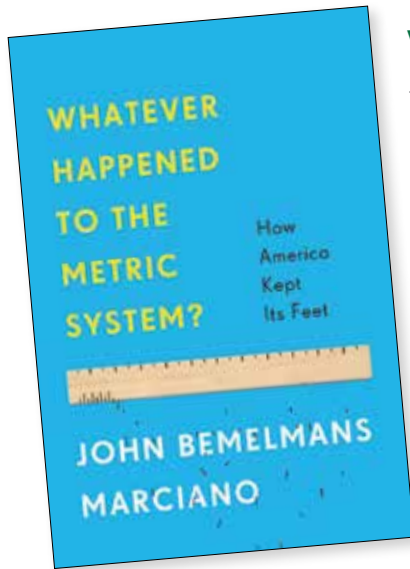


Book Review Editor: Theodore J. Weidner, Ph.D., P.E., CEFP, AIA

**T**here's more to books for facility managers than the dry, technically focused tomes that often serve as reference volumes for the office bookshelf. That said, it is important that I continue to provide recommendations of a technical nature. To accomplish that goal, this column looks at two books of very different focus and approach. One is good summer reading, the other mandatory for future survival.



### WHATEVER HAPPENED TO THE METRIC SYSTEM? HOW AMERICA KEPT ITS FEET

John Bemelmans Marciano, Bloomsbury, New York, NY, 2015, 185 pp., hardcover, softcover, and Kindle.

I have been an advocate for the use of the metric system, or International System (SI), for many years. In the 1970s I purchased the *VNR Metric Handbook*, a reference similar to *Graphic Standards* or *Time-Saver Standards*, books used by architects to facilitate planning and design projects. I also subscribed to the National Institute of Building Sciences periodical *Construction Metrication* until it ceased publication in 2001. For a while, I was preparing a department that I led to utilize SI units instead of English or Imperial units. Indeed, the entire country was headed that direction until the movement to go metric was brought to a halt.

What happened? What went wrong? Why is the United States the only major industrial nation stuck in a pre-Industrial Revolution measurement system? To some extent, *Whatever Happened to the Metric System?* has some answers. Sad to say, not all the answers, but enough so that it is an informative and enjoyable read.

First, recall that the Age of Reason, which brought about the French Revolution, numerous scientific discoveries, and spawned the Industrial Revolution, sought to find a measurement system based on nature and not on the size of the king's foot or another variable unit. There was also an effort to standardize how things were measured so that a bushel in one village was the same as a bushel in another village. Previously, such a uniform system hadn't been very important because commerce was conducted by knowledgeable traders. But after the development

of the steam engine, people could move farther and faster, and trade increased, so that local measurements needed to be standardized for fairness and better commerce.

The last big attempt to move the United States to metric occurred in the late 1970s and 1980s. Canada converted to metric, and now even England has, for the most part (remember that feet and inches are English units). But the United States stopped its efforts, at least the efforts that normal citizens feel. We still measure in feet, inches, and miles; the British retained miles, but not feet—go figure, but you can still get a pint of beer! (If you think about it, the United States uses multiple units too: soda pop comes in both ounces and liters. We all use watts, lumens, ohms, seconds, and degrees (geometry), but we don't all use meters, joules, or newtons.)

The point of *Whatever Happened to the Metric System?* isn't to make you worry about what units you're using. Whether you're on SI or Imperial (English) units doesn't generally matter—being familiar with the units you are using is more important. The most interesting part of the book may be what it tells us about the history, political intrigue, and social relationships of the late eighteenth and early nineteenth centuries. I learned plenty about the development, ascension, modification, and implementation of the metric system over nearly 200 years. I also learned a great deal about the social and political history of France, the United States, and other nations.

*Whatever Happened to the Metric System?* is a good summer read that has something for everyone. If you enjoy history, physics, or engineering, you should enjoy this book.

## DEVELOPING LEAN LEADERS AT ALL LEVELS: A PRACTICAL GUIDE

Jeffrey K. Liker, with George Trachilis, Lean Leadership Institute, 2014, 265 pp., softcover \$29.95.

We've all heard the phrase "doing more with less" probably too often, particularly if we've just been through another round of budget cuts in preparation for the next fiscal year. However, the days of doing more with less have long passed—we need to think differently; we need to think *lean*. That's where *Developing Lean Leaders at All Levels* comes in. We need to find the places where we're doing things that don't make sense, don't add value, or don't keep people focused on producing what is needed as opposed to "doing it the way we always have." Because, frankly, the way we have always done things is changing.

I've reviewed books like *Who Moved My Cheese* and *What is Six Sigma?* but seen nothing as detailed or that focuses on lean the way *Developing Lean Leaders* does. As with so many books of this kind, there are numerous stories and scenarios used to demonstrate the value of leadership, and in this case, lean leadership. But what's different and significant about *Developing Lean Leaders* is its focus on Toyota's lean methods. The book focuses totally on Toyota's methods and includes several sample forms and detailed descriptions of the techniques Toyota uses.

Rather than spending time outlining the details of the book, which is excellent but requires significant time to fully analyze, let's focus on the need for more than just a few people in an organization to familiarize themselves with becoming a lean leader. A recent article, "American Workers Rank Last in Problem-Solving with Technology," says it all (*Wall Street Journal*, March 10, 2016). Though there are a select few who develop some terrific solutions in U.S. industry, which are then marketed throughout the world at significant financial gain, the problem-solving skills of everyday managers and supervisors seem to be stuck in the same old, "we've always done it this way" mentality, rather than engaging in deeper thinking to find the root cause of a problem.

Sadly, as the article reports, we're spending too much time "fixing" perceived problems and not enough time thinking about where and what the problems really are, then using the appropriate technology for a real fix. We seem to think lots of action or computation means success, when in reality it simply means we're expending energy without paying attention to the amount of energy really required. It is an unsustainable process that we keep trying to sustain because we haven't learned lean problem-solving skills at many levels within the organization.

I see this issue at institutions, businesses, and organizations; it's perpetuated by people who claim to be smart and who really should know better.

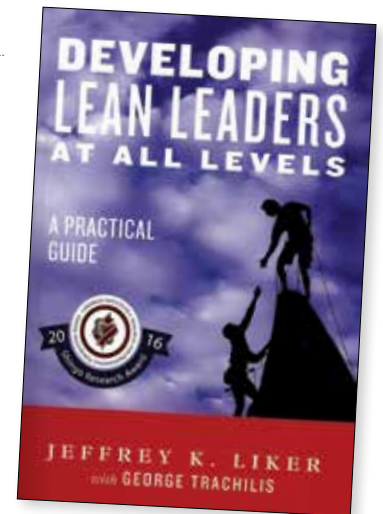
Lean is not just a different way of tackling problems. It's a different way of living and working. It also means continuous learning for self and others. Too often, we think a seminar will teach us everything we need to know to return to work and "be lean." Just as with diets, you don't stay lean by applying the diet once; it is necessary to change the way one eats.

Lean is a way of life and an attitude for solving and looking at how things are done. The day when applying lean to facilities becomes the norm is getting closer than previously thought, as U.S. and international representatives work to develop International Organization for Standardization (ISO) standards for facility management. These standards will utilize many of the tools and techniques used by APPA, including lean.

It's time to stop rushing to solutions and to start taking time to find the problems first. Utilizing PDCA (plan-do-check-act/adjust) cycles and recognizing improvement isn't a one-off effort; it is a process requiring patience and diligence. Reading and using *Developing Lean Leadership at All Levels* will help the senior financial officer (SFO) and many others in an organization deal with the many problems we face with reduced operating funds and growing capital renewal needs. ☺

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