# The Virtual Statistician

Earlier this year, Congress was embroiled in a bitter debate over whether to allow the Census Bureau to use sampling methods to improve the census count or whether to send their statisticians out on the streets to count every last one of us. When it comes to statisticians and the Congress, you can guess who wins every time. Nevertheless, I was foolish to think then that it was a close debate, so I decided to attend the hearing.

As I walked into the hearing room, I noticed a colleague of mine sitting in the audience wearing a robe and pajamas. I asked what he was doing.

"I got an e-mail from the office telling me to cover this hearing," he said.

But, why, I asked, was he dressed in pajamas?

"Oh," he said, "my office has a work-at-home policy."

More and more offices, I realized, are adopting liberal work policies. With video conferencing, you no longer needed to travel. With voice mail, you no longer needed to be at your desk. Now, with fax machines, modems, and e-mail, you no longer need to be at work!

I tried working at home myself for a while. It's not that you can get more done at home that makes it worthwhile. It's that you can waste time much more efficiently. Let's face it, at the office, you can't get anything done because your work is constantly interrupted. At home, you don't get anything done either, because you are constantly looking for interruptions. (I prefer to call them breaks--"Excuse me, a moment, the mail's just arrived. While I'm up, I'll just make another cup of coffee.")

At home, however, the quality of the interruptions is better. At work, you can't get away with running down to the convenience store for donuts and coffee. Your leaving the office for that purpose is not allowed. You *have* to send someone else out for them. At home, however, if you want donuts and coffee, you can take a "break" from your work, go to the grocery store, and do a week's worth of shopping.

The trick to being productive in working at home is to recreate the work environment at home. That's why, when I work at home, every day I stop at 3 o'clock to make microwave popcorn.

Dress is also important to feeling productive in working at home. At the office, you might have dress down Fridays. At home, you can have dress up Mondays. Or, at least, get dressed on Mondays.

Management consultants tell you that you can achieve the same result by recreating the home environment in the workplace. One person I knew took this advice and had a washer and

dryer installed in his office. That way, he could do a paper for the *Annals of Statistics* and his laundry at the same time.

Quite often, however, he would have to do one or both over again. It's hard to remember, when the washer goes into its rinse cycle, that it's time to add another bootstrap estimator to your *Annals* paper.

"Some write their *Annals* papers along with Mahler or Mozart," he explained. "I do mine along with underwear and shirts. Now, when I write a paper for the *Annals*, I have a real sense of accomplishment."

Imagine, then, the efficiency of an office with many comforts of home. The next time a boring colleague comes in to seek your advice, you don't have to take out the fingernail clipper. You can tell him to keep on talking while you just slip your casserole into the oven.

My friend Dan Druckman and his colleagues have written about all of these techniques in a new book, *Enhancing Organizational Performance*. I asked Dan, "If technology has already brought us to where we don't need to go to work, what more might be in store for the future?"

Dan thinks that, one day, technology will, through remote sensing of the electronic impulses from our brains, capture our thoughts and route them through our PC's and fiber optic telephone lines to others. You wouldn't have to address your thoughts. You would only have to think to whom to send them. This electronic capture and delivery of thoughts will obviate the need for meetings. "I think, therefore, I meet," Dan says.

Of course, software would have to sort out the times at which your thoughts are sent or others are received. Computers can listen and communicate at the same time, but not people. (Teenagers may be the exception.) I'm sure the telephone companies will come up with ways to avoid thought clashes by offering expensive options, such as thought waiting, or thought forwarding, or even thought blocking.

Dan's book discusses breaking down barriers within organizations. A popular technique is to transfer employees from one unit to another. One university provost, I know, tried this to help get faculty research contracts through the contracting office. He reassigned a contracting officer to the statistics department and a statistics professor to the contracting office.

At the next faculty meeting, someone announced that the Phillies were in town and asked others to join him for the afternoon game. The contracting officer said that wasn't allowed. He quoted the Code of Federal Regulations and OMB Circular A-46 on time and attendance reporting. The faculty assigned him to teach Statistics 101 that afternoon and told the students to give him the full experience.

On the other side of campus, the statistics professor asked his new colleagues if they wanted to join him for the afternoon Phillies game. "How can we report our time, doing something like that?" one asked. "Oh," said the professor, "I've got a macro for that." And off they went.

The faculty had no more problems with their research contracts. And they did notice that grants for applying statistics in sports were processed in record time.

Dan also writes about the growth of virtual organizations, where everybody communicates electronically. With video conferencing, for example, you don't need to go to the classroom to teach your statistics course. And the students can watch your lectures from their dorms, at least during the commercial breaks to the Phillies game.

In fact, most students would probably videotape your lecture. But that shouldn't dissuade you. You can videotape it too and play it back at the designated time, during which you can be off to see the Phillies.

This can lead to a new set of problems. What if you had taped a lecture on the martingale convergence theorem for your advanced probability class but, instead, slipped the video in for the Statistics 101 lecture on "Our friend, the sample mean"?

"Not to worry," says my colleague while doing the laundry in his office, "it'll all come out in the wash."

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Further reading: *Enhancing Organizational Performance*, Daniel Druckman, Jerome E. Singer, and Harold Van Cott, eds., Committee on Techniques for the Enhancement of Human Performance, Washington, D.C.: National Academy Press.