

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

Every so often I encounter a book that is more relevant to this column than originally thought. Books that I read for pleasure and as a diversion fall in this category. To that end, I offer a book by one of my favorite authors that is both a diversion as well as an inspiration for facility officers. Sticking with the normal theme is a book that looks at the future, in general, but has clear implications for facility officers now.

THE AMERICAN SPIRIT: WHO WE ARE AND WHAT WE STAND FOR

David McCullough, Simon & Schuster, 2017, 192 pp., hardcover \$25.00, ebook \$12.99, audio book \$9.18

Most of us work in higher education and have the ability to partake in some of the benefits associated with it: athletic events, music performances, art exhibitions, and speakers on a wide range of topics.

However, few of us bother to attend a commencement ceremony to hear the speaker. It's possible it doesn't happen because the ceremony is an event for students and parents and is frequently limited to the families of those graduating, or because we are busy ensuring that it runs smoothly—very understandable reasons.

Having sat through several commencements myself, I am well aware that the speaker may not be particularly memorable despite being rather famous. But occasionally, an exceptional and thoughtful speaker makes an appearance and shares some profound thoughts. That's the case with David McCullough, a

wonderful person to listen to or read. *The American Spirit* is a collection of 17 speeches given at campuses across the United States, not all at commencements, that do what he does best—make history real and alive.

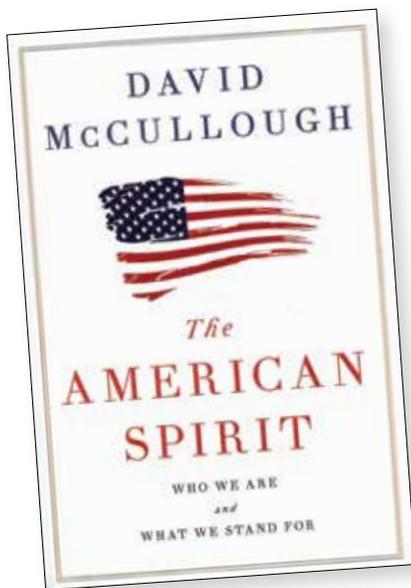
I've enjoyed reading McCullough's books for decades. I believe I have a copy of all his books, and a few are signed. Beginning with his first book, *The Johnstown Flood*, a truly horrific event in 1889, and his chronicles of two great engineering feats, the Brooklyn Bridge and the Panama Canal, he brings out the events of the time and brings the reader into the lives of the people he writes about.

In *The American Spirit*, McCullough reminds us what was notable about the people who lived and worked in different parts of the United States. Many regular people are included, not particularly different from you or me except for their character, determination, or the times that made them significant. These are stories of people who were significant not because they were particularly intelligent or athletic—although those characteristics might have contributed—but because they were focused, determined, and possibly idealistic. Each made a contribution to the events of their time and made changes to the lives of others in their city, state, or region.

McCullough is a magnificent writer of history not because of his ability to marshal facts and dates, but because of the way he weaves the stories of his subjects around those facts and dates. He can bring events to life and put us into the mind of his subjects, while ensuring that we understand the significance of those events and their effects on subsequent generations.

While *The American Spirit* is a departure from the usual subjects reviewed in this column, I found it to be important and inspiring. The people addressed in the speeches (the graduates) are the same ones whom we have served over four or more years. They are the ones who are being charged to make the world a better place. But we were the ones who helped contribute to their education through our service, and we ought to enjoy hearing (or reading) why their education was important and the possibilities they have for greatness via dedication and commitment to a worthy goal.

When I need a lift, I read McCullough for inspiration and relaxation. I hope you'll be able to do the same.



THE SECOND MACHINE AGE: WORK, PROGRESS, AND PROSPERITY IN A TIME OF BRILLIANT TECHNOLOGIES

Erik Brynjolfsson and Andrew McAfee, W.W. Norton & Company, 2014, 320 pp., hardcover \$26.95, softcover \$16.95, ebook \$8.98, audio book \$17.95

Society was challenged nearly 200 years ago at the dawning of the Industrial Age. It wasn't pretty. Under the guise of protecting the jobs of thousands of workers, the Luddites (followers of Ned Ludd) destroyed labor-saving machinery (looms powered by water wheels) in England. They were eventually suppressed by military action, and society transformed from thousands of laborers performing work by hand to thousands of workers operating machinery that produced more goods faster, and for less expense. The name "Luddite" stuck, and is synonymous for someone opposed to technological advancement. The term remains important as we experience new, earth-shattering changes in production and work. *The Second Machine Age* describes these changes in a variety of ways both encouraging and challenging.

Think about it, most of us carry more computing power in our pockets than was available to get men on the moon in 1969; while computer access is now ubiquitous, very few had access to computers in the 1960s. We also have access to many other features and services that have disrupted industries from print media to entertainment; and our homes have entertainment and work-saving options previously only available to the Vanderbilts or Rockefellers. An amazing wealth of technology has been placed within our reach in the last generation—and at a much faster rate than what was obtained over prior centuries. Life couldn't be better. Right? Well, maybe not.

This "Second Machine Age" is just as disruptive as the first one experienced at the time of the Luddites. Good-paying jobs that our parents or grandparents had are disappearing. The technology that is taught to students in college today will not exist (or will have changed significantly) in 10 years. We've heard these warnings before. We can't stop these changes either; they will happen in part because younger generations will embrace them before they can be stopped.

Do we give up in despair? Will we delegate all responsibility for daily chores to Rosie, the housekeeper robot from *The Jetsons* (a 1960s TV cartoon)? No, the human mind is still supreme in many areas and seems to be adapting well when integrated with "thinking machines." But we can't be complacent or defeatist. You've probably considered ways to implement automation in your own organization, either with a robotic vacuum cleaner/floor washer/

waxer, an inventory delivery system (similar to automatic hospital drug delivery systems), or a robotic lawn mower. Those many routine, "last mile," time-wasting systems are now getting automated faster and more cheaply. I recall 20 years ago we experimented with a robotic floor scrubber; it worked well to clean corridors but was cumbersome for gymnasiums, which limited its use for us at the time.

What might be next? Do you have access to all the parts you need to keep buildings operational? If not, what are the options? What about 3D printing? It can't be long before an extensive campus inventory becomes unnecessary because parts can be printed on demand. The savings accrued by eliminating shrinkage alone have the potential to pay for the equipment needed to print parts. What else is possible? (*Thanks to Dave Handwork and Markus Hogue for some of this out-of-box thinking.*)

We need to keep learning, and keep plowing new fields of technology and applications. Brynjolfsson and McAfee make compelling arguments, suggestions, and challenges for us in *The Second Machine Age*. There are still some tasks at which machines will be unable to replace humans for a while, and many of those performed in facilities fall in the category of human-centric. But many others are perfect for automation and will increase productivity, improve reliability, decrease wasted time, and leverage real human talents for more important jobs. This book may help you think of innovative ways to make use of these developments.

The authors argue that we must continue to stay focused, creative, and driven. The Second Machine Age is upon us. It is challenging us at an ever-increasing rate. We adapted to the First—and we must adapt and leverage the Second to our advantage. ☛

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