you don't give a damn—and that's a good thing. But if you honestly believe that you are the only person on the job who can get things done properly, then you have another problem on your hands, don't you? Either you are ridiculously overstaffed, and are needlessly taking a hit on your staff-to-return ratio, or you're systematically distorting the way you are looking at yourself and the people around you. More than likely, it's the latter.

So let's try something else. Think back to our discussion about individual ethics. In construction, people learn best—not by their leaders trying to turn them into clones of themselves—but by being able to test out and play around with various ideas. Think about your own experiences and how you got to where you are. I've talked to thousands of you over the years and have heard many tales of how you got into construction. And the stories have a familiar ring: As kids, you compulsively took apart anything that you could get your hands on and then put them back together again. These behaviors laid the foundation for who you are today. By deconstructing then reconstructing, you began to understand what it took to build something. It is by a very similar mechanism that people at job sites learn to develop their skills. Through the act of discourse (them asking questions about procedures and methods, you responding to their queries) they have the opportunity to deconstruct and reconstruct concepts in their minds. And when you ask them what they think (rather than tell them what to do), they make an important transition in their thinking. Rather than relying on you to give them the answers, or simply acquiescing to your will, they will start to think for themselves. But to get here, you'll need to make some important shifts in your own thinking.

When your staff asks questions, even if they do so awkwardly, it is important not to interpret this as somehow questioning your authority or abilities. What they are doing is "playing" with different ideas and measuring

them for accuracy, validity, adaptability, and fit. More importantly, it is through such dynamic intellectual play that they gain a true understanding of how to think about their work. And all of this is at the heart of developing a Lean culture. Believe it or not, we actually *want* people to constantly ask themselves and others, "Why do we do it this way?" Such questions lead to a much deeper understanding of the principles behind the task and, in turn, clear the sightlines for finding potential improvements. College and apprenticeship training takes years—not because it takes that long to teach concepts and techniques, but because, as humans, it takes us a while to play around with ideas before they actually sink in. In short, getting your staff to where they need to be takes time, time that you often don't feel like you have. But telling, while expedient, does not develop people.

During Value Stream Mapping exercises and Kaizen events, I've encountered leaders who start imposing their will on how they think the Future State should be—and they are often not wrong. The problem is the rest of the team isn't ready to go where the leader thinks they should. They just can't see it yet. Being an effective leader means exhibiting patience, as opposed to asserting dominance. Dominance breeds resistance. Patience—while taking more time—actually allows the team to get to the leader's "vision" faster.

Here is another reality about how people acquire knowledge: most people learn best when they are allowed to make a few mistakes vs. being controlled by the "smartest" guy in the room. I know this runs counter to what most construction leaders believe, and yes, I am well aware that mistakes cost money. But mistakes are also valuable learning lessons. If we want our people to develop, then we have to allow them to make some of their own decisions and run with them. And unlike tyrannical Anthony, we have to become less enamored with our own shining star and instead, promote an atmosphere where it's okay to voice an opinion that runs contrary to our own and allow for some mistakes along the way. This is highly paradoxical, but we teach how to do it right the first time—not by controlling everyone's every action, but by creating an environment that allows mistakes to come to the surface during the planning stages so that they can be quickly corrected early on. This is what creating a "learning" environment is all about. And learning requires discourse, i.e., a healthy exchange of competing ideas.

Here's a quick self-assessment to see how well you are doing in terms of creating a learning environment: If people line up outside of your office

door to ask a question or two, and then quickly scurry off, this is not discourse. You are simply holding court. Discourse means that an actual interaction occurs—characterized by a give and take of ideas.

Another measure is whether, privately or in meetings, people speak up and challenge you on your approaches. I'm not talking about those who are trying to make a name for themselves by challenging your every move. We'll talk about how to address these folks later. What I'm referring to are those staff members (the vast majority) who are honestly trying to wrap their minds around where you are going. It's these folks that you most want to encourage to speak up. Effective leaders make room for people to ask probative questions in order to gain a deeper understanding of their direction.

Therefore, if no one bothers you all day, if your staff meetings are as quiet as Holy Communion, or if you only hear about bad news well after it has hit a crisis point, you'll need to consider making some changes.

Here is how you can effectively encourage what Lencioni calls "healthy and productive conflict." Remember, if we want to develop a true Lean culture, people need to be able to speak openly and in an unguarded fashion.

Both in meetings or one-on-one, simply ask people what they honestly think about a particular issue or plan of action, and when they contribute, thank them for putting their ideas forward (particularly the quiet ones). By doing so, you will get more of the same—and less of the silence that is so Lean killing. And by working hard to squelch your critiques (i.e., "That's the dumbest thing I've ever heard!") and substituting respectful consideration instead ("That's interesting; let's consider how that might play out."), you'll send a strong signal to the team that you value their opinions, even if they run contrary to your own. As a side benefit, you may just happen to hear a really good idea that you hadn't considered.

This means, of course, that you can't do all of this through clenched teeth. Remember, people will pick up on whether you mean it or are just faking your way through. And for your own sake, it's important to mean it. It is through this type of productive conflict that your staff will learn and grow, and you will be able to lighten some of your own load by shifting some of the things off your overflowing plate onto theirs.

For those of you of a less tyrannical bent, but who are nonetheless puzzled as to why your staff meetings are so silent, there is something else to consider—and this is particularly true for those of you who work west of the Mississippi, or with very young people. For some reason, these two populations have acquired the belief that engaging in any level of

passionate discourse is somehow bad. When they hear the slightest raising of voices, they tend to run, psychologically, for the proverbial hills. (If you think it's difficult here, try the Netherlands. There, people on job sites can actually call the police if their boss raises their voice to them. I jokingly said to a VP in the Netherlands that if this same law applied in the United States, New York and Boston would quickly become penal colonies. He wasn't all that amused.)

This is unfortunate, because along with the discomfort, the birth of truly great ideas is being thrown out with the proverbial bathwater. Conflict, when healthy, is a tremendous source of creativity. In my mind, this is what diversity is all about. We don't want people all thinking the same way. It's by the hashing out of truly divergent options that interesting and effective solutions can be discovered.

Paradoxically, the same people who run from passionate debate aren't at all shy about expressing their dissatisfaction through more passive-aggressive means (such as not returning phone calls or emails, or registering complaints with HR). All the more reason why we should all want to encourage the expression of dissenting views openly, honestly, and professionally. The more we make this a standard operating procedure, the less likely it is that these opinions will be expressed via more subversive means. Therefore, it is on us to seek out the root cause of our coworkers' dissatisfaction and channel it toward more productive pathways. That means that we have to work a little harder at soliciting people's input, encouraging them to "keep going" when they do take the risk to express an opposing view, and highlighting the positive outcomes that are a direct result of passionate discourse.

On the flip side, this also means that we have to be willing to confront people when they voice their displeasure through gossip or other, more destructive, indirect means. While a job site isn't like the old Soviet Union (we can't dictate what people can and can't talk about), we can point out the benefits of creating an environment where people can speak openly without fear of retribution, including that of being talked about behind their backs (including yours).

So, in summary, by making room for and encouraging people's questions and ideas, by praising them when they voice dissent in a direct and professional manner, and by taking the time to work through differing opinions, we open everyone up to a whole new world of ideas, solutions, and team interactions—and make our own lives easier in the process. And that is a good thing, a real good thing.

Deep down, don't you want people to commit to a course of action because they actually think it's the best idea rather than because you said so? After all, people are far more likely to commit to a course of action when they have had a hand in creating it, versus it coming out as some sort of edict.

RESOLVING UNPRODUCTIVE CONFLICTS

What do you do when people can barely stand to be in the same room together and each is thoroughly entrenched in his or her own position? Does this mean you have been a bad leader and all is lost? Hardly. Perfectly good teams, with perfectly good leaders, can, from time to time, become temporarily derailed. But how you handle such derailments determines whether or not your team will get back on track or remain in a ditch.

The greatest thing about construction people is that they are definitely not dead from the neck up. Most hold passionate views about what is right, what isn't, and what should be done about it. But their greatest strength can quickly turn into their biggest weakness. They can become entrenched in their own positions, relying too heavily on the way they have always done things, and dismissing viewpoints that aren't their own. It's important to help people understand that conflicting viewpoints aren't the issue—it's the entrenchment that drives waste into the system. Nothing impacts the flow of a job more than teammates who go out of their way to actively avoid one another or who unwittingly (or wittingly) sabotage their teammate's efforts in order to prove a point. Therefore, it is important for you to keep your balance. Effective leadership isn't about people never having conflicts; it is about harnessing their passion so it will remain an asset.

Before discussing how to handle these types of situations, let's focus first on what not to do. Never make consensus your goal. Consensus is the destroyer of great ideas for the sake of what Patrick Lencioni calls "artificial harmony." It takes a choice piece of USDA prime porterhouse and grinds it into hamburger. Consensus is the acceptance of mediocrity or wrong-headedness in exchange for interpersonal comfort. A great case in point is the Groningen Art Museum in Holland. Let me explain just how this monstrosity came to be. The city council of Groningen, being a collectivist sort, decided to include input from the community for the design of its new art museum. The community would have a real say in determining the

eventual design. As is usually the case, it didn't take long for this wonderful idea to become marred by the ugly fact that there is rarely enough unity in any given community to come to a unified decision on anything. Not surprisingly, hardline factions formed. One group wanted a traditional, easy-to-maintain design; another wanted a distinctive, ultramodern design; while another favored something in the middle. Passionate debate was had, merits of each design were weighed, and nothing at all was settled. So, the city council decided to go with a little bit from all three designs. Figure 11.1 is a testament to what happens when consensus becomes the goal.

As it turns out, the visual aspect of the design was the least of this project's problems. One faction had become so enamored with the idea of building the museum on a piece of land that jutted into the river that they managed to find an engineer who, despite many naysayers, told them that it indeed could be done—and for an acceptable price. Concerns for potential flooding were dismissed as a once in every 200-year possibility, and the plan was adopted. Unfortunately, no one foresaw that a once in every 200-year possibility could have occurred a year after the project's completion—but it did. The hapless curator, along with the rest of the museum staff, spent a good deal of their winter wading through calf-deep water hand-carrying valuable paintings and sculptures to higher ground.

FIGURE 11.1
Groningen Art Museum.

So, what is the moral of this story? What you want for your project is the *best* ideas to emerge, not little pieces of okay ones that together, don't add up to a good one. Compromises will rarely take you where you need to go. At some point you will have to make a decision between two competing options. You can't simultaneously run electrical conduit below ground and in raceways. It has to be one way or the other. As Roger Martin states in his book *The Responsibility Virus* (p. 117), "A well-framed choice is an irreversible commitment." So how do you effectively make these kinds of choices, particularly when the team doesn't agree? You'll see that in many ways, Martin's framework is similar to a single issue Kaizen event. For example:

Let's say that you are a project executive (PX) in charge of a large project, and your management team (the project manager, project superintendent, lead project engineers, and project accountant) is having difficulty coming to an agreement on how to adequately track and report costs. In fact, some discussions have become so heated that one or more parties walked out of the room and did not return. Worse, you've heard rumors that the engineering side of the house believes that they are being set up to be the scapegoats when the project eventually fails. And you're only two months into a three-year project!

So how do you handle this situation? First, it's vital that you set a new tone for the upcoming meeting that you are about to have. Gather the pertinent parties together in your office for an impromptu announcement:

> Thanks for coming. You're probably wondering why I have gathered you together. Tomorrow at 2 p.m. we are going to meet as a management team to discuss our budget tracking and reporting issues. This meeting is mandatory, so please clear your calendars. Here's the deal: we need to come up with an agreement, and none of us leaves the room until we do. This issue is too important for us to leave it unresolved. The people who report to us are depending on us coming up with a plan and subsequent procedures manual to use as a reference. More importantly, we need to set an example of teamwork and collaboration that the rest of our team can follow. That's it. I'll see you tomorrow. Please come prepared with good ideas—and an open mind.

In the meeting, do the following:

1. Establish common ground that everyone can agree on.
   I think I'm stating the obvious when I say that we are at an impasse in terms of how to track and manage the budget. And I think we'd all agree that we all want the same thing: agreements that we can all buy into so we can get past this.

(It's important for people to know that there is at least one thing that they can initially agree on.)

2. Get people to state what is at stake for them *personally* if this conflict continues without resolution.

   I'm going to be completely honest with you; I get a rock in my gut each time I see one of you approach my office knowing that you are coming to complain about this issue. All this bad mouthing and ill feeling is, quite frankly, making me miserable. I'm starting to take it out on my wife and kids and I don't like it. I'm just curious: is anybody else experiencing what I'm experiencing?

   (Make everyone answer this question. Once people recognize that they are not alone in their suffering, they will be much more willing to listen to opposing points of view.)

3. Brainstorm ideas.

   Look, right now, all I want to do is get ideas up on this white board in terms of how to solve this thing. I don't want anybody to judge whether the idea is good or bad at this point—we'll sort that out later—I just want to get them up here.

   (Write down each idea. Resist the temptation to edit or begin to favor one idea over another. If you do so, you will truncate this process before it starts. Make sure you prod the quiet ones. Everyone has to participate. You don't want anybody leaving the room feeling like they never got the chance to speak—thus giving themselves ample justification for not following what is subsequently agreed upon.)

4. Look for common themes.

   Are any of the ideas that we've put up here similar?

   (If you can, have the team group the ideas into categories.)

5. Start the idea selection process.

   Without taking into account who said what, are there any ideas, or a combination of ideas, that are starting to grab you? If not, do we need to think of something else?

   (Usually, at this point, traction starts to take hold; an idea or two starts to emerge from the pack.)

6. Design a test.

   Okay, so it sounds like we've settled on how we are going to track costs. And at first blush, it looks to be in line with what the owner is looking for from us. But let me play devil's advocate for a minute. How do we know we've come up with the best idea? How would we test it?

(This is an important step. Coming up with a way to test the idea builds people's confidence in the agreement. It reassures those who were on the fence and keeps people focused on analyzing the issue objectively.)

7. Analyze.

So, it sounds like we are all agreeing that the best beta test for what we've come up with is to run it through our Prolog system. The next step after that is to see if it flies with our accounting system and with what the owner is expecting to see. I think one of the reasons we got into this mess is because the owner has some pretty unique real-time reporting requirements that our current accounting system isn't set up to deal with.

(Allow others to chime in and refine. At this point, people will start to demonstrate a willingness to commit.)

8. Summarize.

Okay, sounds like we are there. Now this is important. Can anyone summarize what we came up with?

(Before you move forward, make sure that *everyone* is on the same page.)

9. Commit.

I want everyone to look each other in the eye and make a commitment that this is what we are going to do. From this point on, no one gets to go "Maverick" on us. If something isn't working, we review it as a team and change it as a team.

(You have an obligation to confront anyone who unilaterally decides to violate Step 9. No one gets to break this agreement unilaterally, including you!)

10. Commit to follow-up.

Down the road, we may find that this plan isn't working because some unforeseen factor came into play. For instance, I'm hearing rumblings already that the owner may want to tweak the reporting requirements again. Let's meet in three weeks to see how this plan is working and to see if we need to modify it in any way. But this is important, and I can't say this strongly enough, if it turns out that we have problems, no one makes changes unilaterally—we do it together, agreed?

And it is important to add…

Thanks, everyone. It means a lot to me that we were able to get this done as a team!

I've yet to have this format fail. But there are a few ways that it can go awry, so try to avoid these common pitfalls:

- The leader allows the process to become personal. (Nobody is allowed to name call, ridicule, or belittle anyone.)
- The leader advocates for a particular position too soon in the process. (Everyone has to feel heard or this simply just doesn't work.)
- The leader allows the most forceful or aggressive people to dominate the discussion. (Aggressiveness does not equal the best idea.)
- The leader allows people to walk out of the room and not come back. (People can take time to cool off, but they cannot just leave and not return.)
- The leader doesn't call people out should they breach the agreement. (If you fail to do so, you are giving tacit reinforcement to those who break their word.)
- The leader doesn't follow up to see if everyone still thinks the agreement is working. (The ability for a group to fine-tune and recalibrate is central to any successful plan—and is part and parcel to Lean thinking!)

That's it. Don't be afraid of conflict. Conflict can be your best friend. It is the wellspring of great ideas. And, believe it or not, you don't need to be a psychotherapist to work through them. It is just a matter of sincerely listening to all points of view and keeping the team focused on finding the *best* solutions. Do this well, and by the end of the project, the team will have forgotten that serious impediments had occurred at the outset.

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12

Establishing and Maintaining High Standards

At this point, you may be wondering, "How do I establish high teamwork standards, and in doing so, won't we be sacrificing work product for the sake of togetherness?" If you misinterpret working as a team as merely getting along, you will. But true teamwork isn't about everyone liking each other; it's about working efficiently and effectively together to eliminate waste and achieve goals. And like any other standard you set, teamwork standards require clarity and a willingness to reinforce them.

Equating teamwork with getting along is an easy enough error to make. After all, we've all had plenty of experience living with atrocious behavior for the sake of keeping the peace. In California, even in fine restaurants, it's not unusual to encounter a bevy of young children yelling and running about as their parents contentedly sip their wine, oblivious to the annoyance that their children are creating for the other diners. Out of fear of being labeled "anti-child" or intolerant, the rest of us diners choke down our meals, pay the check at the first opportunity, and leave. We don't say anything because, in California, "getting along" or "being cool" is prized over everything else—even though the only thing we'd actually be intolerant of is bad manners and poor parenting.

So, what does this have to do with leading construction teams and being Lean? To some degree, we've all learned to associate lax standards as the price we have to pay for a sense of togetherness. But the opposite is true in Lean. We believe in setting the bar high and creating an atmosphere that allows everyone to find ways to achieve it so that all of the project goals can be accomplished. To do otherwise creates an atmosphere of resentment and mediocrity for the sake of artificial harmony. In short, Lean ≠ Lenient.

Think about our diners—were they really "getting along"? Some certainly achieved their goal of having a fun dining experience, but didn't they do so at the expense of others?

Frankly, I've seen teams who have gotten on wonderfully but weren't at all effective in terms of the product they produced. When they should have been engaging in productive conflict or pressing their teammates for promised deliverables, they held their tongues. They did so because their priorities were mistakenly centered on preserving their friendships versus producing the best possible product for the customer.

Conversely, I was on a project where people didn't get on particularly well at all (half were vocally pro-choice, while the others were adamantly pro-life), but they produced at high levels because they consistently set aside personal differences for the sake of accomplishing a unifying set of project goals.

Let me share a few of the stories that I hope will make the distinction between simply getting along and truly working as a functional team even clearer as well as demonstrate what leaders can do to bring this about.

Rob Stein, VP and Operations Manager for KCS West, was in a quandary. He had just finished staffing a new project and there was friction from the start. The project manager (PM) had a great deal of construction experience but was new to the company. For his part, the project superintendent (PS) had ample technical ability and abundant knowledge of company policies and procedures, but had a history of working on standalone projects with limited scopes, where he rarely received direct supervision, and had few opportunities to be an actual teammate. But on this project scopes were broad, the dollar amounts were substantial, and there where multiple staff in place. And since the architect was overwhelmed, Rob knew that the team would have to be on top of their game in terms of collaboration and teamwork to identify key design issues and stay out in front of the project. In short, engineering and the field would need to be in lockstep—and the information and knowledge exchange between them would need to flow unfettered in both directions. Unfortunately, from the moment the PM and PS met, the superintendent seemed to go out of his way to make sure that he and the PM would not be walking the same path. Rather than helping him learn the ropes, the PS took every opportunity to point out all the things the PM didn't know about company policies and procedures, often making a public display of it in front of the other staff. To say that the PM felt undermined was an understatement. To top things off, the PS also made veiled threats to Rob about quitting the company if

forced to remain under such an "incompetent" PM. As you can imagine, this was more than a little awkward for everyone involved.

Most people in Rob's position would have allowed this situation to play out before intervening. But Rob didn't make that mistake. He called the PM and PS into his office and promptly informed them that he would be making me available to help them work out their differences but that there was to be no misunderstanding; they weren't being asked to *try* to work them out. They would either find a way to work together or changes would be made. And he made it abundantly clear to the superintendent, "If I do need to make a change, I'm not removing the PM." By taking charge of the situation early on and making it clear what he expected, Rob sent a clear message about teamwork and high standards. What he conveyed was:

- Working as a team was not optional.
- No one person is above the team.
- There will be no payoff for undermining anyone.
- No one's ego is more important than accomplishing team objectives.
- No one will be allowed to hold the project hostage or be a barrier for achieving team results.
- Everyone will have an opportunity to work things out for themselves. But if they chose not to, things will be worked out for them—probably not to their liking.

Rob is the kind of leader that I enjoy working with because he has high standards for teamwork and he is willing to back them up by calling people out on their team-killing behaviors, while at the same time, providing them the resources to make changes should they choose to do so. And if not, Rob isn't afraid to do what is necessary.

There is a happy ending to this story. For all of his posturing, the superintendent was, deep down, a pretty ethical guy who was experiencing a significant spike of insecurity about having to work directly under someone for the first time in six years. But to his credit, as he and the PM clarified what they needed from each other—and established boundaries as to what each would be responsible for—the PS truly listened and became more vulnerable. And as they each took turns putting their worries and concerns on the table, they discovered that they had far more in common in terms of how they envisioned executing the job, and what would be required from each of them, for it to be successful than they had differences. As one agreement after

another fell into place, it was clear that they were no longer going to have a problem working together. And for the life of the project, their relationship held. As for the architect, well, that's another story entirely.

Here's another example. I had known Ken Schroeder when he was a project executive (PX) with another company. He had subsequently begun working for Blach Construction in a similar capacity. Three years went by before he and I were able to reconnect. When we met for lunch, I could tell that he was happy about his new situation. When I asked him about Blach's core values, and if this had anything to do with why he enjoyed working for them so much, he thought for a moment and then smiled. "That's an interesting question. Morale is very high here. We have very high standards about our work product, our work ethic, and most of all, integrity. People are given a reasonable period of time to learn the culture and what is expected, but if, after a year, it isn't a good match, those who demonstrate that they aren't interested in buying into the culture are invited to leave." When I asked him why he thought high standards led to such high morale, he said something quite revealing. "At Blach, when you pass the test, and are fully part of the team, there is no second guessing. If you have an idea, people don't say, 'well, you'll have to run that by so and so first.' They simply say, 'Ken, we trust you—that's why you are here—go for it.'"

This is the often-overlooked benefit of establishing and adhering to high standards: they build trust within the organization. In short, everyone knows what is expected, and since the company holds people equally accountable for living up to them, everyone knows that they can count on each other to adhere to the standards. Once a person has established him or herself, no one feels the need to micromanage, manipulate, work around, tolerate, cajole, or engage in any of the other wasteful behaviors. They trust their teammates because they have already demonstrated that they can hold themselves accountable to the standards and manage themselves accordingly.

Here is another situation, this time, from a subcontractor's perspective. Steve Foxworthy, a VP of field operations for Rosendin Electric, fiercely confronted a PM after his job posted a substantial financial loss. Did he take this young man to task because his job lost money? On the surface this would seem to have been the case. But in Steve's mind, the issue ran much deeper than that. What stoked his ire was the fact that the PM chose (the use of the word *chose* here is intentional) not to follow the company's established policies and procedures. The PM knew the

job was in financial trouble and *chose* to bury it in the false hope that he could somehow magically pull the job out of the fire without anyone noticing. But this was exactly the point that Steve knew he'd need to press home if this PM was ever going to be successful at Rosendin: If he had simply followed the company's policies and procedures, the problems would have been flagged early on, and upper management could have mobilized its resources to help right the situation. By choosing to hide this information, the PM prevented the leaders from helping, and as a result, he put the job in jeopardy. Again, for Steve, it wasn't about the money. It was about the PM losing sight of what the standards represented and why these protocols and safeguards were established in the first place.

The best thing about this story is that it didn't come from Steve but from the PM in question. And he didn't relay it in some "woe is me" manner. To be honest, I don't think I've ever seen anyone so disappointed in himself. "Man," the PM said. "I felt like I had just let down my dad." More importantly, he had a true *Hansei* moment. He fully understood the negative impact of his actions and was intent on making amends. "I intend on working with this company for the next thirty years. Believe me—I will never do that again! As much as it hurt to hear what Steve had to say, it made me proud to work for a company that has people like him who actually take the time to tell me when I've screwed up. Most places would have just fired me. As upset as he was, I could tell that Steve was pulling for me to succeed. And it's good to know that as long as I trust the company, follow the procedures, and don't pull another bonehead move like I just did, I will."

We'll talk more about constructive discipline in Chapter 14, but I have to mention it here because it is one of the tools that often needs to be paired with setting high standards in order to bring about needed change. Unfortunately, simply setting standards will not necessarily get you to where the company needs to go. You have to be willing to fight for the standards. Unlike Steve Foxworthy in the above example, most of us would rather ignore bad behavior than confront it. But the truth is, such avoidance helps no one. It certainly doesn't help the company to achieve its goals. Nor does it help the offender. How can an employee ever hope to improve if their performance shortfalls are never pointed out to them? Here is the harsh reality of being a manager: what we choose to overlook we choose to live with. We can blame our bosses for sticking us with a lousy staff, or rant about not receiving the proper support, but when

standards slip, the truth is, it is largely by our own doing. Here are a few "look in the mirror" realities to keep in mind:

- When we choose to ignore poor performance, in reality, we are choosing to accept mediocrity.
- When we choose to ignore adherence to standards, we are choosing to accept the level of variability people choose to give us.
- When we choose to ignore displays of contempt by one teammate toward another, we are choosing to allow trust on our team to be destroyed.
- When we choose to work around others, we are choosing to make that person feel unwanted or unnecessary.
- When we choose to drop down and do the work of others, we are choosing to give up our role as coach and instructor.

