

Bob

Behn's Performance Leadership Report

An occasional (and maybe even insightful) examination of the issues, dilemmas, challenges, and opportunities for improving performance and producing real results in public agencies.



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On why public executives need to recognize the relationship between

Murphy's Law and the Checklist Remedy

As an undergraduate, I was taught the reality of Murphy's Law. Actually, the verb "taught" isn't quite correct. No instructor delivered a lecture on Murphy and his law. No textbook devoted even a sentence to it. So it obviously was not on the exam. Nevertheless, my undergraduate education clearly taught me Murphy's concrete reality. It wasn't Murphy's *Theorem*. It was Murphy's *Law*.

At **Worcester Polytechnic Institute**, I majored in physics. Consequently, three or four afternoons each week, I went into a physics lab, or a chemistry lab, or an electrical engineering lab to do an experiment. This would not be a novel experiment. Thousands of science and engineering students had, over decades, done most of these experiments before.

Yet, getting them to work correctly was never easy. Murphy wasn't there alone. He had mobilized an army of disablers. No matter in which laboratory I was working, Murphy's minions had set up permanent residence.

One would bump your apparatus just at a critical moment. Another, would ensure that you couldn't read the data.

Murphy's Law states: "If anything can go wrong it will." And even in the simplest lab experiment—even for something that has worked thousands of times before—Murphy will find something—anything; it doesn't matter what—and make it go wrong.

Suppose there are just 25 different, independent ways that an experiment can go wrong. (Even though this is obviously a rather simple experiment, there still are many, many things that can go wrong—from incorrectly calibrating the instruments to misplacing a decimal point.) And suppose that for each one, there is only a 3% chance that it will go wrong. Then, the total probability that all of these 25 things goes correctly is 47 percent ($0.97^{25} = 0.47$). This means that there is less than a 50 percent chance that this simple lab experiment works.

No wonder it took me and my lab partners so long to get those simple experiments to work. Did we learn Newton's Laws of Motion? Or Ohm's Law of Electrical Currents? Or the Ideal Gas Law? Perhaps. Did we appreciate their relevance? Maybe.

There is no doubt, however, that we all learned the operational significance of Murphy's Law. That we will never forget. (This explains why I am always skeptical when someone from IT tells me that the latest fix "should work.")

Although Atul Gawande never says so, behind *The Checklist Manifesto* lurks Murphy. After all, the subtitle of his book is *How to Get Things Right*. And Gawande would not have written an entire book about getting things right if he didn't recognize how easy it is to get things wrong. Actually, Gawande has also written about the value of checklists for *The New Yorker* and for *The New England Journal of Medicine*.

When performing a college laboratory experiment, operating in a hospital surgery, constructing a building, or flying an airplane, Murphy is lurking. Thus professionals use a checklist of actions to help reduce the probability of something going wrong.

Gawande never mentions Murphy. (If you are a professor at Harvard Medical School and a MacArthur Foundation "genius," you never rely on proverbs.) Instead, he writes about things "gone wrong," about when things "go wrong," about "a thousand ways that things can go wrong."

Obviously, Gawande focuses on the multiple things that can go wrong in a hospital. We all know about "wrong-side surgery," when the patient is supposed to have the right knee replaced, only to have the left knee repaired beautifully but unnecessar-

ily. This, however, is only the most publicized example.

Things also go wrong in all other professions. Something goes wrong in the construction of a building, and it falls down. In fact, in the United States, from 1989 through 2000, 207 buildings collapsed. Given the millions of buildings in the U.S., and given the millions of ways that things can go wrong when constructing a building, this is a very small number—only 17 per year. For the people who lived or worked in these buildings, however, it was more than something gone wrong—it was something gone disastrously wrong.

Things can also go wrong—disastrously wrong—when flying an airplane. This prompted the invention of the pilot's checklist. Then, other professions **adapted** the concept.

Gawande has been the leader in getting surgical teams to employ a checklist. Surgery is done by the surgeon. Yet the success of the operation depends upon every member of the team doing his or her part—and working effectively in concert with everyone else. That's why two of the items at the top of a surgical checklist are: (a) every member of the team introduces himself or herself by name, and (b) the full team discusses the case.

In a laboratory or in surgery, lots of things can go wrong. For professionals, the first challenge is to identify things that can go wrong. Their second challenge is to identify items to put on the checklist—those steps that, if taken, will reduce significantly the chances of something going wrong—going disastrously wrong. **B**

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