

Following Procedures:

A Detective Story

Austin Henderson

Pitney Bowes, Shelton, CT, USA

In the summer of 1965, I was a recent mathematics graduate doing contract programming through IBM on the automation of the manufacturing operations of Avons Products outside Montreal. I was talking to a contract manager about whether the quantity of, say, perfume bottles outstanding on a contract could ever go negative. The Systems Department for whom I worked (the IT of the time) declared it never would, so I should not worry about it. Concerned that the world might be a little more complex than Systems had noticed -- or chosen to notice, I had found my way via the loading dock to the contracts department. John, the contract manager, then explained at least five reasons why we Systems folk were naïve, and I indicated that I would take this news back to Systems and build it into the program. At which point, John said something that

changed my life: “Stop! Don’t build all that into the program. Tomorrow the world will come up with a sixth reason, and the day after another; you’ll never stay ahead of the world. Just make the program so the contract balance is allowed to go negative, but let *me* be able to transfer quantities from one contract to another to fix things up.” Now, after forty years of experience and theorizing about building systems for people, what I hear John as having said was this: “Don’t try to make the program model the world; instead, make it into a tool that helps me do my work, including modeling the world however I want.“

By the early 1980’s, I had found my way to Xerox PARC, and was surrounded by the aftermath of the first stages of the PC revolution. Xerox had challenged PARC to figure out how computing could improve work in offices (the strategic form of, “What does a digital copier look like?”). To address this, we now had personal machines, connected by networks, supported by laser printers. However almost everyone was acting in a way that I now see as very much like my Systems friends at Avon. They were saying that because people in offices had to follow office procedures, we should build tools that modeled office procedures and support people in following them. And besides, they felt, computers are good at following procedures, so that should make them well-suited to the job.

I say “almost” everyone. I was aware that Lucy Suchman had been looking into the underlying assumption of “following procedures”. I had also been working with Lucy studying how people operate copiers, which involved following instructions. I was aware that Lucy had spent time in the summer of 1979 with the people at PARC who dealt in office procedures as a central part of their primary job, the folk on the third floor, the administration. As at Avon, I was uncomfortable with the easy alignment of the senses of “following procedures.” We were seeing what that meant on copiers, so I knew there was a difference between what computers did and what people did in following procedures. And as everyone now knows, Lucy helped us all understand operating machines in a new way. I was very interested to see in what Lucy would find in the Accounting Office.

And then I saw an early draft of a paper entitled “Office Procedures as Practical Action: Models of Work and System Design” (Suchman 1983). I read it -- with considerable difficulty, and then read it again. I talked about it at PARC, and when it was published in 1983, I talked about it with anybody who would listen. And have been ever since.

Lucy’s paper tells a story that clearly challenges the Office Information Systems view of procedures. And in very much the same way that John at Avon

challenged Systems' assumptions about contracts. The difference was that at Avon I had tripped over the problem. At Xerox, Lucy had gone looking for it, analyzed what she saw, and then developed a clear yet wonderfully nuanced account.

The issue was this: The action on the ground was different from the idealized view of the action held by the system's builders. Lucy proposed that there are three different models of following procedures: The first model is the computer scientist's view, where procedures are made up of instructions, the meaning of instructions is crisp and well-defined, a machine is built to act precisely according to that definition, and there is no room for, or interest in, any action other than exactly what the instructions are defined to mean. Made sense to me; I was a computer scientist.

The second model is the manager's view: here people carry out the instructions (processes, procedures), but because things are not precisely defined, the actions that result are the result of interpreting the instructions in the context of the work. People do what the instructions say, but some interpretation is needed so that the actions are appropriate to the circumstances. Made sense to me; I had created maps to my house with instructions and heard people's tales of woe about what happened when they tried to use them; I had watched people

following the instructions for clearing jams in copiers and watch resulting triumph and disaster.

However, the third model was a complete surprise. In the accounting office, Lucy found that the actions people took were related in a distinctly more indirect way with the instructions they were related to. She found that people were acting to create a record that showed that the office procedure had been carried out. That record has to satisfy those who judge such records (managers, auditors, etc) as a proxy for judging the activity. The procedure is linked to the action through the making of a record. In an office, flowing procedures is about creating records!

As I said, understanding this took effort, because it was one level more indirect than I had been prepared for. And for that reason, over the years, as I give this paper to almost every person I work with and tell them to read it, I tell them they will have to work at it.