What we get from our teams is more up to us than we realize—which is actually good news. It means we have more control over getting what we want than we think. The more we help our teams to improve, and demand nothing less than their best in return, the closer we are to getting the product that we actually need and creating the Lean culture that we say that we want.

But again, this means that we have to be willing to stand up for what the project and company needs. I've seen some pretty talented but bullheaded teams go down in flames simply because their leaders weren't willing to defend high standards. Here are the things that every leader should be willing to stand up for:

- That everyone on the team should be able to speak their minds without fear of ridicule or worrying that what they said will be used against them at some future date.
- That when they are upset, team members will speak directly with those who they are upset with versus talking to everyone *except* the person they have the problem with.
- If there is any dirty laundry on the team, it will be washed in-house.
- That work issues will remain work issues rather than becoming personal.
- That objective solutions will be sought rather than wasting time assigning blame.
- That everyone is expected to share information and know-how.

- That it's everyone's job to make all of their teammates successful—no exceptions.
- That company standards are there for a reason. Everyone, without exception (including the leader) needs to follow them.
- If we find that a process is creating bottlenecks, that we elevate this issue as a team.
- That no individual on the team gets to unilaterally decide which goals will be focused on and which ones will be allowed to fail. If a goal is in jeopardy, it is to be identified, discussed, and jointly rectified—as a team.
- That it's everyone's obligation to communicate any course corrections to the rest of the team.
- That everyone will readily share resources to make sure that no team goal fails.
- That everyone is expected to give their best in accordance with their capabilities—no exceptions and no excuses.
- That if something comes up in someone's personal life that intrudes on his or her ability to give his or her best, he or she will let his or her teammates know and ask for help.

If any of these principles are violated, you should be prepared to take people (calmly and professionally) to task. After all, what's the point of saying that standards, including standards for teamwork, are important if you aren't willing to set limits and defend them? We need not lose our humanity in the process, but we do need to confront issues head on and assert what we expect to be done differently.

There are two questions that we often fail to ask when confronting our teammates on their bad behavior, and ironically, most people find these helpful:

"What were you trying to achieve when you did _____?"
"Did it work?"

Asking them what they were trying to achieve assumes that they had the best of intentions in mind. Asking if it worked gives them the opportunity to reflect. You'll be surprised how honest people will be when you start out the discussion with these questions. What you'll likely hear is:

"I was falling behind and I was trying to get as many things off my plate as possible. But I think I created more problems in the long run."

"I thought I had discovered a shortcut but didn't realize how much I was blowing things up downstream."

"To be honest, I panicked. I was afraid of letting my teammate down if I didn't get him _____ on time, so I threw an incomplete product at him hoping it would be enough for him to do his job."

"To be completely honest, it's just easier to do it my way than the way the company wants it done, but I'm starting to see the problem with this."

"I was just trying to let _____ know he was holding me up, but I guess calling him out at the staff meeting, rather than talking to him one-on-on, wasn't the best way to go about it."

All of these responses allow you to help your teammates find ways to raise the bar in terms of teamwork.

There is one more question we need to add on, and we often fail to ask it of our highest performers when we notice that they are struggling:

"What help do you need from me so you won't have to resort to doing _____?"

We sometimes forget that our best performers are also human and that they too have a finite capacity. Sometimes in their desire not to disappoint they take on too much or resist saying "no mas" (no more). Asking the above question conveys that you are giving them the benefit of the doubt about their negative behavior without making any excuses for it.

On a related subject, whenever you see changes in behavior for the worse, particularly of your best performers, it's important to call a time out and find out what's going on. This can and should be a compassionate discussion, but don't allow your feelings to take over and start make excuses for their behavior. Again, this helps no one. Everyone needs to do their part to maintain flow, but go the extra mile to gain their perspective so you can help them to regain their balance.

One last point about high standards, and it is counterintuitive to the way that most people in construction have been brought up. Most people in this business are taught to go, go, go, i.e., that time is money, and a good day's work is predicated upon going as fast as possible at all times. While it is true that time is money, so too is the waste generated by not taking the time to recalibrate when our plan starts to go off the rails. Toyota employs the concept of *Andon*, and it is central to their commitment to continuous quality improvement (*Kaizen*). It is simply this: Any time an employee

notices a quality issue that they cannot solve on their own or with the help of their supervisor, they are *expected* to pull a handle, shut down the line. In fact, managers at Toyota are often confronted if the assembly line runs too long *without* a worker shutting it down. The assumption is, that the managers have allowed employees to become complacent about quality in favor of production.

Please encourage the people you work with to call *Andon* whenever they encounter problems. This includes when they feel confused or unclear or feel they have been given competing direction. Such things can be as undermining to high standards as anything else.

In a Lean system, it is vital that the leaders allow their teammates to call them out when they are violating high teamwork standards. As is usually the case, we learned the importance of this lesson the hard way. Let's step away from construction for a moment and examine how the failure to employ the concept of *Andon* can have truly devastating consequences.

On March 27, 1977, in a heavy fog, KLM Flight 4805 roared down the runway at Tenerife Airport and struck Pan Am Flight 1736 as it was taxiing in the opposite direction down the same runway. It would be tempting to blame the accident on weather conditions and a confluence of other factors that were in play. But there was another element that led everyone to abandon high standards, and fail to call *Andon*. Below is an analysis of the communication errors that transpired prior to and during takeoff (from *Wikipedia* and Krause, 2003, p. 199).

> Immediately after lining up, the KLM captain (van Zanten) advanced the throttles slightly (a standard procedure known as spin-up, to verify that the engines are operating properly for takeoff) and the copilot advised the captain that air traffic control (ATC) clearance had not yet been given. The captain responded, "I know that. Go ahead, ask." The copilot then radioed the tower that they were "ready for takeoff" and "waiting for our ATC clearance." The KLM crew then received a clearance that specified the route that the aircraft was to follow after takeoff. The instructions used the word *takeoff*, but did not include an explicit statement of whether they were cleared for takeoff.
>
> The KLM copilot read the clearance back to the controller, completing the read back with the statement "We're now at takeoff" or "We're now, uh, taking off" (the exact wording of his statement was not clear), indicating to the controller that he was beginning his takeoff roll. The captain interrupted the tail end of the copilot's read back with the comment "We're going."

The controller initially responded with "OK" (terminology that, although commonly used, is nonstandard), which reinforced the KLM crew's misinterpretation that they indeed had takeoff clearance. The controller's response of "OK" to the copilot's nonstandard statement that they were "now at takeoff" was likely due to his misinterpretation that they were in takeoff position and ready to begin the roll when takeoff clearance was received, but not actually in the process of taking off. He also most likely hadn't heard the captain's announcement that they were "going," since van Zanten had said it so soon after the copilot's read back. Aware of the possible misinterpretation, the controller then immediately added, "Standby for takeoff, I will call you," indicating that he had never intended the clearance to be interpreted as a takeoff clearance.

However, a simultaneous radio call from the Pan Am crew at that precise moment caused mutual interference on the radio frequency, and all that was audible in the KLM cockpit was a heterodyne beat tone, making the crucial latter portion of the tower's response inaudible to the KLM pilots. The Pan Am crew's transmission, which was also critical, was reporting: "We're still taxiing down the runway, the Clipper 1736." This message was also blocked by the heterodyne and inaudible to the KLM crew.

Due to the fog, neither crew was able to see the other plane on the runway ahead of them. In addition, neither of the aircraft could be seen from the control tower, and the airport was not equipped with ground radar.

After the KLM plane had started its takeoff roll, the tower instructed the Pan Am crew to "report when runway clear." The crew replied: "OK, we'll report when we're clear." On hearing this, the KLM flight engineer expressed his concern about the Pan Am not being clear of the runway by asking the pilots, "Is he not clear, that Pan American?" However, the captain emphatically replied "oh, yes" and continued with the takeoff.

Further analysis revealed that the KLM captain's impatience for getting the flight under way (they were running late), and his intolerance for accepting critical feedback from subordinates, were "significant contributing factors" for the crash. Prior to takeoff, the transcripts made it clear that the captain did not appreciate being corrected by his copilot and engineer. At that time, a young pilot's career could be adversely affected by a senior captain, so they often chose silence, even when they had significant safety concerns.

As a result of this incident, all airlines took a hard look at their cockpit communications and brought to an end the rigid adherence to status and rank that had dominated these exchanges. They introduced a process called Crew Resource Management (CRM), which established the

importance of teamwork and collaboration in order to operate safely at all times. We also learned a great deal about the role of status and its negative effect on communication. And, we once again learned the importance of standard work—and adhering to language usage and protocols meant to eliminate human error. These were valuable lessons learned; unfortunately, it took 569 lost lives to truly learn them. The real tragedy is that this accident could have been averted several times over if just one person had had the courage to yell, "stop!" and put people's lives (including theirs) ahead of their own careers.

Can you recall times in your own career when you held your tongue and went along with a boss who was deviating from best practices because you were afraid of negative repercussions if you spoke up? I think we all have. So, why replicate this same formula? Have the courage to set and live by high standards and allow everyone to hold one another accountable.

13

Influencing versus Motivating

You can't motivate people. It's a bold statement, but I stand behind it. People come to the job site with their own intrinsic set of beliefs about such things as work ethic, personal responsibility, pride of ownership, and a general sense of what doing a good job means. Having said this, does this mean that people can't change their outlook on life? Couldn't an irresponsible person learn to become responsible and a slacker aspire to be a hard worker? Sure they can. In fact, we've all seen such transformations— maybe even in our own lives. But generally speaking, when this change occurs, it isn't due to something that a leader did per se. There is no magic button that you can push that will suddenly make the lights go on if the spark doesn't already exist inside of that person. What a leader can do is provide clear standards and expectations for meeting these standards, provide feedback regarding how someone's performance measures up against these standards, be fair and consistent in maintaining these standards, and make him- or herself available to provide assistance, help, or suggestions for improvement when needed or requested. The rest is pretty much up to each individual worker. Trust me; no amount of inspired leadership can rouse a nonperformer unless it is already within him or her to be awakened.

Understanding your limitations as a leader is actually a good thing. Many leaders assume far too much personal responsibility for their employee's behavior and end up wasting far too much time, energy, and stomach acid trying to figure out "how to get through" to nonperformers, often to their team's, their company's, and their own detriment. There is one such example that bothers me to this day. A project executive (PX) who had been promoted because of his sales ability proved most vexing to all who worked with him. He was intelligent, presented well, was good with people (at least on the surface), and the

owners loved him (at first blush). But after the sale was secured, and the honeymoon period ended, his behavior rapidly deteriorated. He disappeared for long periods of time and often failed to show up for meetings that he himself had called. Worse, he could never be counted on to produce any of his deliverables. The company spent two years trying to convince him to do his job; they praised him, scolded him, cajoled him, told him how much they needed him—all to no avail. In the meantime, his teammates put in extra hours completing his unfinished tasks and making excuses for his unexplained absences to an owner who was increasingly questioning the value that he added to the job. In the end, the company finally had to let him go. In retrospect, rather than being preoccupied with his potential, top management would have been much better served cutting their losses sooner—well before the PX's detrimental impact on the team and owners' perceptions became so apparent. Despite all of their good intentions, all the company leadership ended up doing was enabling waste.

While it's true that we can't motivate someone who isn't intrinsically motivated, unfortunately, we can *de-motivate* those who are. Demeaning comments, sarcasm, public ridicule, obnoxious personal comments, disproportionate blame, and the distorted need to micromanage others are well-known culprits when morale flags. But so too is the failure to provide clear expectations, meaningful recognition, and timely and thoughtful feedback. All of these things can whittle away at an otherwise effective performer's will and subsequent work product.

So, what can we do to make sure that this doesn't happen? Though we can't motivate others, we can, via our *influence*, either enhance performance or deflate it.

Here are the three primary ways that we influence people:

1. We can reward them for doing what we want them to do (positive reinforcement).
2. We can threaten to punish them if they don't do what we want them to do (negative reinforcement).
3. We can punish them for doing something we don't want them to do (punishment).

That's basically it. Everything we do as leaders pretty much boils down to one of these three things.

To be an effective influencer, we need to stay mindful of the following:

- Have a clear vision of what the desired outcome should look like, better known as the goal or target.
- Have a clear idea of the behaviors and actions required to hit the target.
- Be engaged enough to provide meaningful feedback as to whether or not the behaviors, as they are being performed, will hit the target.
- Provide support when our teammates need our help.

Get these elements right, and I guarantee you that you will be an extraordinary influencer. Get them wrong, and you'll have continuous problems with morale and performance, a plethora of complaints to HR about your leadership style, and a prodigious amount of interpersonally generated waste.

POSITIVE REINFORCEMENT

Positive reinforcement, simply defined, is giving people something that they want *after* they do something that we wanted them to do, which increases the likelihood that they will do the same behavior in the future.

For instance, if someone puts in the extra effort to update the submittal log, and we make a point of giving him or her a public pat on the back for doing so, provided that this person likes pats on the back, we should see a continuance of the behaviors that it took to update the log. Further, if witnessed, this should also encourage others to step up their game in anticipation of receiving similar rewards.

Sometimes leaders object to the use of positive reinforcement on the grounds that it is manipulative. I can understand the concern, but that's not all that is going on here. Manipulation connotes something done for personal gain. A car salesman complimenting us on our appearance may stroke our ego, but we know that he is only doing this to gain a sale for himself—not for our benefit. While the leader in the above example may derive a benefit from the person updating the log, what they are really providing via positive reinforcement is (a) clarity about what is needed to satisfy a project goal, (b) recognition to the person who made it happen,

and (c) contributing to that person's future success by rewarding them for behaviors that will benefit their career. The team also benefited by being provided with needed information in a timely manner. By encouraging these behaviors, the leader benefits, the job benefits, the team benefits, and the person doing the task benefits.

To be an effective positive influencer:

Rewards should always follow the targeted behavior: The most common error people make when attempting to provide positive reinforcement is giving the reward too soon. A reward must always *follow* the desired behavior. If the positive reinforcement comes before the desired behavior, this is called a bribe, which may or may not be effective. For example, if the desired goal was zero lost time accidents for one month, but all the workers are given an all-in-one tool in advance to "remind them" to be safe, there is no longer any additional incentive for them to act safely because they already have the reward.

This is the inherent problem of rewarding business development people with bonuses that are contingent only upon sales made. If the bonus isn't directly tied to a job's long-term profitability, what's the incentive for the salesman to land good work versus bad?

Consistency: The target, and the behaviors required to hit the target, need to be predictable. Moving targets drive people insane. Unfortunately, in a world where Owner directives are ever changing, staying consistent can be a difficult challenge. This is an easy enough situation to rectify by simply informing the team of the problems you are having in obtaining a consistent message from your external partners. As long as you keep them informed, most teams will remain psychologically flexible. By way of analogy, think about the times when your plane has been stuck at the gate and you're well past your departure time. Didn't you feel better when the pilot got on the intercom, told you why you were delayed, and gave you periodic updates? Contrast this with how you felt when the departure time came and went and no announcement was made. Your circumstances weren't any different either way (you were delayed in both cases), but the feeling you have when you are kept informed is completely different from that which you have when you are kept in the dark. Locus of control, even if it is illusory, is very important to people.

There are managers who believe that keeping their people in the dark and maintaining a level of unpredictability is a good thing. They think this "keeps everyone on their toes." But the only thing that keeping people in the dark serves is to maintain the power of a weak leader by making it appear that they are the only ones in the know. If you are one of these misguided souls, please do your team a favor: change your viewpoint. You are not doing them or yourself any favors. All a lack of clarity and consistency does is create goal confusion and causes people to hesitate and question whether what they are doing is correct. This creates team disharmony rather than unity—and all of this is waste.

Timing: To get the biggest big bang for your buck, positive reinforcement can't be put off for unrealistically long periods of time. There is a distinction between celebrating a goal or milestone and reinforcing the behaviors that will get you there. Waiting two years or even two months to receive a reward for a behavior loses any of its instructive or incentive punch. But a reward that immediately follows a desired behavior draws attention to it right away. Giving a pat on the back for a well-vetted purchase order (PO) is instructive. Waiting two months later, after a milestone is accomplished, is not.

A reward must be realistic: Similarly, if the goal is completely unrealistic to attain, let's say three years of zero lost time accidents, then people will see you for what you truly are—not safety conscious but incredibly cheap. If you truly care about the goal, then you need to break it down into its constituent parts (consistently wearing protective gear, keeping work areas clean, etc.) and intermittently reward the behaviors that will produce the targeted goal.

A reward has to be rewarding: A reward, by definition, is something that a person wants. Otherwise, it is not considered reinforcing. A General Manager at a corrugated box plant learned this lesson the hard way. He wanted to improve attendance numbers, so he decided to have a competition (rarely a good idea) to reward perfect attendance over a six-month period. So, he posted attendance graphs and charts, and as employees began to fall away (along with any additional incentive they had to attend work), two people emerged as the final contenders. On the last day of the competition, both people called in sick. It had a little something to do with what the General Manager picked out as a "reward." It was dinner out with the General Manager and his wife at a swanky country club restaurant. These

were hardworking, working-class folks who didn't consider going out to dinner with the boss a reward. They viewed it as an uncomfortable evening, fraught with opportunities to humiliate oneself. So they bailed. They would rather have received a company jacket or a supermarket gift certificate than to have to dress and act in ways that were uncomfortable for them.

To find out what is actually rewarding to your people you will need to be engaged enough to know what actually fires them up. Teams vary greatly in this regard. Some want social events (dinners, company BBQs where they can bring their families, fishing trips), while others appreciate something tangible, like bonus checks or company apparel. A group of plumbers in southern California worked their guts out in exchange for the promise that their General Foreman would allow his head to be shaved in the company parking lot if they were able to complete work ahead of schedule and avoid liquidated damages. To his (and his wife's) chagrin they never produced more in such a short period of time.

Make it a daily practice: Managers often fail to see how a kind word or gesture can make all the difference in the world. The simple act of walking around and catching people doing something right (as opposed to catching them doing something wrong) goes a long way to boost people's morale. It also helps to build in quality. Put yourselves in your employee's shoes for a moment. If you do something right and are caught in the act and positively called out on it, wouldn't you be far more likely to repeat the same actions? Do enough of these right actions consistently, and the likelihood of you producing a high-quality product is much greater.

Conversely, if these same behaviors go unrecognized for prolonged periods of time, they will eventually fade away. Failing to give any meaningful recognition or praise for the behaviors that we want unintentionally puts them on, what we call in psychology, an extinction curve. By not rewarding the behavior, it slowly goes away. Using slot machines as an example, a person will remain very motivated for the first ten or so pulls as the anticipation of big payoffs dances in his or her head. But if he or she goes beyond ten pulls without being rewarded, even just a little, he or she will either move on to another machine or quit playing entirely. That's why casinos program their machines to pay off in small amounts

at variable intervals—it gives people just enough incentive to keep at it (and, unfortunately, completely drain their wallets). The same principle is true at work. Think way back to that job where you toiled away cranking out high-quality submittals and PCOs, one after the other, and your boss never said boo. Toward the middle of the job, didn't your motivation flag? It probably only picked up again when the end was in sight and the hope of moving on to a better opportunity came along. So, why replicate such a soul-deadening environment?

Here is an example of something that we don't normally associate with reinforcement. Suppose we give information and training to only those we like and not to those we don't?

Never forget that receiving necessary information is in itself reinforcing, as it increases a person's ability to be successful. Therefore, withholding it feels like a punishment (which is why many managers feel justified in doing so when they are angry or upset with someone), and why employees are so angered when this is withheld.

Please don't assume that a paycheck is a positive reinforcement. Paychecks are only indirectly tied to performance; you get one whether you are a great performer or just an okay one. Paychecks do very little in terms of influencing performance—even in a bad economy.

Rewards don't have to be expensive—or even tangible: You don't have to break the bank to reward people. A pat on the back, public recognition, or a personalized handwritten or emailed note of thanks for a job well done will go a long way to sustain quality performance—provided that it is done in a sincere and meaningful way.

Positive reinforcement is the most powerful tool that a leader has in his or her Lean culture tool belt. It is the type of influence that people respond to most favorably. It impels them to *want* to do the behaviors that we'd like them to engage in. Again, if you doubt the power of positive reinforcement, take a trip to Las Vegas. Periodic payoffs induce people to stay up until the wee hours engaging in the same behaviors over and over again. The fact that a new $1 billion hotel/casino can be paid off in about three months—by people who gladly hand over their hard earned cash for the slim possibility of a big payoff—is testament to the power of positive reinforcement.

NEGATIVE REINFORCEMENT (PUNISHMENT PREVENTION)

Negative reinforcement is when someone can prevent a punishment from happening by doing something that we want him or her to do. It is time tested, it works, and it has been used to rule our daily lives throughout human history. "I won't burn your village if you give me all your gold," "I won't kill your family if you consent to marry me," "I won't throw you in the dungeon as long as you keep telling me how wonderful I am!"—these are some of the timeless classics from the negative reinforcement hall of fame. Today, at least in more modern cultures, negative reinforcement contingencies are slightly more benign, but they still have a powerful effect. "I won't give you a speeding ticket as long as you follow the speed limit," "We won't penalize you as long as you pay all of your taxes on time," "We won't ruin your credit rating as long as you pay your bills on time," and closer to home, "I won't holler at you if you come home from work on time." The ability to prevent punishments from happening is highly influential and often dictates how we choose to live our daily lives—provided that the threat is perceived as real and can be carried out in a relatively brief period of time. This is why most prevention programs, including safety, struggle to gain a foothold. Showing pictures of diseased lungs, which may or may not happen in 30 years, is not terribly effective. But a threat of a $500 cleaning fee to clean up a stinky hotel room is.

On the job, negative reinforcement, unfortunately, is an everyday occurrence. We complete schedule updates so that the owner won't be upset with us. We submit our field payroll reports and billings on time so people won't scream at us for not getting paid. We maintain our plan room so the inspector won't march off in a huff and refuse to conduct an inspection. I say, "unfortunately" because although threats of punishment work, there is a downside to using them. As powerful of an influencer as they are, most of us resent it when our behavior is controlled by threats. We will comply, but we certainly don't like it—and we'll remember being treated in this way for a long time.

If you are the kind of leader that relies on threats, there are a few other factors that you need to be aware of. First, is that you'd better plan on being on the job 24/7. Because the research is very clear: once the threat of punishment (you) is removed from the equation, your people will ease up and reduce their performance (better known as the "phew, he's gone" factor).

Also, while under the threat of punishment, people will only engage in enough of the behavior to prevent the punishment from happening—nothing more. Cool Hand Luke may have shaken the bush, but he certainly wasn't about to do anything more than that. In Lean terms, workflow will continue to move, but only as long as you are there to keep it moving, and only at a rate that keeps the punishment at bay. Under this contingency, people engage in behaviors not because they want to, but because they are afraid of what will happen to them if they don't. Because of this, negative reinforcement isn't effective for helping people to learn new behaviors. In such an environment, learning something new just means that there is one more thing for the boss to hold over your head, so why bother?

PUNISHMENT

Punishment is effective for one thing and one thing only—to stop unwanted behavior from happening. "I'm writing you up for being late. One more write-up and you're fired!" "I'm chewing you out because you failed to get owner approval before you did that additional excavation work." By punishing the person (delivering something unpleasant that they don't want), we are attempting to stop them from doing something that we don't want them to do and is a necessary tool in the Lean culture toolbox. But be very clear; in most instances, punishment should not be the only tool applied. Yelling at someone for not getting owner approval only tells the person what he or she should stop doing; it does not instruct him or her on how to prevent these types of situations from occurring in the future. If we rely on punishment alone to correct improper performance, we are essentially leaving it up to the other person to figure out how to achieve the desired behavior, which may or may not happen. That's why after delivering a punishment it is important for a Lean leader to spend time helping the person figure out what they should be doing differently in order to perform up to the established standard. For punishment to be effective as an instructive tool, it has to be paired with instruction. This is the only way to get workflow back on track.

Having said this, there are certain behaviors that don't warrant a second "bite of the apple." Stealing, lying, destruction of property, violence or threats of violence, blatant displays of racism or sexism, and willfully misrepresenting work product are fireable offenses that don't merit

investment to correct the behavior. These are generally not simple correctable mistakes; they are issues of character and warrant the severest forms of punishment.

Rewards, negative reinforcement, and punishment are extremely powerful Lean culture tools if used correctly. If you think back to the bosses that you considered effective, they were probably extremely good at knowing exactly when to give you a pat on the back or a well-timed figurative kick in the butt.

SHAPING: HOW PEOPLE ACQUIRE NEW SKILLS

Let's say that you want to help someone acquire a new skill, for instance, writing a master schedule for the first time. Would you say, "Just do it," and leave them to their own devices? You could, but it's doubtful you'd get the product that you wanted. Allow me to suggest an alternative methodology.

