

Disaster, Economics Department,  
University of Michigan, 1981

The Economics Building housed the University's Economics Department and was over one hundred years old, one of the oldest buildings on the campus. It was the victim of an arsonist's attack on Christmas Eve, 1981. The construction was typical of buildings of that period: it had wooden floors, wood plaster lath in the walls, and wooden beams supporting the roof and the floors; all surrounded by a brick exterior. The inside of the building was highly combustible while the outside formed a perfect kiln. The fire was started in the basement and once windows were broken and the roof punctured, conditions were perfect for a fire and, in fact, the fire burned and smoldered for three days before the 2,000,000 gallons of water employed finally extinguished it. The amount of water which could not be contained in the Economics Building, flooded into the heating tunnels and even threatened some of the collection at the Harlan Hatcher Library, though nothing there was actually damaged.

The contents of the Economics Building were mostly scholarly records, support for research, departmental records and files, and library holdings of a modern nature. Many of the papers, although not antique, were valuable and rare. When the floors collapsed, things fell into the basement. What the salvage team faced were wet, dirty, and crumpled books and papers deposited layer upon layer in the basement, smelling of acrid smoke. There were some parts of the building that were relatively unscathed, but because of the amount of water and the weather conditions, all the paper materials were wet to one degree or another.

I learned of the fire on Christmas day and called Russ Reister, Director of Plant Operations, to offer my services. By the time a meeting was held on Sunday, December 27, J. P. Weidenback, Director of Business Operations, had gotten together the pertinent members of the University administration plus the Dore Salvage Company, members of the Ann Arbor Fire Department, involved and interested members of the Economics Department, Margaret Burnes, (preservation officer for the General Library), and myself. At that meeting a plan of action was agreed upon. Because of the volume of material, the general condition of the materials, and the position in the building in which the fire left them, it was decided to:

1. Throw out extraneous and easily replaced items.
2. Replace items for which replacements could be readily obtained.
3. Make copies where applicable.
4. Restore as few items as possible, because of the expense involved.

At the meeting, ideas from the Disaster Plan for the Bentley Library were utilized in the formation of the salvage plan.

Following another meeting on Monday morning, December 28, the removal of the building's contents began. Two thousand milk crates had been obtained by Gene Ingram, Director of Purchasing for the University. The books and papers were placed in these and transported to a deep-freeze locker at University Food Stores and stored at -20°F to prevent the growth of mold. Because of the value and condition of the material, it seemed that the most expeditious way to achieve the goals outlined in the salvage plan was to dry everything first, and then sort.

Because of the volume of material, it was decided that traditional drying methods would not be adequate, rather, vacuum drying would be more practical.

Vacuum drying is a dehydrating process which uses an almost complete vacuum to facilitate the removal of water. In a large vacuum chamber wet books and papers may be placed, the chamber sealed, and the pressure lowered to a near perfect vacuum. This freezes the water in the items and then vaporizes it without its passing through the water stage. The process is called sublimation.

Three chambers were chosen for vacuum drying: one at the University's North Campus Aerospace Building; one at Wright Patterson Air Force Base in Dayton, Ohio; and one at Bendix Communications Systems on Green Road in Ann Arbor. The North Campus vacuum chamber was designed by Pauline M. Sherman, Professor of Aerospace Engineering. It had been identified by Ann Flowers in writing the Disaster Plan for the Bentley Library in 1976 as a possible emergency vehicle for drying University books. with the cooperation of Professor Roger Glass, the Aerospace Research Scientist who currently oversees the use of the vacuum chamber. Some of the first documents salvaged were taken there for a field test. The books came out dry approximately 7 days later. (They were, however, still wrinkled, dirty, and smelling of smoke.) The satisfactory results of the test showed vacuum drying to be a feasible method of handling these materials. The two much larger chambers at Wright Patterson and Bendix were used to do the vast quantity of books remaining, which had been frozen at Food Stores.

The vacuum chamber at Wright Patterson is connected with the medical facility and is used to simulate low pressure at high altitudes, involving military personnel. The amount of dirt related to fire-damaged

materials became evident when contrasted with the spotless interior of a medical complex. Col. Ferguson, Major Rossie and the other Air Force officers and staff lent themselves cheerfully to the task at hand and suffered our "trashing" of their facility with great equanimity.

The Bendix facility on Green Road was by far the largest of the chambers we used. Its main function is testing satellites and communication devices that are designed to operate in deep space. Of the three chambers we used, this one, although the largest, reached the lowest pressure. Here again, P. J. Monroe and his staff were very helpful and accommodating.

Because of the condition of the building, and the danger of its imminent collapse, the salvage operation within the Economics Building was carried out almost completely by the Dore Salvage Company. The temperature through most of the week hovered around zero, with a wind chill factor reaching  $-20^{\circ}\text{F}$ . This worked both for and against the salvage operation. Because of the cold, frozen materials were handled with relative ease and the problem of mold was minimized. But the extreme cold made the working conditions very, very difficult, coupled with the pressure to get everything removed quickly before the building collapsed. Even so, the materials were handled with great care and packed as well as could be expected.

Happening as it did over the Christmas vacation when news is generally slow, the fire brought local and national media attention. Through the resulting exposure, many offers of help were forthcoming. The media also served another purpose, that of squelching rumors by giving an accurate and informed commentary on what was being done. An agreement was made on an informal basis that the participants in the disaster would

talk to reporters about their own area of expertise and refer other questions to those who had specific knowledge, or to Joel Berger, Director of Information Services for the University. (I was interviewed for four newspaper articles and also by Shirley Smith for radio station WUOM.)

The fact that some advance disaster planning had been done and information was available on how to proceed expedited the salvage operation greatly. The Disaster Plan for the Bentley Library was consulted from the start, as was A Program for Disaster Response in Michigan, put out by the Michigan Archival Association. Even though there was no specific plan for the Economics Building, the information contained in these plans was of great value.

It seems that the fire happened at a more or less convenient time: school was not in session; there were several buildings in the process of renovation that could be used as staging areas for the materials in transit to and from freezing, to and from vacuum chambers, etc.; there was space in the University Food Stores cold storage lockers; the cold weather cut down on the propensity for paper to mold; trucks were available for hauling materials; and the faculty of the Economics Department was able to move into temporary offices in the newly renovated St. Joseph's Hospital.

Given the fact that the fire happened, the Economics Department seems quite happy with the way things turned out. There were, however, expectations from the freeze-dry process that were not and could not be realized. (Books and papers came back dry but still wrinkled, dirty, and smelling of smoke.) It must be borne in mind that people involved in disasters of this nature are in a state of shock and not all the information given is necessarily received or properly understood.

There have even been some benefits from the fire. The administration has gained experience in dealing with a disaster using modern technology. Theory has been put into practice by actually using vacuum chambers to dry materials. The conservation and preservation people have had an opportunity to become known to and interact with the rest of the University community. The photographs taken have provided graphic accompaniments to lectures. By proper management, the disaster has expanded the University's body of knowledge.

James W. Craven

Document Restoration Specialist