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COPING WITH TECHNOLOGICAL MAHEM: 
THE MACHINE TEAM APPROACH 
By Rima O'Connor

"Lots of complaints about equipment being down. People aren't happy," read the message board in the Periodicals Department. Herrick Memorial Library at Alfred University was experiencing constant difficulties with its machines, and I was quickly learning that my title of Reference Librarian was taking on a whole new meaning. Now I was the point of reference not just for information of the traditional sort, but also as the person who could fix a wide variety of recalcitrant "labor-saving" devices.

Keeping Pace with Demand
The ongoing acquisition of new technologies, in addition to budget cuts and loss of key staff to early retirement incentives, made it increasingly difficult to keep pace with the demands that the machines made on staff time. As new machines arrived at Herrick, they were assimilated into the library's work flow as quickly as possible, by various people who were doing the best they could with limited time and staff resources. There was a distinct lack of organization and the lines of responsibility had become fuzzy. It became apparent that we needed to find an efficient and effective way to handle mechanical breakdowns, basic maintenance, and coordination of equipment and supplies purchases.

Herrick Memorial Library at Alfred University has ten CD-ROM workstations, a VAX terminal dedicated to student use of CARL and the Internet, two public copiers, two office copiers, two microform copiers, five microfilm readers, and three microfiche readers. We also have nine OPAC's and one OPAC printer. My personal nemesis appears in the form of a microfilm reader/copier that has a streak of maliciousness in its wiring. It seems as though just when everything else is installed, ordered, replaced, and toned, "Mad Minnie" creates a major and mystifying diversion, often while someone is explaining the intricate process of microfilm copying to a hapless patron.

Care and Feeding of Machines
By the beginning of the 1992 spring semester, my initial reference and CD-ROM responsibilities had shifted to embrace the care and feeding of all the machines in the library, so that aside from becoming familiar with DOS and CD-ROM troubleshooting, I was also learning how to fix lamp sockets in microform reader/copiers, where
microfiche readers kept their little fuses, and what "E20" meant on the copy machine in the lobby. This made me the logical choice for coordinator of a relief effort. Necessity is the mother of invention, and as I stood there reading that depressing note on the board I decided to take drastic action by forming a Machine Team.

The Machine Team consists of six people: me (head Teamster), three full-time staff members, and two part-time student assistants. Selection of Team members was not based on an in-depth knowledge of CD-ROM software, or on an intimate comprehension of the innards of photocopiers. Most of the problems we encounter here are minor, such as a paper jam or a broken microfilm reel spindle, but they are bad enough to prevent the machine from being useable.

I knew from my own experience that my Team had to consist of people who were not intimidated by machines, who were good at keeping records, and who, most importantly, learned quickly and had a full quota of curiosity about "how things work." It was also desirable to choose people who worked near the machines so that they weren't required to run around too much. Another consideration was term of contract. At Alfred University, librarians have nine-month contracts, which means I am often not in the library during breaks and summers. Thus, my Teammates have to handle problems on their own for part of the year.

"Fixers for the Team"

Keeping these variables in mind I asked two staffers, Rich and Sharon, if they would be on my Team as "fixers." Their job is to help me with the daily tasks of fixing minor problems. I also asked our bookkeeper and part-time secretary, Kathleen, to be on the Team. Kathleen's job is to order supplies and place service calls. She also keeps an eye on the costs of copying and printing, and alerts me when they seem too high and may point to a developing problem.

Rich, Sharon, and I convened for a meeting of the minds. Our first concern was the extent of our duties. We agreed that the Team members would be largely responsible for the copiers and microform readers; the CD-ROMs, requiring an understanding of software, would not be included except for basic hardware problems like paper jams and program freezes. I did not want my Team to become embroiled in the time-consuming processes of calling technical support people or learning how to rewrite the autoexec.bat files; that was not the purpose of the Machine Team. We took a tour of the machines, tools, and manuals, and agreed that I needed to mark the projector lamps and keys so that we would all know which item belonged to which machine.

The Screwdriver Rule

We also needed to determine how much time we would spend on a problem before giving up and calling in the big guns. We settled on what we called the Screwdriver Rule: If the problem requires taking a machine apart (i.e., using a screwdriver), then it becomes a matter of personal choice. If the acting Team member has the time and the tools, she/he is welcome to take a shot at it; but no fair asking other Team
members for help! Otherwise we would call our local Machine Doctor.