The first thing to do is to establish a clear vision for the targeted behavior. To do this, show the person a master schedule from a similar type of project, review its features, and point out some specific elements that they could incorporate into this schedule. In other words, provide a clear picture of what is to be modeled so that the person doing it for the first time can approximate it in their heads. In essence, what you are saying is, "Here's the template; I want you to produce something very similar to this."

Next, show them the steps required to make the new schedule happen. Do the first steps yourself. Have the person look over your shoulder as you break out the first couple of weeks of activities—just so they can see, mechanically, how to go about it. Encouraging the person to ask questions at this point will stimulate their engagement and allow you to fine-tune the message. The hardest part for anyone learning a new task is how to get started, so don't be shy about breaking the ice.

Beyond the mechanics, it is important to introduce Lean elements into the process. Developing a really good master schedule isn't about locking oneself away in a room and focusing on its technical aspects. It will be important for them to interact with subcontractors in order to elicit their input and buy-in (i.e., holding a meeting to review *their* schedule of activities). It's a good idea to have the person observe you run this type of meeting first so they can get a sense of what the expectations are. Next, have

them run a meeting in your presence, so afterward, you can give feedback on what they did well and what could be improved. Again, in Lean, continuous improvement is just that—a continuous opportunity to improve upon everything that we do—on both the technical and culture side. Next, and this is an often forgotten step, help them learn how to incorporate the information gathered from the subcontractors into the schedule.

Once you are reasonably assured that the person can now work independently, you can then turn them loose. But when you do, make sure to build in dependable times for check-ins and Q&As to prevent them from going off track.

At each step along the way it is vital that you provide positive reinforcement when the person engages in the proper behaviors, and corrective feedback when they stray. This is literally how we shape someone's behavior toward a targeted goal.

Now, let's say that the person you are coaching is particularly shy and is avoiding engaging subcontractors. How could you handle this? First, it is important to understand that this is a common fear, particularly among engineers who often prefer solitary technical tasks over those that require social interactions with strangers. It's also important to understand that regardless of how frustrating this type of situation can be, yelling won't help them to overcome their shyness. Neither will ignoring the situation and allowing them to avoid it. Instead, normalize the situation by reassuring them that everyone goes through these types of trepidations when they are in the early stages of their career. What you are asking them to do is to keep practicing. But if this empathetic stance doesn't help, you'll need to let them know that obtaining subcontractor input is not optional, and avoidance to gain it is unacceptable. The use of the threat of punishment here is not to harm, but to break down the person's competing fears of engaging in new and unfamiliar behaviors. In essence, you are forcing them to make a choice of either continuing to give into their fear or incurring your disapproval and potential consequences. Often, this is the nudge someone needs to get them to take a positive risk. It is important to ask what further help they may need from you to get started. This takes away any excuses the person may have for stalling. And this is vitally important: Once the person starts making phone calls to subcontractors, and follows through with the required meetings, praise them for engaging in these new and uncomfortable behaviors.

This same formula holds true for any new process that you are trying to teach someone for the first time; show relevant high-quality examples,

let people watch you do one, let them do one, and then provide immediate feedback and coaching as to how they did. When they demonstrate that they can handle it—turn them loose, but stay connected enough so they can ask questions and you can provide coaching as needed. And don't forget to praise the behaviors that hit the mark and correct those that don't.

This will take more up-front thought and effort than you may be used to, but in the long run, it will prove to be a time saver. If you allow people to simply figure things out on their own, their learning curve will be delayed, which will negatively impact flow, and more than likely, will also result in rework. Shaping is the most reliable way to help people acquire new skills. If you can master this formula, you'll also reduce your need to micromanage (fear that people will do things incorrectly) and you'll do your part in building competent employees for the future while maintaining flow.

TEAM REINFORCEMENTS

Too often, when we provide reinforcements, we think only in terms of individuals and miss the opportunity to use this same tool with the entire team.

Garner Gremillion, PX with Bovis Construction, is a master at delivering positive reinforcement at a team level. On the P2D4 job (a fast-track Intel research facility with a clean room and unique tool install requirements) he laid out a series of three-month milestones for the team to hit, and each week, gave the team feedback (in graphic form) as to how they were progressing. Further, he outlined what would need to happen the following week to maintain momentum, and invited people to give input, express concerns, or ask for help in order to stay on track. He then made a point of checking in with people throughout the week to give praise or corrective feedback as required, and was careful to ask what they needed from the management team to help clear any obstacles that may have arisen along the way. And when the team accomplished the designated milestones, he celebrated them like crazy.

Over the course of a 28-month project, the team missed just one milestone. Given the fact that they were putting a whopping $32 million of work in place per month, I think you'd agree that Garner's team reinforcement approach was pretty effective.

HOW THINGS CAN GO ASTRAY

All of this sounds pretty straightforward, doesn't it? But things can go astray when managers confuse the reinforcement contingencies by either inadvertently punishing people for doing something good, or conversely, rewarding them for doing something bad. Let me give you a few examples.

A project manager constantly complained about the performance of his young subordinates. "They never look ahead. They just sit there twiddling their thumbs until I dole out the work, and they never do anything more than what I assign them." Fair enough, I thought—perhaps one of those generation XYZ things. But when I talked to the staff, a far different picture emerged. According to them, if anyone on the team did anything that the PM hadn't personally directed them to do, he verbally berated them. Even if what they did produced a positive result, they would still receive a tongue-lashing. "Things have to be done his way, and when he says" was a common refrain. Can you identify the reinforcement contingency that the PM had inadvertently set up? To avoid punishment, people learned to wait for him to give them assignments rather than take any initiative. The PM was instrumental in creating the conditions that were producing the behaviors that he said he *didn't* want. The devastating impact on Lean culture should be apparent in this scenario. The focus on continuous improvement goes out the window when all everyone on the team is thinking about is how to avoid punishments.

Unintended reinforcement contingencies crop up all the time in large-scale endeavors, such as when a company decides to retool its SOPs (Standard Operating Procedures). For example, ten years ago, in an attempt to bring greater standardization to project cost reporting, and to minimize the errors caused by variability (i.e., all of the PMs doing cost reports in different ways), a general contractor installed Prolog as their official project management system. They spent millions of dollars on physical implementation and an additional $3 million to train people in its proper use. But an inherent problem occurs whenever companies try to implement new systems: Since anything new feels cumbersome and slows them down, rather than looking at the new system as a helpful tool, people experience it as an impediment (punishment) to getting their work done, and seek to avoid it. And in this instance, they avoided it like the plague. In the name of expediency, the PXs looked the other way when people bypassed Prolog and continued using their own familiar

spreadsheets, provided that they got the product that they wanted. (This was exacerbated by the fact that a lot of PXs weren't comfortable using Prolog themselves.) What was the waste induced by looking the other way? The cost department continued to get wildly varying budget reports from each project, which slowed down their productivity and increased the likelihood of errors (the very problems that the company was trying to eliminate when they installed Prolog). And because overall adoption of Prolog was artificially delayed, the company had to shell out more money to retrain people in a system that they had already been trained to use. Looking the other way not only inadvertently reinforced people for doing things the old way, but it also put newly learned behaviors on an extinction curve. This is waste with a capital W in the form of rework that often goes unrecognized. Retraining = Rework.

Here's another example. A GC on an airport job in California was struggling mightily. The team simply wasn't able to gain any traction. Even after getting over the hump of an unanticipated contaminated soil issue, progress in the field was slow. Buy-outs were also happening at a snail's pace, and this led to additional delays. The managers were beside themselves with worry, and, as a result, were putting in tons of additional hours. Meanwhile, the rest of the staff seemed blissfully oblivious. They would put in their eight hours, go home, and unlike the managers, didn't seem to be carrying the weight of the world on their shoulders. As the project continued to lose ground, the owner let it be known, at a national port authority gathering no less, that they were none too pleased about the GC's progress, thus jeopardizing future work around the country. (Yes, construction is a very small, incestuous world.)

When I met with the managers and pointed out the difference between their demeanor and that of their staff's, they had plenty of theories to account for it.

"You know this generation today; they just don't want to work that hard, and let's face it, they simply don't care in the same way as we do," one said. (There were murmurs of agreement.)

"I think it's because we don't hold the staff accountable enough," said another. "We let them slide on things we shouldn't." (More murmurs, and a few harrumphs.)

"I don't think people fully understand their jobs," said another. "I think we have a lot of people that just don't get it. I think we need to do a better job of helping people understand their roles." (More murmurs, but not quite as many harrumphs.)

Then I asked another question: "How would you describe the execution and overarching philosophies on this job? Is it to please the customer at all costs? Keep going until the owner tells us to stop? How would you describe it?"

One manager's response was emphatic: "We bend over backward to please this customer! We are constantly running things past them and looking for their feedback!"

"And how is that working out for you?" I asked.

He didn't answer. He just glared at me.

At this, the PM virtually leaped out of his chair. "Do you know what? The people out there are doing exactly what we trained them to do! We keep telling them to wait and make sure that they check in with the owner and get their feedback and approval before they do anything. Instead of building to what's on the drawings, they are waiting for the next addendum to come down, which, with this owner, can take forever!"

I said absolutely nothing for the rest of the meeting. I didn't have to; the managers had their answer. In a subsequent meeting they announced a change in philosophy—and a subsequent change in reinforcement contingencies to their staff.

"People, from this point on, we're building what is on the drawings. You let me worry about changes and interfacing with the owner. From now on we're moving forward until they tell us to stop. We need to stop waiting and start doing!"

What was the staff's reaction to this change in philosophy? One word: finally! As it turns out, they were sick and tired of waiting, and never understood why they were always being told to rein in their activities. But rather than buck the constraints, they quietly acquiesced to the judgment of their managers, who they assumed knew better.

I don't want to give the impression that productivity on the job changed overnight or that there weren't some significant issues with some personnel on the job. But I can say that once the managers changed the reinforcement contingencies (rewarded action versus inadvertently rewarding passivity), the project moved forward at a much more effective rate. Even better, this renewed vigor compelled the owner to award the company another, much larger phase a year later.

To this end, please don't underestimate the importance of helping the owner change their own reinforcement contingencies around. In the above example, the GC kept bending over backward to accommodate what the owner thought was important to the end users (the airlines), i.e.,

flexibility around design changes. But in actuality, the more the GC did this, the more upset the end users became. The reason? Accommodating late changes was only an apparent target—not the true overarching philosophy of the job. More than anything else, the airlines wanted the new gates to become operational. It became the GC's job to help the owner see what was truly important. Accommodating an endless stream of design changes was actually killing the most important goal (early gate delivery) rather than helping it.

The next time you are in a situation where you are not getting what you want, or things aren't going the way you think they should, take a step back and objectively examine what you have *actually* been rewarding and punishing. Often, you'll discover that you've inadvertently interrupted flow by either rewarding or punishing the wrong things, or by ignoring the behaviors that we actually do want. For instance, how often, do we reward "firefighters," who are adept at pulling their jobs out of a fire, but ignore the managers who quietly plan the work and keep it from igniting in the first place?

14

Constructive Discipline (Knowing When and How to Draw the Line)

A guy who shows up everyday on time, never calls in sick, and does what he says he's going to do is less likely to *&%# you in the end than the guy who has an incredible resume but is less reliable. Skills can be taught. Character you either have or you don't.

Anthony Bourdain
Kitchen Confidential

This business is filled with characters, and that is one of the reasons that it is such a joy to be a part of. Name another industry where you'll work alongside someone with a master's degree in engineering one minute and someone who just got out of prison the next. Unfortunately, there will come a time when someone's performance, behavior, or attitude is so out of variance with what is acceptable that you will need to draw a line in the sand. For the sake of the team, your company, and maintaining flow, you will need to set a firm limit, which may include termination. Though you may think that Japanese companies utilizing Lean methods offer employment for life, this doesn't mean that they give people carte blanche to do whatever they like. They extend this guarantee in exchange for a promise: that the employee will remain devoted to serving the company's customers and its continuous improvement efforts. Their hiring criteria is also a little different compared to their American counterparts and includes assessing how well a person works through conflict, supports their teammates, accepts criticism, and is willing to point out problems and ask for help. For Lean Japanese companies, Human Resources is a vital link in building a Lean culture, and they often take up to two years to hire

someone. Unfortunately, most construction companies aren't set up to engage in this type of vetting process, and U.S. law often prohibits it. So, it will become vital that you learn when and how to address those who act in opposition to Lean principles.

When we think of taking corrective action, in most cases, we think in terms of individuals. But when attempting to build a Lean culture, we also must be willing to take action on a broader scale.

When Tom Sorley, CEO of Rosendin Electric, was named president in 1993, he inherited a company with a spotty reputation. They were known by some in the Bay Area as "claim's artists" and as a result, found themselves "blacklisted" by one of my key clients. But now, Rosendin is the electrical contractor of choice for most general contractors, not only in San Francisco but nationally as well. Tom is the epitome of a "Texas gentleman"—unassuming and approachable to a fault; yet he pushes for high standards, not by the whip, but by setting firm limits and investing copious amounts of his time and energy with people. He's one of the few executives that I have known that truly takes the concept of "family" to heart, in that he deeply believes that to allow an employee/family member to fail, and do nothing to help, is the worst sin that a leader can commit.

I attended a leadership meeting in the early days of the turnaround. They began by reviewing various jobs, and the majority of their focus was on the "problem jobs." Invariably, one of the leaders would put their hands up and say, "Oh, I knew this was going to be a problem for XYZ reasons," and they each would get a pat on the back from their colleagues acknowledging their brilliance. At the end of each testimonial, Tom would raise an eyebrow and glance over at me. When he finally chose to speak, the new direction he was taking the company in became abundantly clear. "Gentlemen, I've been listening for a while, and I have to say that I'm glad that we have such smart people working for this company. But I'd like you to take a good look around the room. Because I have to tell you, if we have leaders who see problems like you've been pointing out, and they don't do everything they can to help correct them, then some of you aren't going to be working here any more." As kind as Tom is known to be, everyone in the room knew by the look in his eye that he meant it.

But ah ha moments alone aren't enough to bring about needed culture change—it has to become a daily practice. During the dark days of his early tenure, it was common for leaders at Rosendin to pass the buck when problems arose and point the finger of blame downward. Tom knew he couldn't reverse this trend overnight, so he chipped away at it daily. I was

sitting with Tom when an irate division manager marched into his office to complain about the poor performance exhibited by an accounts payable (A/P) representative for failing to collect on an overdue billing. Tom listened attentively, and then with the utmost sincerity, asked the division manager what he thought an acceptable error rate for an A/P person would be. Caught off guard, the division manager blurted out, "I don't know—5%!" Tom reached into his desk and pulled out data showing that the actual error rate for the A/P department, on average, was well below 2.5%. Without raising his voice, he continued, "I know that you want to get paid, and I would expect nothing less from you. But let me ask you something; who knows this job better, the A/P person who lives in a little cubicle on the third floor, or you and the PM under you, who is on that job every single day?" When the division manager acknowledged the obvious, Tom drove the point home. "So, why are you guys leaving it up to a clerk to sort out the details of deal that she couldn't possibly know the answers to? Isn't that management's job to handle?" After the division manager sheepishly agreed, Tom finished the discussion by making a plan for follow-up that left the division manager's dignity intact, but left no doubt as to whom he placed the responsibility for culture change on. "So, after you and the PM get together and figure out how to go after what we are owed, I want you to come back and let me know if there is any help that you need from me—provided it doesn't include handing things off to A/P."

This was a discussion that was repeated in various forms with upper and middle managers over the course of several years—and not everyone survived. But it was through such limit setting that Tom and the top management team were able to transform Rosendin's culture to what it is today. I don't know anyone at Rosendin who doesn't have an undying loyalty and respect for what Tom, Larry Beltramo, and Jim Hawk have done in terms of standing up for what is right, and growing Rosendin into the $2 billion, international company that it is today.

Here is another example. Paul Pettersen, a retired VP and Operations Manager for Turner Construction, had the uncanny ability to get a team back on track when they were threatening to come off the rails. Despite being a bit of a New York fire breather, everyone had tremendous respect for Paul's knowledge and knowhow. Beyond this, you always knew where you stood with Paul. No one ever had to worry about what he was saying behind their backs, because he had no problem saying it to their faces. He also had the ability to walk a job site, and within five minutes, tell you exactly what was being executed properly and what wasn't—and

he was seldom wrong. On one such occasion, after seeing a high degree of disorganization, he asked to attend the afternoon staff meeting. After 15 minutes of witnessing the on-site managers talk among themselves as if the rest of the staff were invisible, he could take no more. He dismissed all but the managers, and once they were out of earshot, let the managers have it. "Just make a decision!" he exclaimed. "At this point, I don't care if it's the wrong one, just make a fucking decision!" Stunned, the managers looked at him like deer in the headlights. Seeing the terror in their eyes, he became more fatherly.

"Look, I heard all of your ideas, and none of them were bad. Shit, if you all weren't smart I wouldn't have hired you. But what is killing this job is your indecision. Instead of waiting to make the perfect decision, pick a direction and go with it until the data tells you otherwise." For this particular management team, it was exactly what they needed to hear. They had been so caught up in not wanting to make mistakes that they were making the biggest mistake of all—not making *any* decisions. This confrontation helped to dislodge them from their self-inflicted mire and move forward.

Below are the key indicators for when you need to set limits on a broader scale:

- *Continually having to drop down to do someone else's job.* This is detrimental because it disrupts flow and takes you away from your principal leadership duties. Putting this another way: Who is going to do your job as the orchestra leader if you continually have to leave the podium and play second violin? If you have this situation going on, you need to assess "why" people, particularly at a leadership level, aren't able to perform up to the standard. If training is the issue, provide it. If, after having been properly trained, they still aren't performing, you likely have unqualified people in place. (This is not unusual when you inherit a leadership team hired by someone else.) As hard as it sounds, you are going to need to make some changes. It's not the top leader's job to do other people's work for them; it's your job to relentlessly focus on getting the right people into the right positions so that drop-downs by top leadership are not necessary.
- *Leaders absent themselves from responsibility.* Effective leaders ask "extra" questions and make sure that their areas of responsibility are always covered and they aren't the recipients of "nasty surprises."

And they never give themselves or their teams permission to drop a deadline. What they do instead is help their teams deal with the obstacles or lack of resources so that a deadline will not be missed. If you have leaders who frequently make assumptions, look the other way, or are quick to make excuses or point the finger of blame when problems arise, correct them. If they continue, invite them to work for your competition.

• *Leaders act like passive victims.* True leaders don't act like victims or passive witnesses. They plan and take responsibility for their work. If you have people under you who chronically complain about being under-resourced or unsupported when problems arise, yet they never come to you or anyone else in the organization early on to seek out additional resources or ask for help, they are not leaders, i.e., are not engaging in proper levels of planning. They need to develop a different game plan or seek employment elsewhere.

In the examples cited above, the people involved were, for the most part, of decent character—they just needed to be jolted out of their "that's the way I've always done it" mindset. So, let's now take a look at some examples that are a bit more dubious.

There was the project manager attending a company function who didn't quite get that a young female subordinate wasn't reciprocating his sexual advances. So after a couple of more drinks, he went back to the trailer and decided to make his intentions even clearer—in writing, via time-stamped email, so there would be no ambiguity for the young lady—or her attorney—to interpret.

There was the hyperintelligent OM who, at the drop of the hat, felt free to "share" his not so politically correct political opinions with anyone within earshot. On one memorable evening, he took a project team out to a bar, including the architects, got heavily inebriated, then proceeded to jokingly complain about how "the faggots" were taking over the country. Catching the uncomfortable expressions of the architects seated at the adjoining table, he corrected himself and assured them that he considered them "good faggots." Did I mention that the city he worked in was San Francisco?

There was the VP/General Manager who regularly sidled up to his secretary as she performed some last-minute assignments and threatened to fire her if she didn't complete them by the time he left the office. When she

had finally had enough and lodged a complaint to HR, he claimed that he had merely been "joking."

Then there was the diversity manager who wouldn't let his underutilized administrative assistant help anyone else out on the project, even though they were swamped, because he didn't want to let it be known that he and his administrative assistant didn't have all that much to do.

Then there were the project engineer and project superintendent who hated each other so much that they restricted their communication to bile-filled email exchanges that they copied everyone on the team on. They created such an "us versus them" mentality between the field and engineering that when they finally quit, and others rotated onto the project to close it out, nobody could figure out what either had done, thus causing delays that cost their company $2 million in untracked change orders and early completion bonuses.

Then there was the superintendent who complained ad nauseam about all the extra hours he had to work. He did, in fact, log a lot of overtime. But a quick scan of his computer usage revealed that he spent 75% of his normal hours "working" on NakedLatinaPics.com.

There was the infamous VP who, on frequent occasions, directed his subordinates behind the scenes to take specific actions, and then would gobble up all the credit when things went well, and would disavow having given any direction when things went bad.

There was the superintendent who complained bitterly about being ill used by his Project Director (PD) because the PD dressed him down publicly after a wall, which was improperly clipped, collapsed, nearly killing several workers. Instead of frantically checking to see if the other three walls under his direction were similarly flawed (they were), he instead chose to march over to Human Resources to file a complaint against the PD.

Then there was the executive who made a point of parading his new girlfriend around at company functions. He even went so far as to post pictures of himself and the young lady on the company Web site. What was disconcerting to the staff was that everyone knew he was married, as his wife was a former employee of the company.

There was the PM who took every opportunity to bash his project executive (PX) behind his back. And when any underling dared to suggest that they agreed with the PX's decisions, the PM accused the person of being a traitor and subsequently withheld critical information from them in an attempt to sabotage their work.

Then there was the PX who would undermine the actions of his staff by making "side deals" with subcontractors behind their backs and not holding them accountable to contract terms—and never informing the staff of the "side deals" he had made. Did I mention that some of these subs were known to have done work on his house?

There was the VP who was famous for raising his hand and saying "Boss, I got it" whenever the CEO voiced a concern. In fact, the CEO thought he was the most responsible leader in the company. The problem was, the VP rarely knew how to fix the problem he volunteered for, often handed it off to subordinates, and then, when they couldn't complete their own assignments due to the additional workload, he would verbally berate them—often publically.

Last but not least, there was a department head who would pressure her supervisors to do her bidding in order to exert unflinching control on her staff, which included reprimands if they were caught having conversations with one another (including work-related conversations) and for going to doctor's appointments (including those with known medical conditions). People on this team stated that the worst part of their day was looking up at the clock and seeing that it was only 8:10 a.m., knowing that they still had another seven hours and 50 minutes to go.

Fortunately, in my twenty years of doing this work, the number of truly bad "bad actors" that I have encountered has been miniscule. Nonetheless, the above examples are important as they pertain to Lean culture. It needs to be understood that incidents of sexual harassment, offensive behavior, and abuses of power serve as impediments for smooth flow, continuous improvement, and client-centered, value-added activities by forcing people's attention away from what they should be focusing on and onto what they find distressing, unfair, and unjust. Such repulsive behaviors also stir up doubt about a company's true philosophy, the integrity of its leadership, and whether to remain with the company. That's why such failures of character must be addressed in a decidedly meaningful way—because they cast a pall on the entire company and everyone in it. After all, if the company finds these behaviors abhorrent, why are its leaders essentially condoning them by looking the other way?

I'm not suggesting that the top leaders are at fault because unacceptable behaviors occurred. People are people, and, unfortunately, some will act in highly questionable ways. Most employees accept the fact that the world, and their company, is not perfect. What they won't accept is their company knowing about a problem, looking the other way, or not doing

something meaningful to address it. That's also when companies get into trouble legally.

Again, don't get me wrong; I love the fact that there are characters in this industry. In a world where few people speak their minds, and even fewer mean what they say, it is refreshing that there are so many people in construction that are willing to do both. And I personally have no problem accommodating a wide range of behaviors—even the aggressive, the strange, and those deemed politically incorrect—as long as what the person is trying to accomplish serves the greater good. I acknowledge that this is a subjective determination. But the thing I ask myself is this: Was the person trying to do what they felt was in the best interest of the project, the company, the customer, and their fellow employees, or were they doing something to benefit themselves? If someone meant to do good, but couldn't get out of his or her own way because of a quirk or skill deficit, I'll work tirelessly with this person to help them to be successful.

But those whose actions are clearly self-centered, i.e., who have little problem stealing company time by not doing their job, ruining the company's hard-earned reputation through careless acts, or abusing their power by taking advantage of or tormenting those who don't have the power to defend themselves, I have little tolerance or patience. I've taken heat, on occasion, for refusing to work with particular individuals. Since they often make money for their company, many executives will reach out to me for assistance rather than pulling the trigger and firing them, as they know they should. But my reasoning is simple: I'm not interested in helping sociopaths become more skilled at their craft. If someone has only his or her own interest at heart, and has no qualms about harming others in the process of acquiring it, and there is no objective reason to account for the abhorrent behavior they are exhibiting, I see no reason to waste a company's money beyond conducting the initial assessment. Anyone, myself included, can have bouts of temporary insanity where they do something uncharacteristic. But when a person demonstrates, on repeated occasions, that they are only interested in what is best for them, and they aren't fully willing to own their own behavior, how could I look anyone in the eye and say that I am truly committed to creating Lean cultures by enabling the person to continue to harm it—with my help no less. I do believe in second chances—but only when a person's track record warrants it.