Prepared to work hard, they are set up for a really wonderful surprise. For rather than try to simply explain the matter, Lucy tells a detective story. It is the story of a single case of an invoice for payment being paid. The arrival of the invoice occasions an amazing amount of detective work on the part of the office

workers, in order to make sense of the world and the records as they find them, and then alignment work to bring them into coordinate the world, the records and the payment procedures. Lucy's paper leads you through the experience of the worker. The worker is a detective. Something in the case is seriously wrong, but what? And what to do about it? I won't spoil the story for you; go read it yourself.

In the end, from the paper I came to understand that the world is richer than our simple accounts like to tell. We hope things are simple; we try to press them into being simple by using words and concepts way loosely – even metaphorically. But in fact things are much richer than that, and our stories better reflect that fact. Because that richness is precisely what allows the world to change and grow and respond to new and diverse situations. You might be able to fool yourself into believing the simple story in a static and unchanging world, but such accounts will fall apart in the diverse, changing, open-ended world that we all really live in.

When you have understood that, you are in a position to start to address how computers might help. Because the real activity of people “following” procedures in the real world is far from simple, it takes great care to make computers supportive of real people following procedures. This is a message that needs to be carried to all those companies who make office systems – either social

or software, and all those layers of experts – including the functional (e.g., HR, Finance, Service) and IT departments – who deploy office systems in businesses. It is a message that needs to be carried to managers who have to get work done, and to the business process people who try to get all the kinks out of the processes so that all the actions of following procedures are without “defects.” It is a message that needs to be carried to those who make laws (e.g., Sarbanes-Oxley) that assume that companies get things done by making procedures and then “simply” following them. The message is that the actions of real people in carrying out procedures are much richer than their laws, or their management, or their systems currently embrace. The message is that we need to get real: real work is often done despite the system, not by way of it. There are millions of dollars and untold amounts of people’s time being wasted for lack of getting this right.

I also find that this view of following procedures makes me cautious: following procedures is central to work and to our stories of working and is generally regarded as pretty simple. Yet the understandings produced in Lucy’s paper are rich and, to me, surprising. If something as simple as following instructions isn’t so simple, what assumptions am I naively making, and consequently building systems inappropriately? Where else am I still being the systems guy from Avon? Lucy’s story suggests that the role of systems may be

even more richly related to work than I learned in 1965: not a model by which controllers control the work, not a tool for helping the worker model their processes, but a workspace within which the work can be shaped, carried out and reflected upon.

Over the years, I have shared this papers with everyone I work with. There are three reasons for this: First, I am greatly concerned with the ways computers are deployed in supporting work and this paper directly addresses a root cause of that concern. I, and many other, have been fighting this battle for years. We believe that our systems are being built wrong, our management and law-makers are working with inadequate and sometimes dangerous views of working and the world. Lucy helped us understand work better, and we have yet to make really good use of that understanding. It is about time, and the paper helps make the case.

The second reason for sharing this paper is that it makes the day-to-day work of Lucy as an anthropologist accessible. For in studying the accounting office, Lucy too was doing detective work: she was trying to understand what the office workers were doing; if in the end they were solving problems, and making records, and aligning with procedures, then that is what Lucy needed to understand. Both detectives engage the same material, the office workers to

understand and take actions to make the world coherent, the anthropologist to understand what the office workers have understood and to tell a story about it.

The third reason I hand out the paper is that, delightfully, Lucy accomplishes the telling of these two detective stories in the same account. And further, she does so by enabling you to be yet a *third* detective, struggling to have your own understandings emerge as the story evolves. As participants you are engaged with Lucy in understanding what the office workers are understanding about this payment; and as Lucy's audience you are engaged in understanding what Lucy is coming to understand about procedures. Three aligned and dependent journeys of discovery.

So this great paper carries an important message about office procedures and office work, one that I think still needs to be learned today. And it provides a revealing glimpse into the practice of an anthropologist. And it delivers a damn good story, damn well told. I have profited by using this paper to powerfully deliver its important messages to adversaries and colleagues alike. And I have enjoyed reading its story for years. Thanks, Lucy, for telling it.

References

Suchman, L. 1983. *Office Procedures as Practical Action: Models of Work and System Design*, *ACM Transactions on Office Information Systems*, 1 (4): 320-328.