Once all of this was decided I felt greatly relieved—I had help now! But the following weeks continued to be difficult, especially as finals week drew near and the students were copying at a prodigious rate. I found that every Monday morning when I came to work I was greeted by a host of Out Of Order (OOO) signs. "Mad Minnie" always wore one. The Team realized that evenings and weekends were problematic because none of us was in the building, and breakdowns often could not be handled by the staff during those times. Our student workers know how to add paper and toner, and many of them can clear paper jams, but there were other difficulties that they weren't prepared to handle.

**Student Technical Assistant (STA)**

Fortunately Sharon came up with the idea of hiring students to work specifically on the machines during these hours, and the Student Technical Assistant (STA) position was born. We decided that two was a good number in case one of them got sick. STAs work one hour each weeknight, and one morning and one evening hour on Saturday and Sunday. They also meet with me one hour each week for updates on new problems and solutions, and for questions and explanations that have accrued during the week.

I made a Problem Form for them for recording mechanical problems and solutions. The Problem Form is a chart with headings across the top reading "Date" (of problem), "Machine," "Problem," "Solution" (a bit of optimism here), "Time" (estimated amount of time handling the problem), and "Initials." I deemed it helpful to know how much time was being spent troubleshooting which machine. It would also be useful to see the solutions; perhaps we could reuse the information to advantage at the next breakdown.

**"STA Information" Notebooks**

These forms are kept in a notebook along with the STAs' time sheets. There is a second notebook that has "STA Information." In this I include copies of manuals, directions on how to fix glitches in various machines, and cleaning instructions. STAs have their own desk where their hours are posted. These hours are also handed out to all departments at the beginning of each semester so that everyone knows when an STA is available to handle a mechanical problem.

The STA's first daily task is to tour the machines and make sure they are all working, and to check the paper level in the copiers. The next priority is to clean the machines. I made another form with each machine's name on it and a place for the date so that my STAs are not cleaning the same critter over and over while forgetting another one in a back corner. Once all machines are working and clean, the STA may sit at the desk and do school work, but is considered on call by the rest of the staff for the duration of the hour.

**Appease the Patron**

I also made several signs for everyone's convenience and to save paper. Once I created them on my Mac I had them laminated so that they could
endure lengthy usage. Three signs say “Out of Order,” and there is one each of “Out of Commission, Parts on Order,” and “Out of Order, Service Technician Has Been Called.” These last two are used to appease patrons with the promise of action being taken when a machine needed to be “Out of Order” for longer than a day. I gave two of the OOO signs to Circulation and kept the other one, plus the “placater” signs, for the STAs to use.

Once the STAs were added to the Team I started to see a real difference in the amount of time I had to spend on mechanical problems. Frequently I would arrive in the morning to find no problems at all! It was sheer heaven.

The crowning achievement was the purchase of two brand new public copiers. Three different companies touted their wares, and it quickly became apparent to us that the copiers were essentially equal in quality; the big question was service. We had learned a hard lesson with our two older copiers, which we purchased outright and had serviced by a local man. We belatedly discovered that he was unable to purchase many parts, since he was not an authorized dealer. We opted this time for a lease agreement and service contract with the same company. When the lease is up in three years we will obtain a new machine, since the life of public copiers is short.

Sanity Saver: New Impetus

The library director and Machine Team members met frequently before making a final decision on the new copiers. We also took the opportunity to order copy card units for the machines; we had never offered that option and many of our students liked the idea.

Rich and Sharon and I, the “fixers” attended a fascinating session with the copy card company where we learned how to attend to various problems associated with the new units. Sharing information as well as workload has been an integral and essential part of the Machine Team experiment.

The Machine Team has proved to be both a saver of my sanity and an impetus for organization. As with all strategy-making, the initial time and effort expended was entirely worthwhile in retrospect. I especially notice this on Monday mornings, when I no longer enter the library with jaw clenched and adrenaline pumping. I can even laugh at “Mad Minnie’s” crazy problems instead of measuring the distance from it to the window.