Let's now turn our attention to a third category: Those who are of good character but are clueless in terms of their team-damaging behavior.

Feeling sorry for them or ignoring their deficits won't help. So how can we help them to improve?

Here are some guidelines that you can use to help correct their poor performance or inappropriate behavior.

OPERATIONALIZING PROBLEMATIC BEHAVIOR

This simply means describing the problem behavior in observable and measurable terms. This is important because if you are going to try to help someone change his or her behavior, you will need to know what the preferred outcome should look like and how far the person's performance deviates from the standard.

Let's take a situation that might appear vague at first and translate it into operational terms. (The example we will use is a "bad attitude" exhibited by the project receptionist.)

1. What are the observable behaviors that are problematic?

   Answers the phone in a terse or rude manner, i.e., is short with people, hangs up abruptly without the appropriate salutation, often exhibits a sarcastic tone when someone comes into the trailer and is unsure of who he or she needs to speak to.

2. Why is this behavior a problem?

   Sends a "we don't care" message to clients and the people we work with. Customers, including the client, have actually commented on and/or complained about the behavior.

3. What behavior would you like the employee to substitute for the current behavior?

   Our customers and the people that we work with are our life's blood. Be courteous and understanding and show interest and concern for their needs. Treat people with respect. Act "as if," i.e., talk to each person as if they were someone in your life whom you cared about and respected.

4. When do they need to demonstrate that they have corrected the problem?

   Immediately.

5. What will happen if the problem is not corrected?

   Termination.

6. What is your schedule for follow-up?

Feedback will be provided at the end of each day to note improvement or what still needs to improve. A formal review of performance will be provided once a week for one month to discuss what further actions might be required. If, after one month, the behaviors are in line with expectations, we will formally review performance each quarter.

When presenting a personal improvement plan such as this, I recommend creating a formalized, witnessed, written plan. When you present it, make sure to do so in private (with an HR representative taking the lead). Also, make sure you present it in such a way that the person believes that you want them to succeed. And don't forget about this next part: As soon as the person starts to exhibit the behaviors you are looking for, praise him or her for it—this is the part of the equation that makes disciplinary actions successful. But if he or she should fail to demonstrate appreciable improvement, or further complaints are lodged, terminate for cause.

This last part is essential: if you do need to initiate such a plan, please, please, please don't do so in a vacuum. Inform your boss, and seek out an HR representative for guidance and help with the proper documentation guidelines.

Remember, you aren't doing something bad by correcting someone—even though it often feels bad to do. You are trying to help them. Doing nothing will only seal their eventual doom. In a Lean environment, doing nothing is the same as saying, "I don't believe you can do any better." In a Lean environment, we do what we can to help, and then it is on the other person to meet us half way. As long as you go into the situation looking to help, rather than harm, you will be on solid ground. That's not to say that the other person won't be upset when you try to correct them. But more often than not, they will be relieved that you brought the problem up, and will be appreciative of your efforts to help them.

15

Commitment and Accountability

Though the concepts of commitment and accountability have been woven throughout the fabric of this book, it is important that we highlight some particular areas where leaders can exert their influence to fully promote these key elements. You can have the greatest plan on paper in the world, but if it lacks team buy-in to implement it, it will stall or have minimal impact.

To truly call an involuntarily assigned group of individuals a team, there needs to be a sense that each person belongs to the larger whole. In addition, everyone on the team must be fully cognizant of the negative impacts he or she can, and will have, on his or her teammates should he or she fail to execute his or her responsibilities in a timely, high-quality fashion. As Tarpey, Konchar, and Grinnell eloquently describe in their article entitled "Forging a Leadership Culture,"

> People, with their tendencies, strengths, weaknesses and general disposition combine to create a culture within a project team. The team is comprised of a variety of individual personalities, trained in a unique discipline each offering a unique set of experiences to the team. The ability for these individuals to join together and create an environment that promotes timely, accurate and useful communication of data or flow of information is nested in the dynamics of this team. Most failures which occur on projects can be traced back to a breakdown in communication, an unfulfilled commitment or a lack of information delivered from one team member to another. Because of the extreme interdependency of tasks that are organized to deliver a project, a domino effect is introduced when commitments are broken or critical pieces of information are withheld. Our focus therefore, should be on the development of people who are trained to first properly manage themselves and then to manage the network of commitments that are developed on a project.

As leaders, we could beat up our teammates each time they fail to self-manage, communicate effectively, or complete a deliverable on time. That's generally the first thing that comes to mind when we are determined to hold our teammates accountable, isn't it? But as you learned in Chapter 14, punishment is only effective for stopping unwanted behavior—it's not effective for promoting what we want. For that, we need to extend another invitation; we need to invite our teammates to *want* to act in a committed and accountable fashion. Again, this means that there has to be something in it for them to do so.

So what is in it for them? What's the payoff for living up to one's commitments and responsibilities? Quite a lot, really. When teammates keep their promises and honor deadlines, the level of frustration they have with each other diminishes and productivity rises. Since everyone on the team is getting what they need from each other, in turn, they are able to perform at optimum levels. As this momentum builds, they will increasingly view their teammates as a source of their success rather than as threats. And as described in preceding chapters, there is a great deal of satisfaction to be derived from being able to focus squarely on results rather than on how "certain people" are letting the team down. This is when people realize that they can accomplish far more together than as siloed individuals.

So, what can a leader do to influence all of this? To be honest, it is not as complicated as you might imagine. As you institute the basics and begin to pull your team toward a delineated goal, start asking "What do you think?" questions along the way. Even if the team displays reticence, urge them to put forth their ideas. Most rational people know that they are not going to get their way all of the time, but they do want their ideas to be considered. As Ralph Waldo Emerson said, "Our deepest desire as human beings is to be understood by another human being." The simple truth is that when we invite people's opinions, they are much more willing to buy in to the plan that emerges and commit to it, because they contributed to it. Why is this so? In part, because of the Law of Reciprocity. Simply put, this law states that "If you do something for me, in turn, I am obliged to do something for you." Whether we realize it or not, this law exists in all of our heads as an innate constant and cuts across all cultural and socioeconomic lines. At work, this law plays out in the following way: "Since you took the time to hear me out, I commit to hearing you out, and in turn, will commit to the plan that is eventually adopted." The whole concept of "buy-in" hinges on this notion. Rather than issuing an edict that, in turn, will likely elicit resistance or dismissals, inviting others to be a part of the

solution makes buy-in a virtual certainty. This is why I am such an advocate of the Kaizen event process for goal and idea generation—because it turns *everyone* into active participants rather than passive bystanders.

Since most construction people want their projects to be successful, most are more than capable of sifting through various ideas and selecting the best ones—regardless of who suggested them. But in order to do so, the ideas have to get on the table in the first place, and this is where a leader can exert his or her greatest influence. By creating a forum for the open expression of ideas and making it okay to agree or disagree with their adoption, leaders create a culture where commitment can emerge naturally.

Conversely, if we choose not to extend this invitation, and instead ram our ideas down our teammates' throats, people will let it be known through their silence, passive resistance, and lackluster performance that they believed that there was a better, unexpressed way of executing the job. And they will withhold their commitment until these ideas have been allowed to come to the fore. The Law of Reciprocity is also in play here, but in reverse: "Since you didn't ask for my ideas or input, I don't have to fully commit to the plan that you have put forward." The added difficulty is that people don't remain silent about their lack of buy-in for long. At the coffee pot, or the bar after work, they will seek out like-minded souls who agree with their divergent viewpoint. This is why cliques and factions form. It is at this juncture that a project team's efforts can head off in different directions, creating multiple entrance points for waste to creep into the system.

Again, this is easy enough to prevent. Going back to our discussion about healthy conflict, by sending a clear message that the expression of dissenting views is vital in a Lean culture, we also convey that what kills teamwork is silent dissent. Encouraging healthy conflict aids in the formation of a unified team vision. When people realize that they can engage in healthy debate at the team level, the need to seek private "safer" alternatives diminishes.

Now, here is where accountability comes into play. Let's say that everyone was able to come to a decision on a proper course of action for a particular issue, and each person developed a work plan to satisfy the fulfillment of this overall plan. What happens if someone subsequently fails to deliver the goods? What do we do then?

We've already seen that ridicule or punishment is not the answer. On the other hand, we absolutely must call attention to the problem that failing to live up to a commitment can cause. But *how* we call attention to it

is vital. If we chastise a teammate for failing, we will miss the opportunity to invite people to want to be accountable and remain committed in the future. In fact, we'll unintentionally train people to duck away from future responsibility. The fact is commitment and accountability don't occur in the absence of trust. So, if we are able to honor vulnerability and use failure as an opportunity to highlight the team's interdependence by effectively analyzing it, the whole team will see the value of acting in a committed and accountable way, and as a result, trust will actually grow.

Toyota utilizes a process called the *Five Whys* to build commitment and accountability into their teams (Table 15.1). When a quality issue is detected, the manager assembles the team and asks them *why* five times. This method is employed to identify root causes further upstream in the process that are often invisible so meaningful countermeasures can be identified. This is the most challenging aspect of waste elimination. If you can't see it, you can't eliminate it. The *Five Whys* shines a spotlight on process waste by helping people to go beyond the symptom and get to the root cause. But employing this tool requires trust in both the process and one's teammates. Here is how it works: Suppose, in one of their plants, there was a puddle of oil on the floor. If we have no concern about why there is a puddle of oil on the floor, then all we will do is grab a rag, clean it up, and go on with our day. This is the most expedient countermeasure, but it does not get to the root cause of the problem. But what if we ask *why* there is a puddle of oil on the floor? This leads us to a deeper countermeasure when we realize that the reason there is oil on the floor is because a machine is leaking. So, we can now tighten the bolts on the machine. But this begs the question, *why* is the machine leaking? It turns out, that it is due to a faulty gasket that we can now replace. But if we ask *why* the gasket is faulty, this

TABLE 15.1

Toyota's Five Whys Analysis

Level of Problem	Corresponding Level of Countermeasure
There is a puddle of oil on the floor	Clean up the oil
Why? Because the machine is leaking	Fix the machine
Why? Because the gasket has deteriorated	Replace the gasket
Why? Because we bought gaskets of inferior material	Change gasket specifications
Why? Because we got a good deal (price)	Change purchasing policies
Why? Because the purchasing agents are rewarded on short-term cost savings	Change the reinforcement policy for purchasing agents

leads us to understand that a gasket of an inferior quality was purchased. And if we dig a little deeper and ask *why* an inferior gasket was purchased, we find out that it was because the gasket was cheaper, and that the purchasing agents were evaluated (and received bonuses) on short-term cost savings. Do you see the point of a Five Why analysis? Instead of attending to an array of apparent causes that just treat the symptoms and allow the problem to perpetuate, by determining the root cause, we are able to fix the problem at its source—thus preventing it from happening again in the future. In this example, cleaning up the oil with a rag would have done nothing to solve the problem. Unless it is fixed at its source by changing the reinforcement contingencies of the purchasing agents (i.e., reinforcing purchases that lead to quality versus short-term cost savings) the problem will keep recurring.

We can analyze almost any problem in this manner. Let's go back to our mythical restaurant. The problem: it took over an hour for diners to receive their main course.

1. Why did it take over an hour to serve entrees to the diners?
    A: Because Andre needed to leave his station and help Jose with appetizers.
2. Why did Andre need to help Jose with appetizers?
    A: Because Jose had to leave his station.
3. Why did Jose have to leave his station?
    A: Because he ran out of scallops and had to go to the refrigerator in the basement to get more.
4. Why did this cause such a lengthy delay?
    A: Because when he pulled the scallops from the refrigerator, they were still partially frozen.
5. Why was this a problem?
    A: Because in their partially frozen state, the scallops could not be properly prepared; therefore, the customers who had ordered them had to be informed and allowed to make an alternative selection, which created a flow interruption and lengthy delay.

In this scenario, it would be easy to assume that Jose was the problem, but he was only a part of the problem. By asking *why* five times, we are able to discern the true root causes of the problem. As it turns out, the head chef was also accountable because she clearly underestimated the amount of scallops needed for appetizers (planning error), which led to

the execution error. Also, Jose should have let it be known earlier that he was running low (communication and judgment error), so that either more scallops could have been brought up from the basement refrigerator and defrosted in time, or a decision could have been made to eliminate scallops as an appetizer.

Let's take a few examples from our construction world. A logistics group had an agreed upon protocol in place: **No PM was to present an approval letter (known as an A letter) to the owner for signoff until it had been properly reviewed by a procurement planner.** The reason for this was clear: When proper planning was omitted, this usually resulted in costly rework. But in the name of expediency, a procurer submitted an A letter to the PM that had not been properly vetted. The good news is that in this particular instance, the courageous PM refused to pass it on to the owner. Unfortunately, rather than being applauded for her actions, the PM was viewed as an obstructionist by her boss. Here are the real reasons why this situation occurred:

The issue: The PM refused to pass on an A letter to the owner.

1. Why did the PM refuse to pass an A letter on to the owner?
   A: Because it was not reviewed by the planner.
2. Why wasn't it reviewed by the planner?
   A: Because the planner's time was spread too thin by serving other projects.
3. Why was the planner's time spread too thin?
   A: Because his boss (who was supposed to serve as a workload gatekeeper for him) was pulled away to chase new work and wasn't there to function in this capacity.
4. Why was an A letter submitted to the PM anyway, despite this being against protocols?
   A: Because the procurer felt pressured to produce it.
5. Why did the procurer feel pressured to produce it?
   A: Because the Operations Manager (OM) is required to generate a report of earnings projections to the corporate office based on A letters. This report was now due, so the OM put pressure on the planner to produce it.

Can you spot the root cause for this failure? The OM felt compelled to violate her own policy in order to satisfy a corporate mandate, that in actuality, did not support the standard work and waste reduction protocols of the division. If not for the PM, the project would have incurred a large number of wasteful execution errors.

This same method can be used for any construction issue. For example, "Why weren't we ready for the inspection on the fourth floor?," "Why weren't we ready to pour concrete on the east wing like we had planned?," "Why hasn't the submittal log been updated in weeks?" All of these issues can be probed via the Five Whys.

At this point, you are probably saying, but isn't this a post hoc analysis? Isn't the whole point of Lean about doing the planning necessary to prevent problems from occurring in the first place? To which I would say—excellent! You're truly getting it!

But the reality is, as long as we insist on working at breakneck speeds that outpace our current processes, there are going to be errors. So we need an effective and objective methodology to analyze errors so they won't continue to be replicated. The *Five Whys* paired with *A-3 problem* solving are effective tools to allow you to do this. A-3 problem solving is a standardized format to analyze any problem, all of which fits onto a standard A3 piece of paper—hence the name. (There are a variety of templates that can be found on the Web.)

Another method you can utilize is something that I call *behavior chain retracing*. This is a fancy term for working backward from a failure point. It's similar to reverse scheduling. During a meeting, put a problem that has occurred on the far right-hand side of a white board, and ask the team to retrace why they think the problem occurred. For instance, you could write down "Missed pour date." Then people can start filling in the reasons why this happened and in what order. For instance: "Didn't receive a timely response on RFI 621," "Didn't fully highlight the issue during a 'hot list' meeting," "Didn't send the request for information to the A&E in a timely enough fashion." Arguments will be made and positions jockeyed, but what will become abundantly transparent to everyone is that there were numerous failure points all along the way. Errors such as missed pour dates rarely boil down to just one weak link in the chain. They are usually the result of a cluster of errors. And like the KLM example cited previously, it will become apparent to all that there were multiple opportunities when any number of people could have stepped up, pulled the Andon lever, and averted disaster.

The key to all of this is that this has to be done with the proper mindset, i.e., that problems are opportunities to improve and that all problems are *team* problems versus the sole domain of any particular individual—and that it is everyone's responsibility to analyze and fix them. If done in this manner, people will take pride in participating in this process. Again,

the challenge is for you as a leader to disarm your autonomic responses because when you are in this type of situation, physiologically, you will *want* to rake someone over the coals rather than engage in any objective problem-solving techniques. It's where your body wants to go. But as we know all too well, if we let our emotions get the better of us, particularly during times of trouble, we will actually create a much bigger problem for our teams and ourselves. After witnessing someone getting raked over the coals, the "innocents" may feel relieved that this time it wasn't them, but in the back of their minds they will be thinking about ways to avoid future blame, which, unfortunately, will include not taking on additional responsibilities.

This next point I'm a stickler about: Deadlines need to acquire the feel of something sacred. Everyone needs to care about deadlines deeply and feel absolutely awful should one drop—even if they weren't directly involved in the issue at hand. When people try their hardest, but make an error in judgment, don't chastise them for it. Instead, analyze the problem, figure out how to solve it, point out ways to prevent it from happening again in the future, and move on. But if you have someone on your team who is blasé when deadlines are missed, it's time to have a serious chat about their priorities. Notice the distinction here. If someone, after being confronted, simply doesn't care, or dismisses it as unimportant, *they* are the problem because, emotionally, they have already distanced themselves from taking any responsibility for the failure. In short, they aren't to be counted on in the problem-solving or continuous improvement process because they don't view their own attitude or behavior as part of the problem. A simple way to handle this is to point out the realities of how they are being perceived and ask them if this is how they want to be viewed by the team. I don't know many people worth keeping that would say "yes."

It is incumbent on everyone, should they feel that they are in imminent danger of dropping a deadline, to let their teammates know as soon as possible. We are all human, and we will all fail from time to time. But by caring enough about our teammates to know how something is going to negatively impact them, and having a recovery plan at the ready, even in the face of defeat, each teammate can still make a significant contribution by minimizing flow disruptions. Such upfront admissions are also a contribution to vulnerability-based trust. While no leader wants to encourage mistakes or failures, it is vital to express your appreciation when someone has the courage to raise his or her hand to let others know that he or she is in danger of letting the team down. By rewarding such acts, you are not

rewarding failure or complacency. To the contrary, you are reinforcing accountability since the person is attempting to head off bigger systems failures down the road by alerting others about potential problems up front.

There is one last leadership action you can take to increase account-ability: Whenever possible, keep score. Whether you are tracking progress on the schedule, or a set of deliverables toward the fulfillment of a mile-stone or a goal, provide a visual measurement whereby the team can track its progress toward attaining the overall objective. It can be as simple as having a schematic color-coded chart of the building whereby progress can be tracked by changing the color in the corresponding area to denote completion. Sound unnecessary? Think of how pointless the act of rolling a ball down wooden planking and knocking over a set of pins would be if we didn't keep score. Scorekeeping gives us a sense of accomplishment and meaning, as well as a measure of improvement, and compels us to keep pulling toward success as a team.

16

Building a Lean Safety Culture

This chapter is not intended as a guide for establishing a safety program at your site. This chapter serves to highlight the leadership mindset required to make a safety program successful and the pitfalls that can derail such efforts.

Safety programs are prevention programs. As such, they are notoriously difficult to implement and maintain. The reason is simple: as biological beings we're wired to resist anything that inhibits our movements or inconveniences us—particularly if we perceive a low likelihood of the event occurring. I'll wear a life jacket while sailing because a mishap where I could end up in the water is not unforeseeable. Therefore, the benefit outweighs the discomfort of wearing a bulky vest. But I won't wear a life vest in the car, even if I am driving over a bridge, because even though a possibility of danger exists, the discomfort of wearing the vest (along with being deemed mentally unstable) far outweighs the likelihood of me driving into the water. The challenge we have is that, theoretically, workers could come on a site wearing nothing other than a tool belt and sustain nary a scratch. Yet we require them to wear eye, head, ear, hand, and foot protection—as well as pants—that are uncomfortable and slows them down. In a very real sense, safety programs are an act of faith because we can't actually see the accident that was successfully prevented. But there is an added factor in play. Workers will always weigh the cost/benefit of wearing Personal Protection Devices (PPDs) as long as we keep pressuring them to go as fast as they can at all times. Inadvertently, we force workers to choose between pleasing the supervisor and displeasing the safety person when safety and production goals are not fully integrated.

If you are reading these pages, you are probably someone who feels a strong moral obligation to send people home with all their body parts in tact. But there is also a business side to safety: Accidents cost money. There

are the obvious costs such as medical bills, lost time, workflow stoppages, and potential lawsuits. And there are ancillary costs such as elevated insurance and healthcare premiums, lowered morale, and lost sales opportunities associated with elevated Experience Modification Rates (EMR).

Nothing kills productivity faster than a site closure due to a major accident, and this isn't just inclusive of the period between the incident and when the inspector decides to reopen the site. Weeks after the incident, the residual effects on morale and productivity linger as workers attempt to cope with the emotional ramifications of the accident. After all, that was someone's friend, poker partner, bridesmaid, or best man who sustained that injury.

Creating a safety culture requires a vision that goes beyond a safety cop mentality. The question isn't "How can we enforce safety?" but "How do we influence others to *want* to act in a safe manner?" After all, if people *want* to act safely, we won't have to resort to mandates and "gotchas" to get them to act safely. Though this mentality is changing rapidly, many construction safety programs are still heavily reliant on negative reinforcement (i.e., threats of punishment that workers can prevent if they comply with safety protocols). But as you'll recall, negative reinforcement paradigms have serious limitations. Most notably is that if the enforcer isn't around to deliver the punishment, people will revert back to behaviors that they view as less inconvenient and restrictive (positive reinforcers) in the same way that drivers speed up on the freeway as soon as they see the police car ahead of them pull off at the next exit.

So how can we influence people to want to do something that they don't often see a value in doing? Part of the solution is cognitive, i.e., getting people to think differently. There is a story about a clever dentist who had a patient who was suffering from gum disease. The patient repeatedly complained to him about how inconvenient it was to maintain a flossing regimen in an attempt to manipulate the dentist into saying that it would be acceptable for him not to do it anymore. The dentist listened, thought for a moment, and then said, "I think I have a solution that will work for you; just floss the teeth that you want to keep." Rather than relying on convincing and cajoling, the dentist turned the responsibility around and placed it squarely back on the patient.

Unfortunately, by law, we can't present such options to our workers. But I did hear a General Foreman (GF) use a similar line of reasoning with excellent results. After ordering down an unsecured worker who was reaching out precariously to tighten a bolt while standing on a beam fifty

feet off the ground, the GF said, "I'm confused. Are you nuts, depressed, or do you have so little respect for your company, your family, and yourself that you don't care if you get hurt?" After listening to several mumbled excuses, the GF continued: "Look, you're a good healthy kid, and I want to keep you that way—so here's your choice: I either give you the number for the Employee Assistance Program so you can get your head on straight, or you never fail to wear your harness ever again. Which is it going to be?" What I liked about the GF's approach was that he wasn't relying solely on punishment to get his message across. He was also trying to engage the worker's intellect by getting him to understand the implications of his actions and take responsibility for making them.

Whenever possible, it is important to engage in frank open dialogue, akin to the *Five Whys*, whenever noncompliance is observed—particularly when these behaviors deviate from how people had been acting. Let me refer back to my days in the corrugated box industry to illustrate this point. Seemingly out of the blue, a plant was experiencing noncompliance issues with eye protection protocols. The reason they called me was that their policy was very straightforward; each time a worker was caught not wearing eye protection on the floor, he or she was written up, and three write-ups would result in termination. Per their union contract there were no exceptions. Unfortunately, at this point, they had already handed out two write-ups to some of their best employees. They were clearly at a precarious crossroads. But as suggested in *The Toyota Way*, it is much better to stop the line (*Andon*) and analyze why the problem is occurring rather than continuing to charge forward. After a cursory assessment, it became clear that in their zeal for compliance, the management team failed to ask one simple question, "Why aren't you guys wearing your glasses now?" It didn't take long for the management team to get to the root cause for noncompliance. When they did finally asked the question, here is what they heard:

- "These things hurt! They hurt my ears, they hurt my nose—you try wearing these damn things for eight hours a day!"
- "They fog up! It's more dangerous for me to wear them around the corrugator than not to!"
- "People make fun of me! I look stupid in these damn glasses!"

It wasn't that their workers had suddenly become uncaring jerks. Something was getting in their way and making alternative, albeit,

unsafe behavior more reinforcing. So, what was the root cause of the problem? In an effort to cut costs, the plant manager had decided to purchase a cheaper brand of glasses. Though he was able to save 46¢ on each pair of glasses, when potential OSHA fines, possible injuries (even while wearing the glasses), and the potential loss of key employees were factored in, the "savings" was actually a liability. The fix for this problem was extremely simple: Ditch the new glasses and bring back the slightly more expensive ones that performed better and that the workers actually wore.

Adding to this point, T. J. Lyons, a VP of Safety for Gilbane's federal projects, stresses the importance of factors, such as appearance, that are often not taken into consideration. When he was a safety director, he was once asked to lead an extrication team for a local fire company and bought small bump caps, Kevlar gloves, and goggles—exactly what was needed. The men would not wear any of it. But when he purchased NASCAR-style gloves, wraparound glasses, and rescue helmets like Gage and Desoto wore, he couldn't keep the gear off the guys. As T. J. often says, "Safety isn't about winning the battle of wills—it is about getting people to *want* to act in ways that are safe."

