

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

This column previously looked at one book that considered the advantages of serendipity over technical analysis. However, while chance is nice, it may not provide reliable results—which are what we need in facilities management. So this month we look at two books that discuss ways to see through the fog and identify better decision processes.

THINKING, FAST AND SLOW

Daniel Kahneman, Farrar, Straus and Giroux, New York, 2011, 418 pp., hardcover (\$18), softcover (\$11), ebook (\$9.99), and audiobook (\$41).

When provided with a set of symptoms or data, is the answer obvious? Not always. There is the knee-jerk reaction to difficult news, but there could also be a more thoughtful response that proves a much more effective and long-lasting solution. These are the issues discussed in *Thinking, Fast and Slow*.

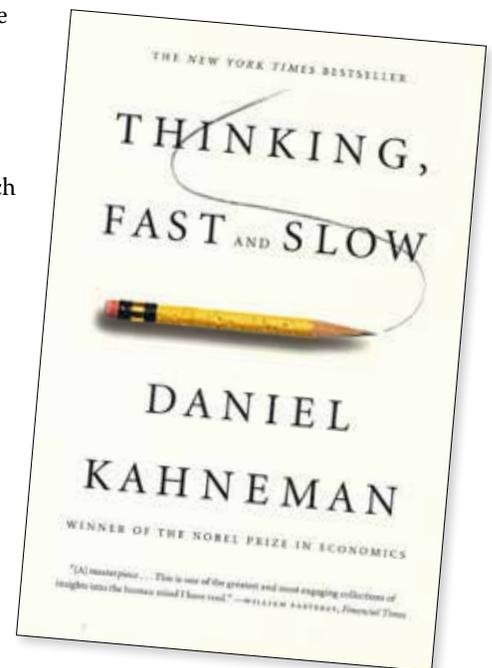
Kahneman is not a facilities officer, architect, or engineer. He's a psychologist who has looked at how people respond to different situations. In *Thinking, Fast and Slow*, he describes the situations and physiology associated with fast thinking—almost a reflex—and slow thinking, for which one must stop and consider factors or process data into information. For instance, when presented with a problem, is it something you can answer while walking or running, or must you stop and dissect the problem before determining the answer? The first example is what Kahneman considers fast thinking, while the second requires slow thinking.

There are many other examples throughout the book, but they are generally directed toward psychology or economics rather than facilities. So where are the applications for facilities? Consider a call into the work control desk at your institution. The caller reports a problem as he or she sees it, and the person at the work desk reports the caller's request accurately—but in most cases the information is either wrong or misleading. Fast thinking results in a person being quickly dispatched to try to address the problem; slow thinking requires the receptionist to ask more questions, attempting to determine the appropri-

ate shop or trade that might be involved in the right solution.

When fast thinking is used, the resolution of the request may require multiple visits to resolve the issue and take much longer than the slow-thinking approach. We take this approach all the time, because we recognize the value of getting better information. More significant applications of slow thinking may include choosing a contractor for an important campus project, or if you are a contractor, developing the price of a project by weighing many factors viewed as unrelated to the project. The slow-thinking approach may be the difference between a profitable project or a money loser.

While this is not a standard facility bookshelf book, it will increase your awareness of problems and the solutions necessary to achieve respect or successful budget management. I will be using the book to teach a course on critical thinking; it helps explain to engineering students why they need to consider issues that are not apparent in the problem.



ALGORITHMS TO LIVE BY: THE COMPUTER SCIENCE OF HUMAN DECISIONS

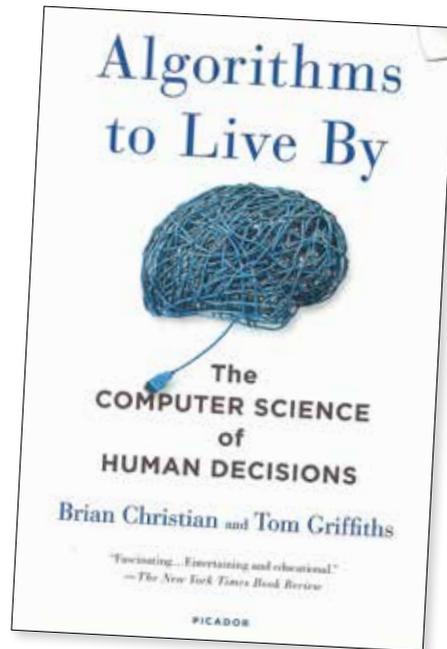
Brian Christian and Tom Griffiths, Picador, New York, 2016, 262 pp., hardcover (\$28).

We hear about algorithms more and more frequently as we utilize search engines and other apps that attempt to find artificial intelligence solutions for our daily needs. There's a great deal of confusion in the popular press about algorithms that is explained and dispelled frequently in *Algorithms to Live By*.

There are simple algorithms we apply daily, and more complicated algorithms that computer programmers may develop. So many of the algorithms we use every day are not even viewed as a mechanical or analytical process; we've grown accustomed to them. But use them we do.

There are many processes we use to improve our organization of problems and solutions. Either through sorting or arranging items, scheduling or managing time, projecting outcomes or interpolating data, or choosing data for solutions versus ignoring data; we take advantage of algorithms to address all problems, from easy addition of a few figures to complex management of millions of data points.

In *Algorithms to Live By*, Christian and Griffiths provide background to the algorithms we use



constantly. These algorithms aren't mysterious, although there may be some analytical tools that we may not recognize as algorithms. For example, algorithms are used to make decisions about whether it is cheaper to replace a pump or keep repairing it; after listening to another episode of *Car Talk* on NPR, I'm reminded that Tom and Ray used algorithms to answer car problems for over 20 years (they are in reruns following Tom's death several years ago). But we still listen to them because they were entertaining and right! Some of us picked up their algorithms while listening.

If you're interested in understanding many of the systems

and processes governing why we do things the way we do, consider *Algorithms to Live By*. It will make a nice gift for a curious friend or family member who wants to know more. 💰

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