

DAY OF THE GEEZENSTACKS

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It was the late 1980s. Xerox, having discovered that the Japanese built better copiers, concluded that its Systems Concepts Laboratory at PARC needed three days of instruction in “Leadership Through Quality”. The opening reveal was that our colleagues were our “family group”; I said the exercise was Orwellian and refused to use the double-plus-ungood vocabulary. The afternoon was intended to be earned with a Geezenstack, a machine built to fail and required to keep failing until the priesthood revealed the structured method of analysis and repair. The trainers left it in a room of people who fix systems, and went away. We got it to work before lunch; an unforeseen success. Management sent us home for the day; the required experience of failure and the official salvation having not occurred, the remaining two days of coercive pedagogy were cancelled. The course was improved out of existence by the method it came to teach, by scientists who knew it in their bones.

In 1987 or 1988, while I was at Xerox PARC in the Systems Concepts Laboratory, I was part of the Smalltalk-80 group preparing Smalltalk for the commercial spinout that became ParcPlace Systems. We, and the other scientists in SCL, all had interesting and significant work to do; Xerox Corporate nevertheless decided that what the laboratory urgently required was three days of compulsory instruction in *Leadership Through Quality*, Xerox’s company-wide quality-improvement program. This was the period when Xerox had discovered, rather painfully, that Japanese manufacturers had become extremely good at making reliable copiers, and Corporate was responding with the sort of organization-wide conversion campaign that large companies produce when a purportedly deep management insight acquires enough executive sponsorship to become a dogma. Quality was no longer merely something one measured, engineered, and improved; it had become a culture, a management philosophy, and eventually something seriously resembling a theology of human relations. So a group of people occupied with Smalltalk, distributed computing, systems research, and getting actual technologies through the membrane separating PARC from the rest of Xerox were instructed to stop doing all that for three days so that Xerox could teach us how to improve processes.

The first morning did not begin with statistical process control, measurement, or anything else one might naively have associated with the word

quality. It began with the earnestly asserted proposition that our coworkers were members of our “family group.” This was not an improvisation by an unusually enthusiastic trainer but rather an official part of the Leadership Through Quality machinery itself: Xerox explicitly organized managers and their direct reports into “family groups,” through which the new quality culture was supposed to propagate and be controlled. We were asked to take words describing familial and social relationships and map them onto our relationships in the laboratory. This did not go especially well. PARC was not the ideal population in which to introduce a category error and expect gratitude for it; quite a few people there made their livings by noticing what happened when representations confused things that were importantly different. I myself eventually stood up and said that I thought the word exercise was Orwellian and that I refused to participate. This double-plus-ungood response probably did not appear on the instructors’ list of desired outcomes for the module on family cohesion, although it did provide them with an immediate and fairly unambiguous measurement of subject response. I liked and respected many of the people I worked with, but they were my colleagues, not my siblings, and I saw no obvious improvement in either software or human relations likely to result from pretending otherwise, even if such a Benthamite utilitarian rewrite of thought were granted as desirable.

Having made very limited progress in converting us into a corporate family, the trainers moved on to something much more promising: a deliberately defective little production system called a *Geezenstack*. The name appears to allude to Fredric Brown’s 1943 story “The Geezenstacks,” in which a child’s toy family acquires an alarmingly consequential relation to the real one; after a morning spent explaining that our laboratory was itself a “family group,” the choice of name now seems almost indecently apt. Geezenstacks were used in Xerox quality training as a physical manufacturing simulation: teams constructed a simple product, observed defects and inefficiencies in the process, gathered information about what was going wrong, and were then taught the formal quality-improvement methods by which the process could be repaired. Published descriptions of the exercise emphasize precisely this tactile quality – participants were meant to build something and experience the process rather than merely

listen to lectures about it. I remember ours as involving playing cards, or pieces of card rather like playing cards, assembled into some sort of small mechanical construction; after nearly forty years I do not trust myself on the exact architecture, and a fuzzy memory is preferable to a beautifully reconstructed false one, so enough on those details. What I remember distinctly is that the process was inherently broken, because being broken was its instructional function. We were supposed to struggle with it during the morning, acquire a suitable appreciation of the problem, and then spend the afternoon learning the analytical machinery that would enable us to return to the Geezenstack and make it work under the kind guidance of our teachers from Corporate. The sequence therefore depended upon preserving a carefully manufactured state of failure and ignorance until the instructors were ready to relieve it.

They then left us alone with the thing, which in retrospect was a remarkable lapse in process control. They had put a deliberately malfunctioning system in a room containing the Smalltalk group and assorted Xerox PARC systems people, announced in effect that there was something wrong with it, and gone away. We looked at it, analyzed what the production process was doing, changed the process, and got the damned thing to work. There was nothing particularly heroic in this; it was simply a rather elementary instance of the activity in which all of us were professionally engaged. The difficulty that immediately became plain was that we had done it at the wrong point in the curriculum: the afternoon lesson *required* the morning failure to remain available as instructional material, because the trainers needed students who still possessed both the deficiency and the feeling of failure that the next module was designed to cure. By solving the problem before lunch, we had not merely jumped ahead; we had destroyed the controlled state on which the entire exercise depended. Xerox had designed a demonstration of systematic problem analysis and had then suffered the misfortune of giving it to people who always fluidly practiced systematic problem analysis sans waiting for permission from authority.

We went to lunch. When we came back, the laboratory manager told us that we could all go home for the rest of the day and that we would not be attending the remaining two days of training. I have never known exactly what conversation took place while we were away, although its broad

structure is not difficult to infer. Xerox Corporate had removed the lab from its work for three days in order to teach us a disciplined method for identifying defects in systems and improving their performance. By noon we had identified two defects in the training system itself. One was the attempt to improve professional cooperation by redescribing employment as kinship; the other was a deliberately defective production process which the course required us to leave defective until the approved moment of revelation. We rejected the first premise, repaired the second process, and in doing so eliminated both the informational value and the coercive conditioning of the remaining two days.

As demonstrations of *Leadership Through Quality* go, I have always thought ours was exceptionally successful. Xerox had set out to teach us to examine a process critically, identify what was not working, and stop wasting resources on it. By lunchtime, that is exactly what had happened. Snark.