The use of punishment alone has its place, but is only appropriate in situations when dangerous actions are observed and potential harm is imminent (i.e., the unsafe behavior needs to be stopped immediately). But this should always be followed by a coaching session regarding the appropriate behaviors, unless a worker has been previously warned. In such cases, expulsion from the site or termination may be warranted.

While it often feels natural to get caught up in focusing on non-compliance and falling into the role of an enforcer, don't neglect one of the most important tools in your arsenal—praise and recognition. Remember, to transform a culture, people need to experience a benefit for engaging in safe behaviors. Try using these simple behavioral tools:

- Catch people doing something right and call them out on it in a positive way. (We run the risk of unwittingly putting safe behaviors on an extinction curve toward elimination if we don't.)
- Ask subcontractors to recognize safe behaviors engaged in by other subcontractors. (It engages subcontractors to think about safety, and it means something when your peers recognize you.)
- Celebrate team successes for sustained periods of compliance. (Nothing breeds success like collective reinforcement.)

From a Lean perspective, try identifying safe practices that actually *increase* efficiency and productivity while at the same time provide workers with proper protection. In so doing, you may run into some hardheaded individuals who may not agree. Here is an example:

> A safety manager watched a plumber climb a ladder four times to solder on a connector. He had eighty to go. He could have worked faster from a scissor lift, and he would have been comfortably restrained within a passive system. When the safety manager asked him why he wasn't using the lift, the worker simply replied, "Ask the boss."

At times such as these, a little diplomatic cost-benefit reasoning with higher-ups can go a long way. In Lean, it is all about getting everyone to understand that we are all on the same side. Owning safety and being productive should not be mutually exclusive events. And the same is true for instances when owners pressure operations to push production—no matter the cost. There are diminishing returns on productivity via overtime, and the more hours workers put in, the more fatigued they will become—thus increasing the likelihood that they will sustain an injury. Pushing back and reminding the owner about actual and ancillary costs of injuries is a way of being on the same side in terms of watching their pocketbook (and yours) while upholding your moral obligations to the workers.

This leads us back to the most important tool in any leader's safety arsenal: his or her own attitude. As a leader, there are opportunities that you have each day to increase the chances that the people on your job will act safely and adopt a safety mindset. Here is a simple checklist to help you on your way:

Yes	No	Do you lead off every meeting with a sincere review of safety issues, noting not just noncompliance but especially strong safety compliance as well?
Yes	No	Do you lead off every meeting with subcontractors with a report of near misses? (Near misses are a far better measure than incident reports when it comes to prevention. We could have zero incidents simply because we got lucky. But a focus on near misses allows us to increase awareness by focusing on relevant and meaningful situations. It also is an opportunity to build vulnerability-based trust, i.e., that people can be open and honest about reporting such things without the fear that what they say will be used against them.)
Yes	No	When you go out to the field, do *you* wear all the required safety apparel, thus modeling the proper behavior for everyone else?

Yes	No	Do you reward people for *not* making an exception for VIPs and visiting dignitaries? (There was a situation that took place in San Francisco when former Mayor Gavin Newsome was refused access to a site because he complained that wearing a hard hat would ruin his hairdo. The safety person was verbally rewarded by his company for upholding his ethics.)
Yes	No	Do you follow the five progressive rules of safety: (1) eliminate the hazard, (2) substitute with something less hazardous, (3) isolate the hazard from the worker, (4) reduce the worker's exposure time, and (5) provide personal protective equipment?

Make sure that your safety practices are grounded in empirical data. There is a famous story of a group of construction workers who were seen walking around Manhattan wearing life vests. They were doing so as protection against falling into slurry walls that were under construction. It was their belief that the vests would save them from drowning should they happen to fall in. When the lead person was asked by a safety manager how he knew the vests would work, he shrugged his shoulders and said, "Someone told me." Subsequent empirical testing demonstrated that this was a faulty belief. As the water and additives in the concrete saturated the vests, they actually pulled test dummies deeper into the slurry. As it turns out, the only true preventative action to keep from drowning in slurry is to prevent the fall from happening in the first place. The last thing we want to do is to inadvertently encourage risky behavior by giving workers a false sense of security—not to mention the hit on our own credibility when this is found out.

Never underestimate the power of a well-crafted letter to not only reinforce safety behaviors but to also acknowledge efforts toward continuous improvement. This is something that T. J. Lyons builds into his safety programs:

January 5, 2009
Grau Contracting
Jerry Sheridiane
3300 Panel Way
Saint Charles, MO 63301

RE: Paul Reeves, Foreman—Xanadu Project

Mr. Sheridiane,

Early last year I had the opportunity to meet Paul Reeves, your project foreman, at our Xanadu site in New Jersey. He was overseeing several crews

lifting panels. We spent considerable time reviewing rigging, how it should be inspected and maintained. Paul provided some insight that became an opportunity for improvement.

That simple conversation started an effort across the Northeast to take a look at rigging in an effort to reduce or eliminate risk from our lifting operations. In 2008 we inspected over 41,000 pieces of gear. The results were a new, lasting focus on the value of great rigging to eliminate this "weak link" from our hoisting operations.

I just wanted to recognize Paul and the effect of a simple conversation with a professional rigger.

Sincerely,

T. J. Lyons, CSP

And finally, here is a letter T. J. sent to a worker's home. There is a simple beauty in this: Not only does the worker receive a positive reinforcement from his place of work, but he also is likely to receive one at home as well. Or as T. J. puts it: "This is one of the best motivators I have found. His wife will wonder all day what this letter is about, and when he finally opens it, she will see what he does and what he cares about both at work and in his life.

September 10, 2006

Rick _____—Project Superintendent
1234 ABC Way
Anywhere, USA

Rick,

In a conversation last week with my site safety coordinator, Andrew Leone, he noted that your team is doing a fantastic job on the Mills Project. I also agree; we watched you guys last week and you do the routine safety efforts—routinely. Having worked with you guys in Reno, I was not surprised.

In fact, Andrew noted: "Exceptional efforts in conducting proper fall protection, flagging off hazardous work zones, and creating an atmosphere where practicing safe productivity is part of the business strategy. Through his efforts, Rick has proven that safe productivity can be accomplished in conjunction with maintaining a rigid work schedule."

For years I have been pushing the need to show that safety and productivity are related. You are one of the few that has figured it out.

I speak for the entire company in saying thanks.

Please note T. J.'s second to the last paragraph about safety and productivity being related. To truly achieve a Lean safety culture, our production and safety goals have to be aligned. It's *safe and productive*, not *safe or productive*. Both the safety and production sides of the house have to own this as the goal. Therefore, safety professionals need to attend scheduling and coordination meetings to know what activities are coming up, so they can add value by preventing safety incidents from occurring. And production people need to make it a point of inviting safety people to come to the site *before* an activity starts—particularly if there have been safety issues with similar activities in the past. If we know that we've had to stand down during trenching activities in the past, why would we go blindly into a similar activity again when we could ask the safety person to review our procedure with the team and assess our readiness to be safe? Simply hoping for the best will not ensure the success of our goal. After all, being safe is part of doing the work right the first time!

Here is another example of how safety people, operations people, and designers have effectively put their heads together to come up with safe and efficient solutions to problems. Their goal was to eliminate safety issues by deigning them out at the start.

Field study—impalement protection

Covers—high in labor, handling and fabrication hazards, then, protection removed during worker activity

FIGURE 16.1
Lumber-protected rebar.

Field study—impalement protection

Protection often removed to work

FIGURE 16.2
Rebar with lumber covers removed.

What does OSHA say?

Question 3(a): Does the bent-over rebar present an impalement hazard that must be guarded under §1926.701(b)?

Answer: "No; the end of the rebar in these pictures has been bent over to the point where it points downward, thereby eliminating the impalement hazard."

FIGURE 16.3
"Candy-caned" rebar.

Traditional impalement protection involves cap or lumber covers (Figure 16.1*).

These covers have to be removed in order to work on them—thus creating a hazard (Figure 16.2*).

But if the rebar is candy-caned this eliminates the impalement hazard (Figure 16.3*).

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* A special thanks to the Long Island chapter of the American Society of Safety Engineers (ASSE) for the use of these slides.

Answering "What's in this for me?"

*16'–2 rows of 24 (48) impalements (initial cost)	Candy-cane	Carnie cap	Wood trough	Rebar cap
Device or fasteners	$0.51	$12.04	$1.00	$60.00
Lumber needed		$13.04	$42.16	
Labor (55/hr.) install/remove/store or assemble	$0.35	$21.84	$15.90	$25.48
Total cost	$41.28	$46.92	$59.06	$85.48
Cost per impalement protected	$0.86	$0.97	$1.23	$1.78
	0.00%	12.00%	43.00%	106.00%

ADPROV—*the "Get bent" approach will be incorporated into the design of rebar incorporating a radius or right angle termination to eliminate impalement hazards.*

FIGURE 16.4
Team-generated fixes are often the most cost-effective.

Compared to other methods of impalement protection, this also turns out to be the most cost-effective solution, providing the most compelling reason for adopting Lean methods: What's in it for me! As shown in Figure 16.4*, when teams of varying backgrounds come together to lend their expertise, they are able to identify not only solutions to problems but the most cost-effective ones as well.

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* A special thanks to the Long Island Chapter of American Society of Safety Engineers (ASSE) for the use of these slides.

17

Fine-Tuning: Keeping Your Fingers on the Team's Pulse via Continuous Lean Culture Assessment

Your best efforts at building a high-functioning team will go for naught if you don't keep your fingers on the team's pulse. Any hiccups on the people side that require midcourse corrections that go unnoticed can quickly lead to waste. The one thing you can count on for any construction team is that its dynamics will always be in a state of flux. So, you need to remain aware and assess any potentially detrimental changes in team chemistry.

What I mean by the term *assessment* is the willingness to see things as they are—dispassionately and objectively—and without distortion (i.e., interpreting negative information as a personal attack or, conversely, believing things to be better than they are). Clearly, this is a lot easier said than done. To survive life's slings and arrows, we all live, to some degree, in a world of self-deception. We simply couldn't function if we kept the harsh realities of all of our shortcomings in clear view at all times. So, to a large extent, self-deception is natural and, within reason, even healthy. But managers who are able to demobilize this natural defense mechanism and look reality squarely in the eye stand a much better chance of helping their team to refocus should they temporarily lose their way.

There are three primary sources of assessment data (indicators) that you need to be in tune with on a continuous basis: *behavioral indicators*, *procedural indicators*, and *external indicators*. Any of these can serve as precursors to interpersonally generated waste. It is important to note that at the point of detection, the root cause that lies beneath the precursor will likely be unknown. This is the whole point of continuous assessment: to be able to ascertain the warning signs of a root cause *before* the issue becomes a costly problem.

BEHAVIORAL INDICATORS

Behavioral indicators are things that you can directly observe—in other words, what you can hear, see, and feel. They include voice volume, tone and inflection, body language, and facial expressions. This is information that people communicate indirectly, usually because they are uncomfortable conveying it by more direct means. The reasons people choose to communicate indirectly are multifaceted. Some do so because they are preoccupied with how they will be perceived by their boss and don't want to be labeled as either whiners or complainers. Others may be afraid of how you will react to bad news (kill the messenger syndrome). And still others will simply assume that since you are the boss, you already know about the problem, and are just choosing not to do anything about it. The latter is one of the biggest fallacies that exist in the workplace. In reality, most of the data that finally reaches a leader's ears is highly filtered. By that, I mean that they hear what others think they *want* to hear—not what they need to hear—and this selective filtering worsens the higher up you are in the organization. By paying attention to behavioral cues, and digging deeper to discover the root cause being masked by the filtering, you will be able to identify the waste that is frustrating your team so you can help them clear it and get back to what they should be focusing on. Pay particular attention to the following:

> **Changes in behavior.** When an even-keeled person starts lashing out or looks like he or she is carrying the weight of the world on his or her shoulders, it is time to pull him or her into your office for a chat. Not a scold, a chat. Remember: the goal is to find out what's going on and why he or she is in such discomfort. When you first attempt to do this, some people may become self-protective and clam up. Don't be deterred. If the other person senses that you truly care, they will be grateful that you've taken the time to find out what is bothering them and will eventually open up.
>
> **Sighs, eye rolling, head shaking.** These behaviors are often more prevalent in public places—like staff meetings. If you see them, put down your note pad, and voice the obvious: "Okay, folks—I'm looking around the room and I'm seeing a lot of body language that is telling me that people aren't happy right now. Talk to me. What's going on?"

I once observed a group of engineers snickering and making sarcastic remarks among themselves whenever anyone from accounting or the field spoke during a staff meeting. They had no idea just how obnoxious this appeared to the rest of the team until they were confronted (I chose to do so after the meeting, in private). With a little probing, it turned out that contrary to their appearance, they were actually very concerned about the project. But they felt that their considerable worries about the buy-out were being blown off while the team over-focused on more trivial issues. I arranged for a side meeting with just the engineers and the Project Director (PD) so they could voice their concerns. The PD did a great job validating their concerns, while at the same time, pointing out that the whole team would have been better served if the engineers took the risk to voice their worries more directly, rather than resorting to sarcasm or side talking.

Finger-pointing. When teammates begin to cannibalize one another (blame each other for team failures), this should get your attention immediately. Allowing this to go unchecked will multiply waste and send a poor message to the rest of the team (i.e., that behaving like this is okay). Your constant mantra should be "We succeed as a team and we fail as a team." They can disagree—they can even do so passionately—but at the end of the day, they need to come up with team solutions. And no team worthy of the name blames each other when something goes wrong.

More often than not, issues that escalate into finger-pointing were once fairly manageable problems that had simple root causes. Such things as poor role delineation (i.e., "You're supposed to be doing that!," "No, that's your job!") can easily be corrected by simply slowing down the process and clarifying who is to do what by when.

At other times, the root cause of the finger-pointing may indeed be due to the fact that someone did not live up to a promised deliverable. This type of situation will require you to sit people down, lend them your calmness, and work the issue through to resolution. For example:

> Look folks, we're all human. The fact is, even though none of us want to, we're going to let each other down from time to time. But we have to work on ways to handle this as a team. Tommy, in the future, if you think you are going to blow a deadline, you need

to let Sally know beforehand. You also need to have a recovery plan in the works and let her know what this is so she can make the necessary adjustments to her own work plan. And Sally, in the future, rather than waiting until the delivery due date and then blasting Tommy, could you please check in with him periodically, and if he's going off course, see what you can do to help? Remember, everybody, we are here to help each other. Right now, we're working against each other. Let's bring these kinds of things up early on so they won't bite us in the butt later.

Palpable tension. I can usually tell the minute I open the trailer door how things are going on a team simply by how I am greeted. I know this doesn't sound scientific—but you can just feel it. Don't dismiss such feelings. The body plays a central role in assessing the environment that we're in. (You'll learn much more about this in the next chapter.) So, when something feels "off," pay attention to it. When the tension is so thick that you can cut it with a knife, it's time to stop and have a discussion about what you are sensing. Again, the goal is to find out what is frustrating people and make it okay for people to talk about it as a means of maintaining flow. But first, you'll have to assure people that what is said won't be used against them in the future. Usually this is best done individually rather than in a group. But it should be announced to the entire team beforehand: "Look folks, I can tell everyone is tense as all get out. I can see it in your faces. So, I want to spend some time with each of you to find out, from your perspective, what's going on so we can move forward."

Avoidance. People avoid taking on new tasks and responsibilities. As discussed in previous chapters, this is an indicator that trust on the team is low.

Clock watching, early departures, late arrivals. People in construction want to be successful, and they will often willingly put in long hours to achieve this. But if they feel thwarted in their efforts, they'll start voting with their feet, and you'll start seeing people trickle in late or leave early—or go about their work with little or no passion. This is the point at which those who had no intention of returning a head hunter's phone call will begin entertaining them.

Increased needling, wisecracking, and sarcasm. I'm not a big believer in political correctness in either my work or private life. I enjoy people who are quick-witted and funny. But I also believe that people should treat each other with respect. Keep an ear out for when

humor becomes a thin veneer for underlying anger or frustration. Too much sarcasm shuts people down and will destroy vulnerability.

Increased use of email. When people within close proximity begin to rely on emails to communicate their displeasure with one another, it is usually an indicator that unhealthy conflict has crept into the team dynamic. It is important to interrupt such exchanges early on so they do not escalate. And yes, I know this is a bit of a generational thinking. Younger folks will text one another even when they are sitting within earshot of each other. It's when the tone of these texts or emails takes a turn toward the negative that you should pay attention and address it.

The only sound you hear in the trailer is the clicking of computer keys. Job sites should be dynamic places. People should be asking questions of one another, poring over drawings and 3-D models, and hashing out issues via open dialogue. The sound of silence, in short, should scare the pants off you. Sometimes this is an indicator of overly burdensome and time-consuming processes rather than deep interpersonal conflict, but there is no reason not to attend to this as well. Top management needs feedback about the negative impact the tools are having on the team. If you don't express it for the team, they will have no idea.

Any of the above can be indicators that it is time to take your team's temperature in a serious way. Again, don't be afraid of what you will find out. Instead, be glad that the issues are coming to the surface now rather than further down the road, when they will be much more difficult and costly to fix. Just share what you're observing, show concern, listen, and see what emerges. The solutions are usually pretty apparent once you've taken the time to fully listen and understand the issues. The only way that you can blow it is if you take their concerns personally and become defensive, or if you overreact and become overly controlling. Help the team identify waste, then create a forum that allows them to eliminate it.

LISTENING SKILLS

There are many excellent resources to help you with your listening skills. (I particularly like *Listening: The Forgotten Skill: A Self-Teaching Guide*, by

Madelyn Burley-Allen.) If you can learn to master this one simple skill, there will be very few people-generated waste issues that you won't be able to eliminate. All that effective listening requires is a willingness to slow down (*Andon*) and to understand the issues and concerns from the *other person's perspective*. This doesn't mean that you have to agree with the other person's point of view. You just have to understand it.

For instance, let's say that you've noticed a change in one of your employees. (They've gone from being upbeat to looking like they have the weight of the world on their shoulders.) Step 1: Carve out some time when you can meet with the person privately. Step 2: Eliminate all wasteful distractions and interruptions (turn off your phone, get away from your computer screen, and close the door). Step 3: Calmly and objectively share your observations and concerns. This isn't an interrogation; just let them know that you are concerned and that you are there to help. It can sound like, "The reason I wanted to meet is that I've noticed that you are not your usual self; is there anything going on that I can help with?" If the other person welcomes your inquiry, try gathering some facts by asking probative questions, such as:

1. What's going on as you understand it?
2. What is happening that shouldn't be?
3. What isn't happening that should be?
4. How long has this been going on?
5. That sounds frustrating. What have you tried to do to make it work?
6. Have you had any success in getting it to work?
7. If things were going perfectly, what would they look like?

These questions are designed to help the other person slow down and view the situation a bit more dispassionately. Don't be put off if the other person shows reluctance to open up at first. Be patient and continue to express concern. And fight the urge to fill in the ensuing silence. Silence is actually your friend. If you don't fill it, the other person will.

Once you've gathered the facts, and both of you feel like you've adequately identified the waste, take your inquiry up a notch to help move things forward. These are what are referred to as action questions, and they sound like this:

1. In your opinion, what specifically would help to improve the situation?
2. What would be your first step to get started?

3. What help do you need from me or from your teammates?
4. What's at stake for you if you don't get this issue to move?
5. What resources do you have/need?
6. Is there anything that you feel you could be doing to inadvertently contribute to the problem?
7. Are we in agreement in terms of what a positive outcome would look like?
8. Whom else might we need to pull into this process?
9. When will you start?
10. Let's agree on a time to follow-up to see if your plan worked.

Action questions are designed to help the other person formulate a plan of action to address his or her own concerns rather than you taking it over for them (unless you both agree that it would be appropriate for you to do so).

You'll be amazed at the small amount of effort that it takes to help move a seemingly impossible wasteful situation forward. All it takes is a little time, patience, and skillful guidance.

The reluctance to do so centers on what construction professionals are comfortable dealing with. When confronted with technical issues, most attack them like icebreakers in the North Sea. But emotionally charged issues make most construction people search for the lifeboats. This needn't be the case. Emotionally charged issues are no different from technical issues when it comes to tactics. You just need to slow down, gather your facts, identify the waste, and help everyone weigh their options. And you need to be clear about the consequences; avoiding to do so generates waste. You'd never allow a building to get built on top of a bad foundation. The same goes for your team. If something is eroding your team's foundation, it is far better to address it now, rather than waiting for it to become more difficult and more costly to resolve. And this is particularly true with conflict at the leadership level.

I've been involved with companies that were on their second or third attempt at Lean. The root cause of the previous failures was conflict among the leaders that had gone unresolved. Often top leaders are concerned about bringing such situations to a head for fear that one or more parties will leave. While I can't promise that this won't happen, this is a far better outcome than living with the collateral waste sustained as top leaders battle it out for territory or supremacy.

Some leaders believe that acknowledging problems is tantamount to admitting weakness. But the opposite is true. When you are humble, open

to feedback, and able to fully listen, you are announcing to your team that you are willing to do whatever it takes to help the team improve. Acknowledging the existence of problems actually creates hope. It indicates to your subordinates that they won't have to fight (or leave) to get heard, and that you have no agenda other than seeking optimum project outcomes. Remember: Effective leadership is not about being perfect—it is about successfully adapting to the challenges that arise and always looking for ways to improve how you and the team function.

PROCEDURAL INDICATORS

Requests for information (RFIs) and change orders not properly vetted or logged, shop drawings and submittals rejected because they failed to meet quality or specification standards, long lead items not identified and procured per schedule, schedules not updated, safety protocols not adhered to—all of these maladies, at first, may appear to be due to someone not doing their job. But more often than not, these types of waste are the result of a team process or system that has broken down. This is not to say that you couldn't have a bad apple or two in your midst. But more often than not, procedural failures have broader, more profound root causes, such as people not being properly trained ("I don't know how to do what you're asking me to do"), being too overwhelmed with too many tasks ("I know that it's important, but so is everything else I'm doing"), poorly delineated roles and responsibilities ("I didn't know that that was mine to do"), coordination issues ("I can't do _____ until I get _____ from _____!"), and a lack of standard work ("I have no idea what the quality standard is for a PCO or submittal").

When properly assessed, the solutions to these problems won't require a Stalinesque purge to rectify them. Again, this is the whole point of conducting a thorough assessment in the first place—so you can focus your energy on where it is needed (i.e., providing procedural or prioritization skills training, providing a Gatekeeper function, providing clear quality assurance guidelines and standard work instructions, conducting brief "what's hot for me today" meetings at the beginning of each day to instigate greater coordination between the field and engineering, etc.). In the long run, these fixes will prove far more useful than obsessing over who should be weeded out and will allow the team to come together to productively eliminate waste.

There is one important caveat: If you clearly have someone who consistently dumps his responsibilities on others, fools around when he should be working, or repeatedly refuses to take responsibility for mistakes, don't put this on the team to solve. They are already dealing with this person's negative impacts and will resent it if you dump this in their laps to fix. Address this person directly and swiftly to correct the deficiency. He needs to get the message that high standards are expected of everyone. No exceptions. No excuses.

EXTERNAL INDICATORS

External feedback is anything that you hear—directly or indirectly—from architects, owners, subcontractors, end users, or designated community contacts that could indicate that all is not well on the team. Often, this feedback will be cloaked in avoidance or artificial niceness (or on the East Coast, excessive aggression), so it is especially important that you pay attention to the subtleties of what is not being said. Here is what to look for:

Breaks in chain of command. Any breaks in the expected chain of command should get your attention immediately. For instance, let's say a General Foreman (GF) should be interfacing with the General Contractor's (GC's) Project Superintendent (PS), but instead, continually seeks out the GC's lower level engineer. There could be a number of reasons why this is happening. Perhaps the GF doesn't trust the PS and is seeking out a more reasonable person to work with. Or maybe the GF thinks the PS is incompetent and he's discovered that the information he receives from the engineer is far more reliable. Or maybe the GF has discovered that the engineer and PS rarely speak and that he can exploit the engineer's inexperience to his company's advantage. Whatever the reason, you'll need to check it out:

"Hi, Terry, can I talk to you for a second? I've noticed that Jim from ABC Plumbing always goes to Laura in engineering rather than to you. Is there a reason for that?"

"Yeah, I got tired of Jim's constant whining about what he can't do. So I asked Laura to deal with him for a while."

If you get feedback like this you can breathe a sigh of relief. It means that your PS and PE are talking, strategizing, and have things well in hand. But if Terry was not aware that this was happening, or he was aware and has been secretly stewing about it, it's time to sit both parties down and work this through.

Scrutiny. Whenever the owner, the architect, or anyone else seriously questions your schedule or means and methods, you can bet that they have heard something through the grapevine that has tweaked their anxiety. Rather than talking around it or ignoring their heightened scrutiny, try being direct instead:

> Excuse me, Marsha, but I can't help noticing that you keep suggesting that we're not going to have the raceways in the east wing finished on time. Are you like me—just a natural-born worrier—or has something specific come up that you are particularly concerned about? I really do want you to feel comfortable with how we're executing the job.

By speaking directly, you are signaling your willingness to hear your external partners' worries and concerns, and you are assuring them that you aren't merely seeking to mollify, ignore, explain away, or brush them off. This invites their vulnerability and will allow you to focus on the root cause of their worry rather than attend to apparent causes in the form of anxiety-generated waste.

Increase in the number (or a change in tone) of emails. If, as a project leader, you begin to receive an inordinate amount of emails from external partners, this should get your attention. It could mean any number of important things. Perhaps they do not have a strong grasp of the organizational structure and are therefore blanketing everyone on the project in the hopes that their concerns will eventually find their way to the right person. Or they may be attempting to signal their lack of confidence in a particular individual within your team. If this is happening, or the tone of emails becomes more CYA or accusatory than usual, it is important to respond immediately with a phone call or face-to-face meeting—as such emails are often the precursor to sending a more hostile positioning letter.

Please don't respond with a pointed email of your own. (For some reason, people feel far too free to say all sorts of nasty things in emails that they wouldn't dream of saying face to face or on the phone.) Plus, emails are far too easy to misinterpret. The person who

sent the email might not have intended to be provocative—it just happens to be the way they write (I have this problem). Though we all tend to automatically respond to a communication by using the same medium that it came in (a phone call with a phone call, an email with an email), it is the wise leader who breaks this cycle and instigates a face-to-face meeting to find out the root cause of their external partner's angst.

ASSESSMENT AND THE BASICS

In Chapter 8, I alluded to ways that you can utilize your organizational chart to diagnose team problems. Here is how this works. Let's say you've been taking the pulse of your team and you've gotten some rather pointed feedback:

> "The chain of command is violated with alarming frequency."
> "Whose project is this? The PX, PM, or PS? You all seem to be struggling for control of the project like children."
> "Cost is a mystery. If we have controls in place I have no idea what they are."
> "Twenty-five RFIs are over fifty days old—I found this out from one of our subs."
> "I heard there are 187 unique contract requirements. What are they?"
> "I know that I have to issue a PCO, but I have no idea what the quality standard for a PCO is."
> "Changes are not incorporated into the contract documents. Who is in charge to make sure this happens?"
> "Procedures seem to always be in a state of evolution. When can I expect them to fully evolve so I will know what I'm doing?"

As the leader, it will be important for you to take a step back and objectively ask yourself what side of the house these problems are occurring on. In this example, if you said engineering, you are dead on. Now, you'd be tempted to jump to the conclusion that somebody on the engineering side isn't doing his or her job, and this may indeed be the case. But often problems such as these are a symptom of a much bigger issue. Examine your organizational structure. Are there any missing players or weak

links (due to inexperience) in the structure? Are there any unintended bottlenecks that are created by the structure? In the above example, a brief examination of the project organizational chart revealed that the team was attempting to function without a Lead Senior Project Engineer. As a result, the Project Manager (PM) was attempting to fill both roles and was predictably failing at both. Ironically, the management team was well aware that this key role was vacant. But they were not fully cognizant of the impact that their continuous intrusions into each other's work (in order to plug procedural gaps), and their lack of an overall execution strategy as a leadership team, was having on the team until they solicited their feedback. This team stood no chance of success until the managers figured out a meaningful and systematic way to fill the voids created by the missing lead engineer (i.e., clearly dividing up the tasks in a well-publicized fashion, leaders formally stepping down into designated roles to fill gaps, elevating a junior engineer into a senior role, or lobbying the Operations Manager to get them a Lead Engineer).

Let's take another example—this time, at a companywide level. An electrical contractor was experiencing problems that prevented them from being the kind of company that they wanted to be, i.e., a flexible, nimble organization, able to quickly and effectively adapt to rapidly changing market conditions. Their problems clustered around a recurring set of complaints:

- We don't share human resources well. (VPs often hoarded their best PMs and GFs rather than assigning them to where they were most needed.)
- We are content to lose sales opportunities rather than share them. (If one group lacked capacity, they hoarded the Request for Proposal anyway. But since they lacked capacity, they often failed to submit a bid in time, thus losing the sales opportunity for the entire company.)
- Some of their better managers clearly didn't have enough to do and were bored.
- Some of their inexperienced managers had too much to do and were in over their heads.
- Some divisions had too little oversight and their jobs often became money bleeders.
- VPs often had to drop down to clean up problem jobs.

Figure 17.1 shows how this company was organized. Can you spot the problem with the organizational structure? This contractor was actually
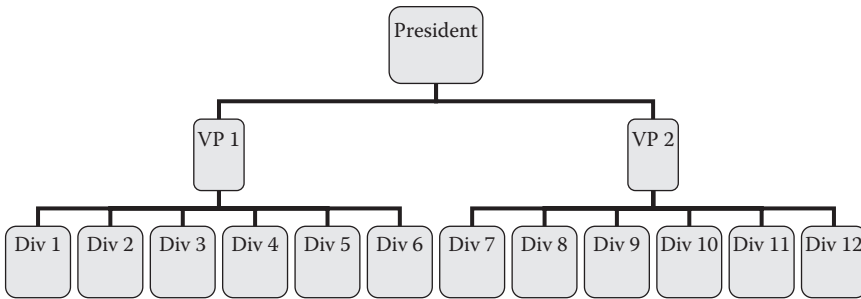
FIGURE 17.1
Restrictive structure.

set up as if it were two competing companies. Paired with a bonus structure that rewarded individual performance, there was literally no incentive for anyone to share opportunities or human resources; in fact, there was a disincentive to do so. In addition, there were far too many divisions and projects for either of the vice presidents to properly oversee. If they had a manager in place who was incompetent or corrupt, they usually only found out about it after the job was already hemorrhaging profusely.

During a strategic planning session/Kaizen event, the managers were assembled into four separate teams and given the opportunity to create a new organizational structure to address the issues.

Figure 17.2 shows what they came up with. Interestingly, three out of the four teams came up with virtually the same organizational solution. This new structure not only allowed them to share resources and opportunities but it compelled them to do so. With one VP overseeing all of the operations, there was no incentive to hoard people. And with the other VP overseeing preconstruction, there was no disincentive to spread business opportunities to those divisions that had the capacity to execute them. Paired with a new team-based bonus structure and ESOP program that rewarded everyone for overall company performance, there was now an incentive to think about what was best for the company rather than just myself. And by creating a new layer of fully empowered senior managers, the problem projects under their watch had greater visibility and were addressed well before the company sustained negative monetary impacts.

I don't want to mislead you into thinking that simply modifying their company structure solved all their problems. They also had to overhaul their training programs, redouble their recruitment efforts, develop a go/no-go strategy for venturing into new markets, generate growth plans
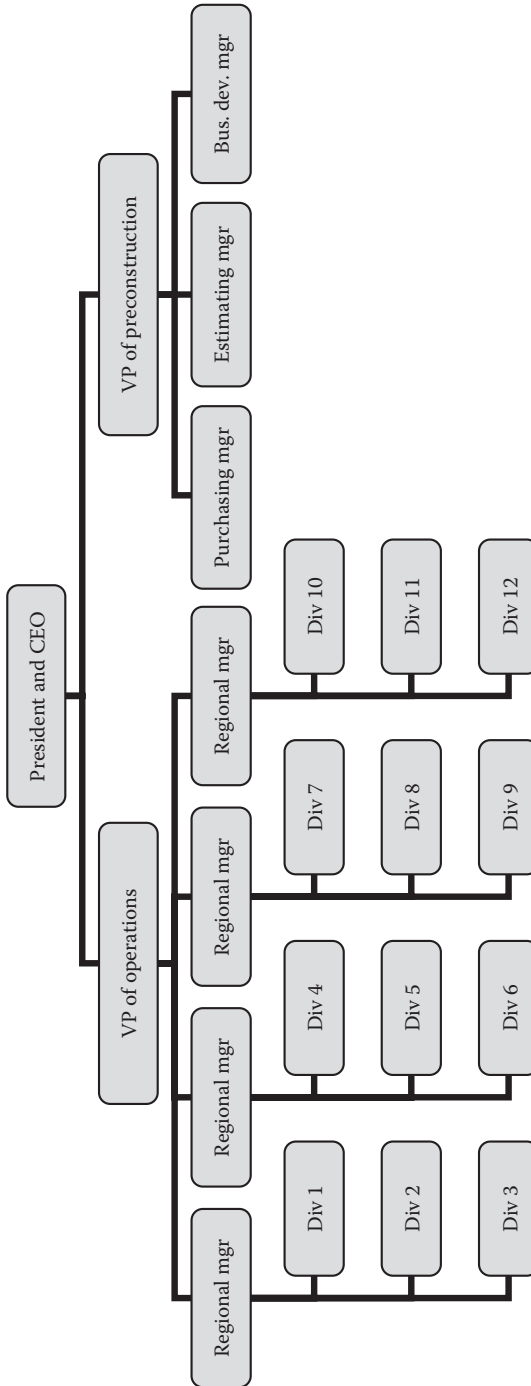
FIGURE 17.2
Flexible and nimble structure.

based on project type rather than geography, and each geographic region had to develop alternative product lines that focused on the work that they did well and were profitable doing. But what is clear is that they would never have grown from a $250 million company to the $1.9 billion company they are today if their organizational structure had remained the same. And they would not have been able to change their structure if they hadn't been willing to honestly assess their problems.

ORGANIZATIONAL CHANGES AND THE ROLE OF EMOTIONS

If, based on your assessment, you find the need to change your organizational structure, don't underestimate the role emotions (particularly status anxiety) can play in the success or failure of the resulting changes. By way of a scenario, here are the things you want to avoid:

> After walking the job, and looking over the schedule and how the job is being tracked, the OM pulls you (the PM) aside and says, "I know that I didn't give you the strongest team, but I think the way you're organized isn't working." You actually agree. After seeing the team in action for a few months, you have a lot better handle on everyone's strengths and weaknesses, and recognize that you have more than one person who is "playing out of position."
>
> After grabbing some dinner, you and the Project Executive (PX) review the organizational chart and start making changes. You "lower" a superintendent who is new to the company from a lead role—because he is struggling mightily with the processes and procedures—and place him under a more senior superintendent, believing this to be the best way for him to learn. You shift a person who has a strong engineering background back to engineering from the field. You elevate an engineer who doesn't have very good people skills to a lead role because you think, despite her deficits, the young people on the team will benefit from her technical expertise. You then decide to go one step further and shift around a number of other people's roles and responsibilities to better suit their strengths. It's 11 p.m. and you and the PX sit back and admire your handiwork. You are both pretty excited about the new structure you've created and feel in your gut that it will work.
>
> The following day you roll out the changes to the staff. But as you do, you are stunned. Instead of excitement, people are staring back at you,

with stony expressions on their faces. You can't believe this. Now you're the one who is starting to get steamed! "What an ungrateful bunch of selfish schmucks," you think to yourself. "Don't they realize all of the hard work the PX and I put into this? Do they think we wanted to be away from our families last night? Look at them! They don't care about the project! All they care about is themselves! Maybe it's high time that I started shipping some of these bozos out!"

So, how do you account for your staff's reaction—and yours? Why do you think that something that you and the PX undertook with the best of intensions was received so badly? And why did this emotional upheaval occur in a mere matter of seconds—despite all of the careful analysis and rational planning you put in?

Because, unwittingly, you activated the team's fight-or-flight response. Nobody in the room heard a word after you said, "So, we're going to change things up a bit." What they were saying to themselves as they were glaring back at you was:

> "Hey, I liked what I was doing, and I thought I was doing it well. Are you trying to tell me I was doing a bad job?"
>
> "I finally figured out what I was supposed to do, and now you are changing my assignment without asking me? This is so unfair!"
>
> "The OM promised me I'd get a chance to work in the field! Who are you to put me back in engineering!"
>
> "No way! You just put me under somebody I have no respect for! This is bullshit!"
>
> "How come none of us saw this coming? How long have you been planning this? What other changes do you have in store? Are you going to start firing us next?"

All they knew was that the secure little world that they had known—however dysfunctional it may have been—is changing, and it feels threatening to them. The rationale at that point didn't matter. And as you quickly found out, you are also not immune to the effects of status anxiety. It turns out that, despite the letters that come after your last name, you're a human being too. Admit it: You were expecting people to be as jazzed about these changes as you were, and maybe even pat you on the back for your organizational brilliance. Instead, you got walloped, and your own autonomic physiological responses kicked in. And in milliseconds, the very people

who you were trying to carefully craft into a solid team suddenly became a threat to you—and you wanted to respond in kind.

Here's the point that is absolutely essential to grasp in these types of situations. Leaders (particularly engineers) often rely too heavily on their analytical skills to make organizational changes and grossly underestimate the power that emotions play. The fact is that people are and always will be emotional animals first and rational beings second. When making these kinds of changes you have to anticipate the status anxiety disruptions that will be generated and understand that once activated, people's first instinct is to resist.

In such situations, it is better to lay the groundwork for change by soliciting feedback from all of the staff about what is and isn't working and asking their ideas for improvement. Done in this manner, the resulting changes will feel natural to the team and will usually be in line with what you have already been thinking about doing. Given the magnitude of workflow disruptions that can occur when this step is skipped, there is no reason not to take a couple of additional weeks to sow the seeds of change. The payoff, in terms of buy-in, will be enormous.

Here is another, more pragmatic reason, why it is important to attend to people's emotions—and this is particularly true for changes done on a much wider scale (i.e., at a business unit or companywide level). During such transitions, you run the risk of losing your best people. Let's be completely honest. Your marginally productive people aren't going anywhere. They may grouse and complain, but you and they know that their options are limited. But your top performers always have options. You want to make sure that they are the first to know that they have a solid place within the new organizational structure.

If you have fallen victim to what a colleague calls "*premature announciation*," here are some tips to help mitigate the damage. First, don't get blown away by people's initial adverse reactions. These are normal and natural. People are creatures of habit and change throws them for a loop. Anticipate some angst, and don't take it personally. Second, build in some time (a week or two) for people to make the mental transition. During this period, make yourself available to answer questions and allow the staff to express their worries and concerns. Provided it makes sense, and you are being transparent and sincere, by the end of the first week, 80% of the staff will be ready and able to make the transition to the new structure. Again, honest discourse goes a long way toward helping people get past their initial gut reactions. Also, stay open to feedback. Your staff may have

some very valid input that might make you rethink some of the changes that you have made.

For the other 20%, give them a little more time—another week or so. But if they continue to buck the changes, or begin to act out their displeasure by engaging in undercutting behaviors (withholding information, gossiping, rumor mongering, excessive bad-mouthing of management, refusing to accept the new assignment, refusing to report to the person they have been assigned to), you will have to sit them down, point out the negative effects their behavior is having on the team, and ask them to make a choice. They are either going to have to find a way to live with the new structure or you are going to need to find another home for them. This isn't a threat; it's just the reality of the situation. A house divided—old or new—cannot be allowed to stand.

PAYING ATTENTION TO THE GOOD STUFF

So far, we've limited our assessment discussion to scanning for potential problems. But let's not forget about the other end of the spectrum. It's also important to assess what is going well, and take the time to reinforce it with recognition and appreciation. Pay attention to such things as:

- Decreases in the number of rejected or dismissed RFIs by the architect for insufficient vetting
- Decreases in the number of outstanding PCOs, billings, etc.
- Increased rate of timely billings
- Increased amount of early billing
- Decrease in the time it takes to find current drawings
- Increase in the number of job walks taken by PMs or engineers with field personnel
- Overall increase in the number of interactions in the trailer (subsequent decrease in the amount of time people spend working in silos at their computers)
- Actual compliments (verbal or written) from the owner, A&Es, or city officials
- Increase in the number of questions asked in the staff meeting
- Decrease in the number of failed deadlines

- Increase in the number of long lead items successfully identified and procured
- Decrease in the percent of failed tasks on work plans per week
- Decrease in staff-to-volume ratio
- Increase in overall productivity rates
- Decrease in the amount of times people seek you out to complain about others (with a proportional increase in time that they spend interacting with or complimenting teammates)
- Increase in the amount of time people spend positively challenging one another to give their best or holding others accountable

And because we are not just doing all of this out of the goodness of our hearts:

- Increase in profitability

All of these are fantastic indicators that the team is firing on all cylinders. Make sure that your team knows that you have taken notice of their high level of performance and teamwork, and encourage them to do more of the same. Waste isn't eliminated by chance, so their efforts should be amply acknowledged.

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18

Managing External Partner Anxiety and Anger

No, this chapter isn't devoted to the fine art of meditative breathing, deep tissue massage, or high-octane aromatherapy. But it is about something that we all struggle with to varying degrees, all day, every day. And that something is *anxiety* and its first cousin, *anger*. The more thoroughly you understand the workings of anxiety and anger the more effective you will be with your external owner, architect, and subcontractor partners—and the more adept you'll be at preventing flow stoppages.

Imagine a situation when the owner becomes anxious about how you are executing a portion of the work and begins to scrutinize your every move, and in response, you become defensive and decide to stop being transparent about your execution methods. In turn, this provokes the Owner to demand an "emergency" meeting that quickly turns into an interrogation, which causes you to shut down and only provide yes and no answers. Sound at all familiar? This is how one person's anxiety can trigger anxiety in another, to the point that information ceases to flow, approvals and payments are withheld, and workflow is ground to a halt.

We typically associate the word *anxiety* with some sort of disorder. But in reality, if you are alive, you experience anxiety on a regular basis. It is the state of arousal that stokes our sense of urgency when deadlines loom and gives negative reinforcement its kick. Without anxiety, exploiting our fears would be impossible.

In the past 20 years, neuroscientists have given us a much better glimpse into how our thinking works in relation to our emotions. While it has been understood since ancient times that we have both rational and emotionally reactive sides to our personalities, until recently, they were always viewed as disparate functions—one having little to do with

the other. Hence, Descartes' assertion, "I think, therefore I am." But current research has proved this dualistic view false. As Daniel Goleman, the author of *Emotional Intelligence*, asserts:

> The lopsided scientific vision of an emotionally flat mental life—which has guided the last eighty years of research on intelligence—is gradually changing as psychology has begun to recognize the essential role of feeling in thinking. (2005, p. 41)

To grossly oversimplify, we literally have not one but three brains, layered one on top of the other. The outermost brain—the neocortex—is where complex tasks, such as interpreting blueprints, BIM models, and contracts, are processed. It is this area of our brain devoted to reason, logic, mathematical and artistic ability, and intellect. The innermost portion of our brain—the brainstem—regulates breathing, circulation, and other automatic responses (including the activation of our fight-or-flight response) that largely reside outside of our consciousness. These two areas of the brain are connected via the limbic system, or our middle brain, which includes the prefrontal lobes and the amygdala and serves as the seat of our emotions. It is this area of our brain that processes input from the body and converts these signals into emotions. So, rather than being separate, our brains are hardwired together to take in sensory input, interpret it, and respond (appropriately or sometimes inappropriately), and this is particularly true when faced with perceived threats. Electrical and neurochemical signals pass back and forth between our thinking and reactive brains—often in just milliseconds—and all this is registered as memories by our emotional brain. Our reactive brain takes over in order to get us out of immediate danger, our rational brain processes pertinent information and stores it in order to help us avoid similar situations in the future, and our emotional brain stores the resulting feelings so that—in the future—we can mobilize at a moment's notice. As Goleman states:

> When an emotion triggers, within moments the prefrontal lobes perform what amounts to a risk/benefit ratio of myriad possible reactions, and bet that one of them is best. For animals, when to attack, when to run. And for humans … when to attack, when to run—and also, when to placate, persuade, seek sympathy, stonewall, provoke guilt, whine, put on a façade of bravado, be contemptuous—and so on, through the whole repertoire of emotional wiles. (2005, p. 25)

As much as we might like to believe that our actions are guided by pure reason alone, this just isn't the case. The truth is that our rational brain is often hijacked by our limbic system. This is why, when reason has been restored and we look back on ourselves after "losing it," we often feel like we were a totally different person because, in many respects, we were. The relationship between the rational and the reactive mind is even more complicated when we look at how we arrive at decisions. Antonio Damasio, a neurology professor at the University of Iowa, has studied the relationship of emotion and decision making in an unusual set of patients—those with lesions in the amygdala—an area in the brain specifically responsible for processing emotions. Though intellectually intact (as measured by IQ testing pre- and post lesion), their lives quickly began to unravel. Within a year of diagnosis, many of these patients often lost their jobs or their marriages fell apart. What was the reason behind the unraveling? Though their intellect was unchanged, they now lacked the ability to process emotions effectively, and as a result, their decision-making ability suffered. Well-reasoned decisions are dependent on our ability to process emotions effectively. We have to feel our way through decisions in order to make good ones. As it turns out, reason and emotion are closely tied. What Damasio's patients experienced was a severing of those ties. Since they could no longer anticipate the emotional impacts of their decisions, they usually made poor ones. For instance, since they could no longer anticipate feeling badly should they arrive late to a meeting or fail to deliver on a deadline, they did both with alarming frequency. And since their ability to edit verbal comments is regulated by the same system, both their work and personal lives suffered whenever they blurted out the first thing that came to mind. It wasn't long before both their bosses and spouses lost patience with their thoughtlessness and severed ties of their own. When it comes to effective everyday decision making, it's "I think *and* feel, therefore I am."

So, what does any of this have to do with our job sites and our relationships with our external partners? Well, just about everything.

Let's use a hypothetical example: Let's say an electrical contractor has just been awarded a contract on a multiphase public school project that is scheduled across a 10-year span. Needless to say, they are pleased about having been awarded the work, but it's not the high-end, fast track, high-tech, tool install type job that truly gets their juices flowing. Given the amount of time that they have to plan, and the long duration of the project, it's not surprising that their sense of urgency is not

activated. (It's the same thing that happened when you were assigned a term paper in September, but it wasn't due until December.) When we experience too little anxiety we're generally not aroused enough to be able to fully engage in new tasks—we simply lack the emotional impetus to focus with any passion. So, our motivation to plan the work never quite kicks in, and opportunities to get ahead of the job start to go by the wayside.

During this same time period, the Owner has received updated cost projections from the General Contractor (GC) based on their revised internal estimates—and the numbers aren't pretty—particularly on the electrical side. This prompts political factions within the ownership group—i.e., those removed from the day to day management and who had been skeptical about the project from the start—to cast serious doubt as to whether their managing partners can exert sufficient control over the GC and Subcontractors to keep costs down. As a result, the anxiety levels among the Owners are now running dangerously high.

Now, let's fast forward two weeks to the first serious meeting among the Owner, the GC, the architect, and the primary subcontractors. On the owner's side, the tension is palpable, while a glance over to where the electrical subs are sitting reveals broad smiles all around. So, is it really a surprise when the owners get wind that the electrical contractor has barely cracked open the drawings that they explode, while the electrical contractor leaves the room believing the owners are lunatics? Given their contrasting emotional states, how could the exchange have gone any other way? After all, for the past two weeks the electrical subcontractors have been living comfortably in their neocortex, while the owners have been flooded with anxiety generated by their overcharged limbic systems. And because the subcontractor can't feel the emotions of the owners, they experience their explosion as irrational. Similarly, since the owners can't feel the emotions of the subcontractor, they misinterpret their sense of ease as cavalier, wasteful, and disrespectful.

So, how can we regain our balance in such emotionally mismatched situations? First is by understanding some basics about anxiety and its influence on performance. The second is to better understand the relationship between anxiety and anger and to utilize the same principles that helped build our internal teams with our external partners.

ANXIETY AND PERFORMANCE

The relationship of performance to anxiety forms an almost perfect bell curve (Figure 18.1). We perform best when experiencing a moderate level of anxiety. If we experience too little anxiety (low arousal), we often perform well below our capabilities. But if we experience too much anxiety, we "flood out" emotionally and also perform poorly.

   This over/under pattern is directly tied to the internal survival mechanism that is preprogrammed in all of us. Believe it or not, 85% of our brain is hardwired for the fight-or-flight response. That means that our brains are specifically designed to take in data from our sensory apparatus—our eyes, our ears, our sense of smell, our sense of touch—and if danger is detected, translate it into immediate action. This is a vestige from our tribal days when lions—not deadlines—were our greatest worries. Fight or flight works like an on/off switch, triggering the secretion of hormones and blood sugars that get our hearts pumping, our muscles moving, and our brains scanning for escape roots. A highly charged arousal response is perfect if you have to get away from a lion but not so great for long-term stressors where reason, logic, and planning are required. Conversely, when our senses don't detect a threat (or the lion gets somebody else), our systems shift to neutral, idling to conserve energy for when it is needed in the future. Therefore, our lack of urgency in the absence of danger is not
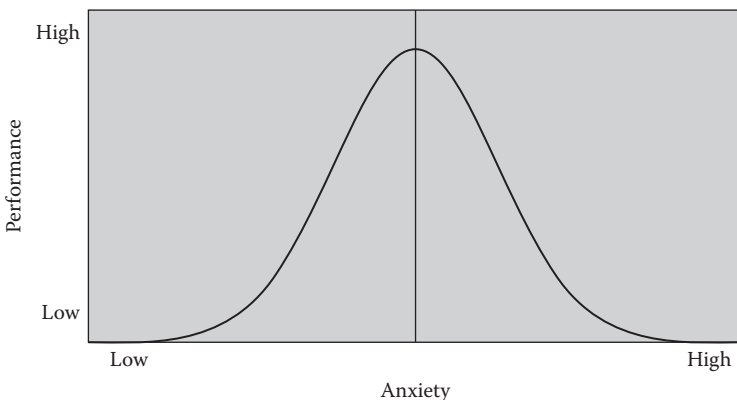
FIGURE 18.1
Anxiety and its relationship to performance.

laziness—it is actually survival enhancing. Again, this is great for living in a jungle, but not so great when working on a 10-year project with a lot riding on it.

The question then becomes, what is the optimum level of anxiety for people to experience and still perform well? The answer is somewhere in the middle of these extreme states, where arousal is sufficient enough to trigger engagement, but not so much that emotion takes over and completely hijacks reason. Unfortunately, establishing this ideal state is difficult, as it varies from individual to individual. Some people are knocked off kilter by the slightest criticism, while others require a smack upside the head just to get their attention. Even within individuals, this ideal state varies. I've known highly confident superintendents who unwaveringly handle compressed schedules with ease, but became excuse-making puddles of goo at the prospect of giving a presentation in front of their peers.

Going back to our example, armed with the above knowledge, it will become vital for both parties not to assume that their emotional state is the correct one (implying that their partner's is the wrong one). In order to "meet in the middle" both parties will need to show vulnerability. (The "managing" owners need to be more up front about the political dangers they are facing; the electrical contractor needs to admit that they have not understood the political ramifications of the project and that they need to step up their game.) If both parties can do this, they will have a decent shot of moving the project forward quickly. If not, we know all too well the waste that is incurred when each party decides to run with their assumptions or defend their positions.

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WHEN ANXIETY TIPS INTO ANGER

As Ben Franklin aptly put it, "Anger is never without reason, but seldom a good one." Anger is triggered by a sense of endangerment. But as Dolf Zillmann, a psychologist at the University of Alabama, notes:

> In humans, endangerment can be signaled not just by outright physical threat, but also, as is more often the case, by a symbolic threat to self-esteem or dignity: being treated unjustly or rudely, being insulted or demeaned, being frustrated in pursuing an important goal. (Emotional Intelligence, 2005, p. 60)

This, then, is the critical component for when anxiety tips over into anger. Not only is the limbic system fully charged for action but it also hijacks the neocortex into giving justifications for our aggressive impulses, based on a perceived threat. As Goleman notes,

> The amygdala may well be the source of the sudden spark of rage…. But the other end of the emotional circuitry, the neocortex, most likely foments more calculated angers, such as cool-headed revenge or outrage at unfairness or injustice. (2005, p. 59)

What makes all of this more difficult is that, unlike sadness, anger is energizing. It feels good to be in its grasp and do battle. But it is in the midst of such takeovers, Goleman argues, that we need to increase our emotional intelligence.

This means that despite our biology, we, at the job site level, need to understand how, in the long run, ongoing battles, fueled by emotion, can lead to workflow disruptions, lost productivity, and lawsuits.

So what can you do when the heat of the moment threatens to overtake what could otherwise be a solid working relationship?

Much of what you can do to defuse such volatile situations centers on the same principles that you employed with your internal team: empathetic listening, extending invitations of trust and commitment, and exhibiting the willingness to engage in healthy conflict. It also involves doing what feels counterintuitive. When we're physiologically armed for battle, the last thing that occurs to us is to be vulnerable and collaborative. We want to build silos and sling arrows, not let opposing parties in. Yet, this is what will lead us to the "win-win" solutions that we need to seek. The trick is to identify when a state of arousal is about to tip into the nonproductive high-anxiety zone earlier on and engage in countermeasures to help move it back to a more moderate level of anxiety.

As described in the continuous assessment chapter (Chapter 17), a predictable "tell" for an owner that their anxiety is on the rise is when they begin to scrutinize your decisions, work plans, or schedule. They can often display their rising anxiety by becoming sarcastic, belligerent, or controlling—or by insisting that every prescribed policy and procedure as outlined in the contract be followed to the letter of the law. As a last resort, they will threaten to zip up their wallets until they are indeed heard.

For their part, while being some of the most brilliant and creative professionals on the planet, when highly anxious and teetering on anger,

architects often become conflict avoidant and passive-aggressive. I've witnessed the following with a fair degree of frequency (extracted from one of my own assessment reports):

> Rather than phoning the GC's PM and telling him directly that they were displeased with his team's lack of vetting of requests for information (RFIs), the architect simply stopped responding to RFIs, assuming that this would be sufficient to convey his displeasure. Rather than getting the message, the GC viewed the A&E as withholding vital information and unnecessarily delaying workflow; thus, the war between these two entities began.

If your external partners display any of the above behaviors, please resist the urge to interpret this as confirmatory evidence that they are unworthy of your empathy, understanding, or effort. They are simply human beings acting in ways that are all too human. Take a step back and try to gain some perspective.

UNDERSTANDING THE OWNER'S PERSPECTIVE

While owners can appear demanding and unrealistic, and often seem to want the impossible accomplished overnight, and for no additional cost, it is important to look at things from their perspective. What would be important to you if you were in their shoes? Certainly, you would want to know that you were getting value for what you are paying for. In fact, this is usually at the core of an owner's greatest anxiety: that project costs will keep escalating, and in the end, they won't get anything close to the building that they were hoping for. Also, like you, owners are accountable to someone else—be it a board of directors, stockholders, regulatory agencies, or the bank that is holding their loan. Therefore, such things as escalating costs or slipping schedules, in their eyes, become very real threats to their existence. So, how do owners usually attempt to manage their anxiety in the face of such threats? Like anyone else: by trying to rid themselves of it by either taking control or demanding a plethora of data that creates an illusion of control. They'll want to see an updated two-week look-ahead schedule and budget updates. And if they don't get any of these, they'll insist on having meeting after meeting to ascertain the accuracy of the dribs and drabs of information they are getting and to micromanage

the work that is in the cue—regardless of the workflow disruptions that occur as a result. As their pitch rises to a frequency that only dolphins can hear, it is important that you understand the role that you are playing in their escalating behavior and meaningfully address their worries and concerns by demonstrating your willingness to hear them and empathize with their angst. As hard as this may be to hear, in many ways, we only have ourselves to blame for the disruptions that they cause.

JOINING THEIR ANXIETY RATHER THAN RESISTING IT

The last thing you want to do in a situation where the owner's anxiety is running high is to casually dismiss it or become countercombative. In these moments, it is important to remind yourself that your goal is not to wage war, but to move the situation from a state of emotional hijacking to the place where reason and logic can once again prevail. Here is a little secret that you can take to the bank: the more assured the owner is that you and your team have their best interest at heart, the more likely it is that their anxiety will reduce to levels where they can actually hear your plan. So, rather than dismissing their concerns with the perfunctory "we've got it covered," step up and demonstrate *that you actually do* have it covered. Repeat back their concerns until they no longer feel like they have to fight to get heard. Then make sure to use one of the primary tools at your disposal to fully calm their fears—a fully integrated schedule. But to successfully implement this tool, you must go one step further. Owner anxiety is often triggered when they ask how a specific activity is tied to the schedule, and instead of hearing back a specific answer, they are told, "Gee, that's a good question." This leads them to believe that you don't really have your arms around the project, and their fight-or-flight response will become fully armed. Make sure that your team is able to answer any and all questions pertaining to their area of responsibility per the schedule. For example:

> Let me make sure that I am hearing you correctly; you are concerned about window installation interrupting the overall schedule—is that correct? Here is what we are doing about it. As you can see on the schedule, window installation will begin June 8. Our lead engineer identified early on that there was a long lead time for this item since it was coming from Australia,

which is why she pushed RFIs and decisions in March, which we got. As you can see from the documentation, the buy-out has been complete for some time, and we received confirmation that the correct items had been shipped last week. So, barring any unforeseen circumstances, like the ship getting held up in customs for an inordinately long time, they are scheduled to arrive on site on May 20—two weeks prior to the installation date. We didn't want to cut our just in time delivery date any closer, just in case there were any transit issues.

This is the kind of information that the owner not only wants to hear but *needs* to hear, and it sounds a lot better than "we got it." If you were in their shoes, wouldn't this go a long way to allay your anxiety? And, because the quality of your communication was so high, they will be far more likely to back you if something unforeseen does go wrong.

It is important that you *not* interpret their need to know as an affront to your professionalism. It's just their anxiety grabbing hold of them and not letting go, and it won't go away until you satisfy this need. Insisting that "we've got it covered" without providing some form of proof just doesn't cut it. And yes, in anticipation of your question, some owners are needier than others; that's just how it is. As stated earlier, we are all wired differently when it comes to anxiety.

Of course, all of this presupposes that your team is actually working off an integrated schedule. Don't laugh; there are plenty of project teams that fail to produce a meaningful schedule and then are incredulous when the owner goes ballistic. I'm not terribly sympathetic to their plight when this occurs.

GO THE EXTRA MILE TO FULLY UNDERSTAND THE OWNER'S NEEDS AND CONCERNS

At the outset, make a point of asking the owners about what is most important to them and what they are most worried about. Don't assume that the answer is always the same. During a Lean partnering session, I asked the GC and Architect to state what they thought was most important to the owner. They gave the standard "on time, on budget, to design" answer. When the owner was asked whether they had hit the mark, to everyone's surprise, he frowned. "To be perfectly honest, you could build this building ahead of schedule and below cost and not give us what we

want—at all." As looks of incredulity washed over everyone's faces, he continued: "You need to understand what this building represents to us. We're a biotech campus at a public university, which already puts us in a difficult position. We're competing for scientists against high-paying, top-notch companies from all around the world. This will be the first building these prospective colleagues will see. If it isn't flawless; if it doesn't wow them right away and make them want to come here, in our eyes, this building will be a failure." When asked what he believed would ensure a successful outcome, he said, "I'll be blunt. We spent a lot of time and money vetting the design. We don't want this building value engineered or built on the cheap just so you can maximize your savings participation. We want quality, and we want it built precisely to the specifications so the wow factor will remain intact." Good to know, right?

I've seen a remarkable number of projects, run by technically talented people, go awry simply because the leaders failed to ask a few simple questions. As pointed out earlier, assuming that you know what someone wants—then getting it wrong—breeds mistrust. As a quick example: I was brought in to provide services for a $1.1 billion project where the Owner and GC were at each other's throats—almost literally. I was explicitly told, "We like your psychology background, because we don't want partnering; what we need is an intervention." As it turned out, the primary conflict centered on a simple misalignment: The GC assumed that since this was a public job, the budget was a primary driver for the owner. But each time they value engineered the job and found a cost savings, the Owner went ballistic—accusing the GC of attempting to line their own pockets via savings participation clauses in their contract. The GC came away from these interactions feeling like they had gotten beaten up for doing a good job of looking after the owner's best interests. The problem was, on this project, the budget was of secondary importance to the Owner. What the Owner's PM's were being judged on was the quality of work and finishes, and whether or not the "brand" was being upheld. If the GC team remained out of alignment with the Owner, they were going to continue to walk straight into a buzz saw. (For their part, the Owner needed to be more explicit about what the quality target was, rather than hanging back and playing "gotcha" after the fact.)

And the same holds true in terms of what is important to an Owner on the cultural side as well. A GC lost out on the second phase of a project, even though the first phase finished successfully—at least in terms of the

on-time, on-budget, to design criteria. When their business development folks asked why, they received an answer that they didn't expect.

> Frankly, we were frustrated with your team. We told them, up front, how important it was for us to be kept in the loop—how much our end users needed to know what was going on and have input. But every time we asked questions, the typical response from your team was, "We'll have to get back to you on that." That in itself wouldn't have been a problem—we expect people to check their facts. The problem was they never did get back to us. In fact, there were times when your team seemed downright annoyed by anything that we wanted to know. We simply don't accept that. So we're going with another GC. They may not have your technical resume, but we've already gotten the sense that they'll do a much better job of keeping us informed and will be far more collaborative in their approach.

Ouch. Just goes to show that it's not always about price for some Owners. It also demonstrates how anger can take many forms. There is no better way to get even with a company that you believe has ignored your needs than to not award them the additional work that they thought was coming their way.

OWNER ANXIETY AS A MATTER OF TIMING

Lou Brugantti in his course "Building Excellence" notes that owner anxiety is usually at its highest when general contractor mobilization is at its lowest points—at the very beginning and very end of the project. Owner anxiety is at its lowest levels during the middle phase, when the GC is fully mobilized. And this makes perfect sense emotionally (Figure 18.2).

As the bids come in, the owner is starting to come to terms with the full impact of real versus estimated costs, and regardless of their sophistication, will experience a significant spike in their anxiety levels. Conversely, at the end of the job, when additional costs to close the job are coming to light (or the end date appears to be in danger of slipping), there is another spike of anxiety—particularly if the GC has started shifting their personnel to other projects. I've actually heard Owners say that they have felt "abandoned" at the end of jobs; some have gone as far as mandating coverage at the end of jobs as a stipulation in their contracts.
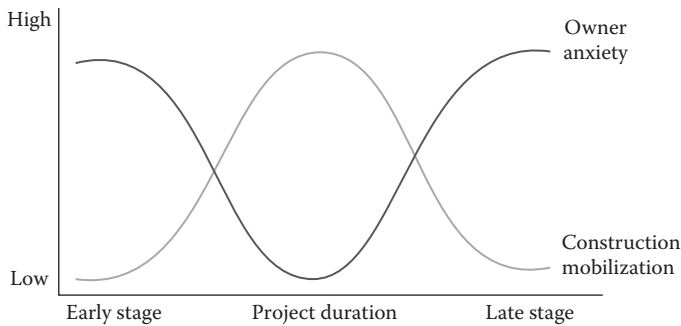
FIGURE 18.2
"Build excellence" owner anxiety analysis.

This last point helps explain the volatility (and shear folly) of waiting until the very end of a job to deliver bad news. This is the surest way of leaving a sour taste in the Owner's mouth, regardless of the eventual outcome of the project. It is the one thing that will stick in his or her mind and will greatly jeopardize future prospects. If you anticipate bad news, speak of it when owner anxiety is at its lowest point—when you are fully mobilized—and well before options have become limited and much more expensive to fix.

ESTABLISHING CLEAR BOUNDARIES

In the spirit of providing great customer service, I've seen many a GC and subcontractor overstep their boundaries and go well beyond what was outlined in their contract. As a result, their ability to execute the work that was in their contract became compromised. Besides doing work that you are not being compensated for, this overreaching creates another problem; it establishes a false baseline of expectations in the owner's mind. The additional services that you are "throwing in" as an act of good faith will now be expected of you and your team throughout the duration of the project. Later on, if you try to recalibrate your performance in line with the original parameters of the contract, the owner will view this as a takeaway, and you'll likely be accused of no longer doing your job. This is a complete misperception, but no amount of explaining will alter their view. Again, there is a fine line between being accommodating and overprocessing.

Fortunately, there is a tried and true remedy for this problem: Know your scopes. Anything that impinges on your resources to the point where you cannot do the job you were hired to do should not be taken on, unless the original contract is amended. For instance:

> We can do the additional financial and safety tracking and reporting that you are now requesting, but this is well outside of the scope of our original agreement, and well beyond the industry standard in both cases. We will require additional staff resources to accommodate it. If you are willing to pay for additional staff, we would be more than happy to provide these services. If not, we'll need to stick to our original reporting agreements as outlined in the contract. Otherwise, our staff will be stretched way too thin, and won't be able to perform the duties that are within our scopes at a high level.

KNOWING WHEN TO SET LIMITS

At this point in the discussion, you've probably come away with the impression that I believe all conflicts that arise between Owners and Contractors are entirely due to inattentiveness or insensitivity on the part of the contractor. I know all too well that this certainly is not the case. I have personally witnessed absolutely appalling behavior on the part of owners and owners' representatives, which seemed to arise purely out of the belief that, because they write the check, they are entitled to treat others any way they see fit. In such extreme circumstances, waging war for the sake of what is good and right is not only justified but necessary. But this must come from a place of measured reason versus a limbic storm. Let me give you an example.

An owner's representative for a college campus dormitory project took self-admitted pride in making the lives of contractors miserable. He often bragged about the number of subcontractors that he had put out of business over the years, and thought himself clever and gifted at "being able to beat them at their own game." The reality was that he was neither clever nor gifted; he was simply a skillful bully. He often used the most appalling language during Owner-Architect-Contractor meetings and relied on making outrageous and humiliating accusations in order to get his way. Sadly, his behavior was considered effective by the owners who hired him, most of whom were oblivious to the "asshole tax" that

companies tacked onto their bids when they found out who the owner's rep would be. At one point, his behavior became so extreme (he cursed out a young female engineer publicly for speaking out of turn) that the PM for the GC decided that enough was enough. At the next owner/GC meeting, the PM set a tape recorder on the table in front of him. When asked why, he didn't hesitate. "We're here to do a job, not to be verbally abused. I'm open to hearing your concerns, and if you personally have a bone to pick with my staff, I am all ears. But I'm not subjecting my staff to Mr. X's verbal tirades and wild accusations any longer. If it continues, I'm going to assist my employees in pursuing a claim of creating a hostile work environment against him." It should be noted that the PM did this with full knowledge and endorsement of his top management—and the blessing of the owner—who had finally grown weary of the owner's rep's tirades—but was too reluctant, for political reasons, to confront him directly. Whether or not such a tactic would have stood up in court is uncertain, but the PM was successful in getting the owner's rep removed to a behind-the-scenes role, thus shielding his staff from future unwarranted barrages.

From a Lean perspective, it is also important, at times, to challenge the owner's thinking. In the above example, while the owner's rep's bullying may have helped him to win the occasional cost battle, the costs incurred due to workflow stoppages lost the cost war. Whenever people spend more time defending past actions than on planning new ones, opportunities to provide value-added savings are lost.

HEADING OFF THE RAGE TRAIN

In most instances, when owners behave badly, it is because their fight-or-flight response has been so fully activated that they are unable to articulate the thinking behind their emotion. Again, this occurs whenever someone perceives that his or her status is under threat. In our business, this usually centers on money, and this is particularly true whenever one party feels like the other is taking advantage of them. As most of us have experienced first hand, whenever our stash of cash is threatened, we tend to react aggressively. But if we choose to respond in kind, this will only provoke an even more heightened response, and like an out-of-control freight train, will threaten to take out everything in its path. Head this off by giving the Owner the

benefit of the doubt (assuming best of intentions)—even if they are acting badly—and demonstrate your willingness to explore the root cause of their angst:

> I can see that you are very upset, and believe me, that is not something that I take lightly. But to be completely honest with you, I'm not entirely clear what you are upset about, because it sounds like we are arguing about two different things. Can we both pump the brakes, take the issues one at a time, and sort this out so we can get to the bottom of what is causing the problem from your perspective?

If you've tried everything you can think of to defuse the situation, and the behaviors (typically screaming and yelling) continue, it's perfectly acceptable to pack up your stuff and say:

> I'd like us both to take the opportunity to calm down so we can get to the root of the problems, rather than continue to tear each other apart. Personally, I'm too charged up, and I know this isn't helping the situation. It's 11 a.m. Could we try this again after lunch—say, 1 p.m., or whatever time works for you?

You'll be surprised how often this method works. Despite protests to the contrary, most people in construction don't enjoy when things turn ugly. But their brains are so hijacked by emotion that they feel doing anything other than continuing to battle is somehow akin to losing, so they won't disengage. In truth, most people are relieved when somebody has the guts to call a time-out so that everyone can regain their composure. And notice the language that I'm using here. Trust me, if you tell someone that *they* need to calm down, this will only anger them more. But if you say that *you* need some time to cool down, most people will honor that. And believe it or not, they will respect you for doing so.

Here are some additional tools that you can use:

- Don't respond to accusatory emails in kind. If you do write a reply, wait 24 hours before hitting "send." Ninety-nine times out of a hundred, you'll edit substantially. Related to this, ask yourself what you are trying to accomplish via your email. Again, wait 24 hours before answering so you can give your brain time to function more rationally.

- Restore your sense of purpose. Remind yourself that you are not on site to win battles, but to help someone else's dream become a reality—for all the good and the bad that this entails.
- Correct your own funky thinking. If you catch yourself thinking "Who does he think he is? I'm nobody's punching bag!" or "They think I'm a lying jerk? I'll show them who the lying jerk really is!" it is time to recognize that your own fight-or-flight mechanism has become fully armed, and to invoke a self-imposed moratorium on taking action. Give yourself time to talk yourself off the precipice. Vent to someone you trust, but when doing so, don't build a case in your head that justifies retaliatory behavior. Keep working toward the *best* "win-win" solutions.

UNDERSTANDING THE CONCERNS OF THE ARCHITECTS

I've heard every criticism about architects under the sun:

- They don't care about constructability; all they care about is aesthetics.
- They could care less about the cost; they just want the building to look pretty.
- They are unresponsive; they don't give a damn about the impacts that their delayed responses cause.

While, on a case-by-case basis, there may be some validity to these accusations, collectively, architects, in my experience, are often convenient scapegoats for inefficiencies and waste generated at the owner level, while their own needs and concerns are usually least taken into account.

In our current state, we are demanding a crushing level of information from architects, and we are demanding it be provided within shorter and shorter time frames. And with the advent of more and more technology, we also seem to be carrying around more misperceptions in our heads as to what is doable. 3-D platforms such as Revit evoke the promise of delivering a revised product with a click of a button, when in actuality, changes are painstakingly slow and labor intensive to administer. As one architect put it, "Once plans are in CD, making changes are a bit like hitting the delete key 20,000 times." Keep in mind that this information overload

is not resulting in a faster and better product. Again, the Empire State Building was built in thirteen months, with a plan set that was roughly four inches thick.

If this weren't enough, most construction professionals are completely blind in terms of what is important to the architect.

Again, try to walk in the architect's shoes. If you were them, what would you care about? Most architects care a lot about what other people think. They have to. Their aesthetic sense isn't just a point of pride; their future depends on it. When all is said and done, no one in the community will care that the building was value-engineered so the owner could save money and the contractors could increase their savings participation. The building will be judged almost entirely on its aesthetic qualities. If it looks substandard or out of place, this albatross won't be hung around the owner's, GC's, or subcontractor's neck; it will be tied around the architect, which in turn, will negatively influence their future sales. So, can you blame them for balking at your cost-cutting ideas that downgrade the building's aesthetics to an easy-to-build box?

There is also a pragmatic reason for their obstinacy. While the GC and subcontractors are on the hook for latent defects for a legally specified duration (10 years in California), the A&E is on the hook for life. That's why they are so rigid about their engineering and design criteria. They can be sued in perpetuity if, at any point, the building fails.

DESIGN AS AN EXPRESSION OF VALUES

But there is another factor at play, and it has to do with customer satisfaction and values. It is a complete falsity that architects don't care about the budget. They do. But to them, their design symbolizes something beyond budgetary considerations. The design is their statement—a promise if you will—and conveys to the client that they listened carefully to what they said they needed and wanted—in both aesthetic and practical terms. So your efforts to alter the design aesthetic, which to you might seem benign, or a well-intended attempt to better satisfy budget and schedule demands, won't feel that way to the architect—at all. They will feel as though they are being asked to break their promise to the owner. And anyone who cares about their integrity will fight to defend it when placed in a position of compromise.

Most architects want to be viewed as an integral part of the decision-making and problem-solving process throughout the life of the project, and want to be included in budget and scheduling issues, rather than be viewed as an impediment to the building process. They don't like being pushed aside or relegated to the role of mere RFI responders. Complicating this desire is the fact that much of the architect's fee is spent during design development, thus giving them the appearance of being disinterested during the building process, when in fact they are trying to conserve their own finite resources. The challenge is to find economical ways to bring the architect back into the process.

The trickiest cultural piece for GCs and subcontractors to deal with is when architects are angry, because this won't come out overtly as it does with your other building partners. Years of walking the tightrope between owners and GCs have shaped their behavior, so, when angry, they will tend to respond passive-aggressively—choosing to resist rather than becoming overtly aggressive so as not to jeopardize either relationship. The problem with taking such an indirect stance is that it actually provokes the opposite response. Passive-aggressiveness actually provokes overt aggression in others. Generally, we don't like it when someone either talks behind our backs or chooses not to respond. The difficulty when experiencing such covert behavior is to not lash out. You will have to work hard to remind yourself that the goal is to keep the architect actively engaged versus treating them like a necessary evil—even though your instincts will compel you to want to attack or exclude them. To counter this, do the following:

- Invite the architects into constructability and budgetary discussions.
- Ask for *their* cost savings ideas, that is, changes that *won't* compromise the overall design but will still save the owner money.
- Do mock-ups to get subcontractors excited about the design so that they will *want* to honor it.
- Ask the architects *directly* why they have stopped responding to RFIs or are otherwise appearing to resist the building process. (In other words, help them to articulate their anger in more direct and helpful ways.)
- Invite their vulnerability and seek to understand their point of view. (Have they stopped responding to RFIs because they are out of money? Short on staff? Upset about insufficient vetting of RFIs?)

- When they are vulnerable, don't use it against them. (If they confess to being out of money, join with them to find ways to make economical use of their time, such as full-day design reviews of particular trades versus submitting issues one at a time.)

Remember, when the information stops flowing for any reason, the result is waste. We have a vested interest in finding ways to keep the architect actively engaged in order to keep the information flowing in both directions.

LEARNING TO OPENLY EXPRESS YOUR OWN ANXIETY

When dealing with your external partners, take the risk of being the initiator of vulnerability. This is completely counterintuitive, and is the main reason why Lean culture efforts fail across companies. When under stress or angry, we tend to want to silo and build up our arsenal in an effort to defend ourselves—not reach out and open ourselves up to further wounds. But successful contractors are able to do just that because they have discovered that covering things up only leads to more and more wasteful behaviors. So, in times of trouble, they become more open, more transparent—again, not because it feels good, but because doing so breeds trust and cooperation and maintains workflow. And when you screw up, be honest about it.

In the day to day, let them know the things that your upper management expects you to execute and be accountable for. If you're a subcontractor, remind them that your greatest risk is manpower costs, which is why you keep harping on reliable scheduling and coordination so you can maintain an even flow, and increase budget accuracy. If you're a GC, explain why prompt payment and timely decisions are so vital for keeping the process moving, which in the long run saves everyone time and money. It's important to express these because they are not only good for you, but for the customer as well. Getting all of these things will help drive waste down, and helps the client achieve greater value for their money.

But while doing this, remember the Law of Reciprocity. If you want the Owner and architect to care about your concerns, you are going to need to demonstrate that you care about theirs.

LEAN PARTNERING

I conduct partnering sessions, and I am a big believer in the process, provided that it is grounded in reality versus hyperbole. Instead of wasting time creating mission statements that nobody reads or follows, I prefer to create a space that allows everyone to identify waste and express their worries and concerns. If you feel compelled to produce a charter, I recommend establishing rules of engagement that openly acknowledge the ugly emotional and behavioral realities that can creep into the system. The goal of this is to keep the culture and building process free of flow disruptions, or to get things back on track if there is a disruption. Here is an example that the Owner, Architect, and GC signed:

We, the undersigned, agree to do the following to the best of our abilities:

1. We will keep our joint goals in the center of our focus (no private agendas).
2. We will memorialize our agreements after we reach a verbal agreement (not as a "gotcha" but in order to establish and clarify "the rules of the game").
3. We will develop a mindset that at the end of the day, it's all about the people and our relationships.
4. We will elevate issues early on, while they are still fixable (and less expensive).
5. When we need to elevate an issue, we will do so jointly, and with clear expectations (i.e., "We agree that we'll give this a week, but if we can't resolve this between us by then, we will elevate it together").
6. We will coordinate our actions. We will interact to ensure that things go right the first time, rather than working in silos and then fixing things that haven't been properly planned.
7. When we have discussions, we will ask ourselves "Who else needs to know this?" and work to include them.
8. If we are accidentally left out of a discussion, we will give our partners the benefit of the doubt, and instead of shutting down, will ask for our seat at the table of ideas.
9. We will be truthful about our needs (don't cry "urgent" when this isn't the case).
10. We will encourage passionate debate as a means of obtaining commitment. We will discuss issues passionately, but will not let issues become personal or linger because we are trying to avoid a conflict.

11. When we are confused and need clarification, we will ask for it directly (rather than sulking or complaining behind one another's backs).

12. We will listen to the needs and concerns of others and endeavor to treat them with as much care as we do our own.

13. We will strive to model and foster vulnerability. We will admit when we are having problems, don't understand something, or have made a mistake. And we will honor others when they exhibit vulnerability (rather than using it against them).

19

Generational Issues

I was reluctant to include this chapter, but since it is such a hot topic among project level managers across the country, I feel compelled to discuss it. I'm reluctant because whenever we generalize, we stop seeing people as individuals. And in so doing, we take one element about a person, in this case age, and lump people into categories that may or may not fit.

The complaints by project level managers about the younger generation run along these lines: "These kids today don't want to do what it takes to get the job done, and they don't respect those of us who do. They lack initiative and need constant direction. If I'm not there to tell them what to do, things just don't get done. Besides that, even though they have very little experience, they think they can do *my* job. Just because they know how to use a bunch of gizmos doesn't mean they know how to build or manage a job. They don't have a clue about what they don't know."

For their part, the younger generation is a bit more stoic. But when prodded, they complain that the older generation is too competitive and insular, that they do not share information freely, are too rigid in the way they do things, are too unwilling to try out new technologies, are too narrowly focused on work, and seem to lack balance in their lives.

So, who is right?

Before I comment, I should disclose that I am much closer to retirement than the prime of my career; therefore, I'm bound to hold a few biases of my own. But I don't think the generational gap that we are experiencing today is beyond the norm. Tension between generations is age old. As Plato decried some 2,400 years ago:

> What is happening to our young people? They disrespect their elders; they disobey their parents. They riot in the streets influenced with wild notions. Their morals are decaying. What will become of them?

In the 1920s, before they were known as the "Greatest Generation," their seniors opined as to whether or not "our selfish and self-indulgent youth of today would have it in them to stand together and fight against a common enemy."

I'll admit that I have met more than a few young people that have given me pause. But I have met far more who have given me abundant hope for the future. Just this week, I attended my first rock concert in years and was amazed at how polite, respectful, well-groomed, and civilized the young people were. Perhaps it's just a Phoenix thing, but they were a far cry from the drug and alcohol besotted youths that attended concerts in my day.

And at the job site, I have met scores of young people who have been more than willing to do what is necessary to get the job done. The Seattle football stadium project cited earlier was heavily populated by twenty-somethings, yet most worked well into the evening, including Fridays and weekends, doing whatever it took to do a quality job. Conversely, I've met a significant number of older workers who talk a good game, but do little to justify the high price tag that they command. Certainly, there are differences between the generations, but it is my experience that they are more a matter of degree than true distinction and, as has always been the case, are a function of the varying values and mores that are embedded within the generation in which we are raised, and by which we feel entitled to judge others.

Here are some of the differences, most of which have been fueled by overall societal changes. In the past twenty years there has been enormous pressure on young people to get along socially—much more so than in my generation where being highly competitive was the norm. From the time that most of them could walk, they have been carted off to play groups, ballet, t-ball, hockey, soccer, marching band, karate, and various other activities. An interesting artifact of all this is that the vast majority of these activities are organized, led, and refereed by adults. In short, younger people are used to being heavily governed and regulated by others. Add cleaved marriages into the mix (my niece was the only child in her San Francisco high school homeroom class whose parents *weren't* divorced), and all the schlepping from place to place this entails, and the strong demand for this generation to take direction, adjust, and simply "get along" truly comes to the fore.

I don't know about you, but when I was growing up, our parents told us when to be home for dinner, that we'd better stay out of trouble—and that was pretty much it. All of that time in between was left up to my friends

and me to figure out. And that started at the age of seven. Our parents didn't know a whole lot about what we were up to, and I think, as long as the authorities never had to get involved, preferred it that way.

So what were we up to? Besides sometimes secretly hoping that our parents *would* get divorced, we'd spend much of our time coming up with games to keep ourselves occupied. Due to less than optimum resources and facilities, we often had to devise modified versions of football, baseball, basketball and various other games. To ensure that our days wouldn't be cut short, and to keep the peace, this included making up our own rules, refereeing our own games (was there anything purer than the "do over" rule when things became hopelessly deadlocked?), amid a rather fiercely competitive environment (what's all this nonsense about *not* keeping score?).

All of this is very different from how kids are raised today, where doing anything not under the watchful eye of an adult is seemingly unthinkable. To be honest, as a psychotherapist, I'm not sure which way is better—being under- or oversupervised—as both clearly have their pluses and minuses. But what is certain is that each condition produces different behaviors, skill sets, norms, and values.

Not surprisingly then, people in my generation tend to excel at working independently, taking initiative, and figuring things out on our own. And not so coincidentally, these are the very qualities that we tend to value. Conversely, we're not always so great at sharing information or credit, working as a true team, or communicating our concerns or worries in productive ways. We are also much more prone to fly off the handle, if that's what it takes to get things done, and mend our fences later, rather than discussing things in a calm manner and finding "win-win" solutions. But on the flip side, we'll work long hours and make work a priority—even if it means making sacrifices in our personal lives.

Today's generation tends to make getting along with others a priority, has little trouble sharing information and working cooperatively, and is fairly good at expressing their feelings and concerns in a productive manner (though, at times, they can be a tad conflict avoidant). While often not well schooled in such basics as grammar and letter writing, they are incredibly comfortable and proficient at using new technologies. They also have a wide range of interests and are willing to make sacrifices in their careers to support these interests. And these are the qualities that *they* have learned to value.

There is some interesting new data coming out of the neurosciences in terms of generational differences and how technology affects our brain.

Older people tend to remember more information, while younger people tend to remember where information is stored. Both of these differences have their advantages and disadvantages. While older people tend to be better at applying what they know, they can become overwhelmed by the plethora of information coming at them, and tend to want to stick to tried and true methods of problem solving. While less effective at applying information, younger people are far less thrown by the volume of information bombarding them, and are far more open to applying new technological solutions to solve problems.

There are also some interesting differences in terms of expectations and the immediacy of results. As Brian Polis of Venture General Contracting astutely points out, "the new generation of Millennials are affecting the attention span and expecting immediate results/gratification. With that said, Millennials are also keen on working in an organization that has the people processes in place supported by Lean culture and discipline—a true paradox."

Another key difference between generations is that of affluence. The newest generation was raised in an environment of unprecedented material wealth. Even kids from poor backgrounds usually have access to color TVs, cell phones, and computers. Given all the activities that they were chauffeured to and from, and the affluence bestowed upon them (and the Kardashians as role models), it's probably not surprising that a few folks in today's generation mistakenly believe that the world revolves around them.

So what happens when people from various generations come together at the job site? Since each grew up with a different notion of what is valued, each comes primed with entirely different sets of expectations for what is acceptable behavior in the workplace—and dole out judgments accordingly. Many older workers believe strongly in the importance of self-sufficiency and initiative, while younger people believe that a highly collaborative environment is the way to go. Many older people embrace conflict as a way of life, while younger people, who were often raised in a manner where they were shielded from direct and candid feedback, are often shocked when they go through their first performance evaluation.

I've witnessed the generational divide play out most vividly, oddly enough, in architectural firms. The older architects know how to build, but they don't know the new 3-D technologies. The younger folks know Revit, but they don't know how to build. Instead of joining forces to help each other with their deficiencies, the young and the old look down their

noses at each other, each elevating their own virtues, while simultaneously elevating the shortcomings of the other group. MVE Architects has done a great job breaking down these barriers, engaging their younger architects in improvement focus groups and making Revit the standard platform that everyone has to work in. They also group their people in work pods whenever possible to foster teamwork and collaborative problem solving. Other firms haven't managed this divide quite as adeptly.

So what's a manager with some gray around his or her temples to do? First off, lighten up a bit. The young people on your projects aren't an alien race. Do you remember the adage "Don't trust anyone over thirty"? That wasn't the brightest philosophy in the world, but many of us believed it. Though they are not always what we want them to be, our young people have considerable strengths—you just need to tap into them in a little different way.

Instead of barking out edicts and expecting your young charges to fill in the blanks, this generation grasps information more effectively when they have the chance to explore it in a social setting. For instance, let's say that you are trying to get your staff to pay attention to the particulars of the contract. Rather than commanding them to just go read it, host a lunch where you hand out ambiguous portions of your contract and lead them in a spirited discussion about the vagaries of contract interpretation. This will enliven what can be a fairly dull topic anyway (and yes, this generation does like to be entertained) and at the same time, teach them some important and humbling lessons about the intricacies of construction law.

If you notice that your young people are stumbling over the same obstacles, or if you are about to enter into a new phase of the work that they have never done before, conduct an impromptu group training session. The topics can include how to read a schedule, how to write a potential change order (PCO), how to close out a subcontractor, etc. If you work in a large company, don't hesitate to ask experts from ancillary departments to conduct a brief training session in, say, cost or accounting methods.

Also, take the time to teach the broader context of the task, for example, *why* well-written PCOs, RFIs, and submittals are of such vital importance and *how* they fit into the larger scheme of the project. Also have high-quality procedural examples at the ready to serve as a resource so people will have an idea of the target that they will need to hit. And if you want to teach certain behaviors, take your staff on job walks to show them live examples. This generation was raised in a highly visual environment (TVs, movies, computers, cell phones, YouTube, etc.) so make optimum use of

such opportunities. Bob Gullickson, a VP at Turner Construction in New York City, and one of the finest human beings that you will ever meet, regularly organizes MEP learning tours where people from projects all over the city have the opportunity to meet, view, and discuss issues in vivo, followed by a Q&A afterward. Bob takes this concept one step further, creating opportunities for each "sponsoring project" to present their job to attendees per a format devised and shaped from feedback given by participants. In these sessions, Bob and the presenting team have the opportunity to describe what has gone well and what hasn't, and point out opportunities for improvement that people can take back to their own jobs. This is a Lean learning lab in the truest sense of the term.

I know that some of you are probably thinking, "Hey, nobody did any of this for me. I had to figure things out for myself!" All I can ask is, did you like it when your bosses left you to sink or swim? I'm guessing that you didn't. So why pass this mentality on? Given the complexity of tasks that we are asking our young people to do fresh out of school (do you remember the good old days when rookies only had to track one trade with a fairly low dollar amount?), I don't think forcing people to figure things out on their own is such a wise strategy.

That's not to say that you always have to hold people's hands or give them the answer. In a world where we've come to expect that the answers to all of our questions are just a click away, sometimes we need to take a different tack. When warranted, I strongly encourage you to push your younger staff to learn how to think for themselves. For instance, if the nature of their question is contractual, I recommend saying the following: "I could give you the answer, but I know it's in your contract. Go research it. Then let's meet in two hours and you can tell me what you think the right answer is."

When I cited this as an example in a training class, a young engineer shared his own experience:

> "My old project manager used to do that very thing with me all the time. To be honest, I hated him for it. I thought he was just being an a—hole for not answering my questions, and that he just enjoyed messing with me. I even thought he was going out of his way to make my life miserable because he was White and I was Latino. But a year later, I got assigned to another job—and it was weird. Not only did I know where to find the answers to my own questions, I was actually helping the new people do the same. It was then that I realized what he had been doing. Just the other day I called him up to thank him and apologize for my attitude. I hated him then; now I couldn't appreciate him more for what he did for me."

For the thorny minority who indeed believe that the world should revolve around them, and that they never make mistakes, I recommend a little different approach. Let them fail, but in a controlled way. Let them run a meeting that they think they are ready to run, but aren't. With the project executive's (PX's) or division manager's (DM's) blessing, let them put together an Indicated Outcome Report and allow the PX or DM, with a coordinated heads up, to professionally rip them apart. This isn't being cruel, provided that your true intent is to help them mature. Nothing schools arrogance more than an extra helping of humble pie—I've certainly eaten my share over the years. The quality people amid this crowd won't like this approach, but they will be the better for it and will eventually appreciate it. Those who can't handle it may leave. To be honest, that's okay. Perhaps some of them will return down the road a little wiser.

This generation deserves our help as much as we needed it from the generation that preceded ours. Through you, they will learn how to better serve the needs of their teammates and their customers. Who knows, like the PM in the story, maybe someday one of them will even call you up and thank you for it down the road. And if you are really open-minded, you might just learn a little something about cooperation and how to use more than 10% of your cell phone's capabilities.

More importantly, we have to meaningfully connect to the young people coming up in this industry. "That's the way we've always done it" in terms of how we treat one another isn't going to cut it for a generation that has choices. I see Lean as a vehicle to do this, in that it incorporates both the technical aspects that appeal to the older generation within a highly collaborative framework that appeals to younger generations. I love the Lean approach because it cuts across generational, cultural, and gender divides. Nothing unifies us better than shared goals and collaborative strategies to achieve them.

Not to go off on a tangent, but generational issues don't worry me in the least. What worries me in our country is a lack of genuine discourse. We no longer value the fact that people have ideas different from our own. When we aren't talking over each other, we're tuning one another out or talking badly behind each other's backs. And it only takes a click or two to find like-minded souls who will reinforce our own (often distorted) beliefs and reinforce the notion that it's okay to tune others out. Rather than seeing the merits of differing ideas, we are becoming a nation of extremists, brought to a crescendo in our last election cycle by both Hillary Clinton and Donald Trump. My hope resides in the fact that the vast majority of

the people I talked to found both candidates thoroughly deplorable. In this spirit, I hope that each of you will counter this trend of extremism and embrace Lean methodologies so that people will then extend this collaborative and inclusive style of thinking into their personal lives. What better place to start than by using it to break down the artificial walls that separate our generations in the workplace?

Conclusion: The Human Condition

Now that you have come to the end of this tome, you are probably expecting some sort of exhortation about how, after reading this book, everything in your leadership life will become trouble free and your organization will be on the road to eliminating all forms of cultural waste. Unfortunately, I can't do that. But why would you expect anything else? As Nietzsche said,

> Examine the lives of the best and most fruitful people and ask yourselves whether a tree that is supposed to grow to a proud height can dispense with bad weather and storms; whether misfortune and external resistance, some kinds of hatred, jealousy, stubbornness, mistrust, hardness, avarice, and violence do not belong among the favorable conditions without which any great growth even virtue is scarcely possible. (The Consolations of Philosophy, De Botten, 2000, p. 215)

What I can guarantee you is this: as long as you are in the role of leading people, you can count on being both pleasantly surprised and bitterly disappointed—a lot.

The person whose numerous complaints you worked hard to address and accommodate will unexpectedly quit, and probably at the most inopportune time. That up-and-coming manager-to-be, who sounded so humble and sincere, and a little too good to be true, will turn out to be. And there will come that day when the one person who you always thought would have your back, won't. Or the person whose back you always promised to have will one day do something so inexplicably foolish that it will be impossible, in good conscience, to stand by him. Such are the inescapable foibles of the human condition. As Seneca so wisely said two thousand years ago:

> Nothing, whether public or private, is stable; the destinies of men,
> No less than those of cities are a whirl …
> Mortal have you been born, to mortals have you given birth.
> Reckon on everything, expect everything. (The Consolations of Philosophy, De Botten, 2000, p. 91)

But if you resist the black-hole-like pull toward cynicism, I can also assure you that there will be days of unfathomable satisfaction: Like when that youngster, with tons of potential, who you stuck with despite all of his arrogance, calls you out of the blue to ask forgiveness and to thank you for the support you had given him. Or when that electrician, the one you kept bugging to put down his tool belt and join the company as a general foreman, unexpectedly comes into your office and says, "Okay, I'm in." Or that day when you walk past the conference room and hear that young lady, the very one who you thought might get eaten alive, confidently giving an overview of the updated schedule to a bunch of guys twice her age, as they listen attentively to her every word. In these moments, you will catch yourself saying to yourself, "Wow, I can't believe that I actually get paid to do this for a living!" And this is also part of the human condition.

There will be times when you'll wonder why these moments of grace are so elusive and can't be sustained with more regularity. But as said many times, and in many different ways throughout this book, people are complicated. Anyone who tells you otherwise is a two-bit fraud. But the more you take to heart the Lean culture message, the more you enlist your teammates' help, encourage vulnerability, and incorporate their inclusion, the more of these moments that you will have. But this won't happen overnight.

People arrive at our projects with a plethora of life experiences. They come to us with varying IQs, family histories, and religious beliefs. Some have traveled the world, while others have never left the neighborhood. Some believe that working hard is everything, while others believe that playing hard is all that matters. Some are parents, or take care of parents, and some have no deep connections to family at all. Some drink and party until the wee hours of the morning, while others are homebodies who have never touched a drop of alcohol in their lives. Some dream of being somewhere else, while others are content to be right where they are. Some dream of big things for their careers, while others are satisfied with the particular niche they have carved out for themselves. Some are avid learners, taking in all the information that they can, while others believe that they already know all that there is to know. Some feel that it is better to express their angst directly, while others think it is wiser to squash it down and suffer in silence. On top of this, each individual comes with his or her own unique set of beliefs about what is right and what is wrong—and is constantly judging his or her world and others against this internal standard. The combinations and permutations are seemingly limitless.

The reality is, every team, in terms of its interpersonal dynamics, is like a ship caught in rough seas; each is in need of a consistent leader who is willing to take hold of the rudder and provide balance and stability. Despite what people on a team will assert, no one is as good as he thinks he is or as bad as others perceive them to be. The true art of leadership is not to fight the currents or bemoan that they exist, but to steer a steady course between perception and reality. And despite what you may hear to the contrary, each leader must discover the best way to assume the helm for himself or herself.

So the next time someone insinuates that they know all the secrets to being the perfect leader, tell them to take a long leap off a short pier—because there are no such things. But what I have found, and perhaps you will too, is that the Lean framework provides the next best thing. For me, it provides a unique balance that takes into account both the technical and interpersonal requirements needed to be successful in this industry. Each time a situation threatens to cascade out of control, I can always manage to reel it back in, provided that I trust in the principles of inclusion, transparency, vulnerability, and empowerment. As I've said many times, I know that this is a paradoxical axiom that runs counter to what we feel we should do. But time and time again, I find that construction people, at all levels, are more than willing to help—as long as I allow them to.

But this means that we have to be willing to work as hard on the cultural side as we do on the technical side, that we have to get to know the people we work with—internally and externally, upstream and downstream, up the hierarchy and down the hierarchy—beyond the function that they execute or the title that they carry.

The fact is, leadership done well is a paradox in and of itself. Nature is completely indifferent to failure or success. Effective leaders skew this reality and imbue our endeavors—however trivial—with a sense of meaning and purpose toward some desired end. Some might suggest that it is nothing more than a well-intentioned act of deception in the same way that religion allows us to rise above life's struggles and see something beautiful in it all. Though I am not a religious person, I do see something tremendously noble and beautiful when leaders have the ability to help people put aside their personal wants, ambitions, and differences and achieve something well beyond the capabilities of any one individual. It is that same feeling that is captured in the moment when you look up at the soon-to-be-completed project and wonder how something so massive and complicated could have been made by such small crude hands. And

as impossible as it seems, you know that you played a significant part in directing those hands.

So, if you feel that you are somehow lacking in the leadership department, does it mean that you have to undergo a complete personality makeover to become one? Hardly. More often than not, it just means moving away from absolutes and extremes in thinking and actions, and understanding that this full range of emotions that we possess all have their time and place. There will be a time to yell and a time to calm down, a time to step back and a time to push forward, a time to encourage and a time to say "hell no," a time to be unyielding and a time to give generously. For each situation, and each person that we work with, there is a response that is good and true that lies within us. We just need the wisdom to find it and the courage to express it.

So, if you tend to be a yeller, maybe from now on, you'll give yourself a couple of more minutes to decide if that's what you really want to do, and if you do, maybe you'll take it down a notch or two to make sure that it is the message, not the messenger, that is being heard. Or if your tendency is to jump to conclusions, maybe you'll remind yourself to ask some additional questions to make sure that you've gotten all of your facts straight first. Or if you tend to ponder and avoid any and all forms of conflict, maybe today is the day that you'll decide to sit down and engage that person who has been detrimentally ruffling the team's feathers and set him straight on what you think is really important in terms of teamwork. Or if (egad!) you are the ultimate control freak, maybe, just maybe, you'll decide that today is the day that you'll find something—just one small thing—to let go of, and do the same each day forward. Or maybe, because you've grown tired of enabling the same broken system, today is the day that you'll muster up the courage to teach your boss the Five Whys and help the company correct the root cause that has been plaguing your projects for as long as you can remember.

Here lies yet another paradox: By engaging in these simple beautiful acts of thoughtful Lean leadership, you will defy nature's indifference. By helping the team to eliminate various forms of workflow disruptions, you will not only reduce the amount of wasted time and effort that they expend on the job but they will also be able to go home earlier and spend more time with their families.

On those dark days (and we all have them) when you feel like nothing you do is ever right, remember that you are taking part in something noble as well as difficult. Being a truly good leader means taking your

place alongside those who, in the heat of battle, remained not only strong but also selfless. History teaches us that sustainable leadership is not a lesson in bravado or brutality but in humility. It is about helping others to feel a connection to something bigger than themselves, while knowing that the qualities that you are trying to attain as a leader will always remain tantalizingly out of reach. But it is in the striving, not the possessing, that makes a leader truly great.

> A gentleman leader has nine aims: To see clearly; to understand what he hears; to be warm in manner, dignified in bearing, faithful of speech, painstaking at work; to ask when in doubt; in anger to think of the difficulties anger may bring; in sight of gain to remember right…. Effective leaders are virtuous leaders. Wisdom, benevolence and courage; these are the three universal virtues. Some practice them with ease of nature; some for the sake of their own advantage; and some by dint of great effort.

> **The Analects of Confucius (Ames, 1998)**

Confucius uttered these words more than two thousand years ago, but they still hold true today. So please, take the time to relish the rare opportunity that you have to impact people's lives, even if you find that it takes a great deal of effort.

Have faith in yourselves my good and noble friends. Once you realize that there is no way to control the complexities of the human condition other than to fully accept them, you will be well on your way to building the culture that you seek. Perhaps this final quote, often cited by Nelson Mandela, says it best:

> Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness, that most frightens us. But your playing small doesn't serve the world. There's nothing enlightened about shrinking so that others won't feel insecure. As we let our own light shine, we unconsciously give other people permission to do the same. As we are liberated from our own fear, our presence automatically liberates others.

> **Marianne Williamson**
> *A Return To Love: Reflections on the Principles of a Course in Miracles,*
> *Harper Collins, 1992*

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Index

Page numbers followed by f and t indicate figures and tables, respectively.

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