

Objects at risk. Poorly curated artifacts, such as those in this mouse-eaten bag, can lose their value.



ARCHAEOLOGY

Curation in Crisis

As the ranks of excavated artifacts grow, museums are running out of space—and money—to care for them all

In the storage area at the McClung Museum at the University of Tennessee, Knoxville, row upon row of boxes are stuffed with brown paper bags, which are in turn filled with hundreds of thousands of artifacts ranging from 10,000 to 200 years old. The artifacts, including stone tools, pottery, and arrowheads, were excavated during the 1960s and 1970s when the Tennessee Valley Authority (TVA) dammed the Tennessee River and its tributaries, flooding archaeological sites along the banks.

Researchers visit the collections about 10 times a year, but museum curator Lynne Sullivan, like many of her counterparts elsewhere, faces a tough job caring for them. Some of the bags have split, spilling their contents into the boxes. And the artifacts' provenance information—where they came from, which is vital to their research value—is written on the bags. TVA is required by law to care for the artifacts, which belong to the federal government, but the strapped agency doesn't have the money. So the University of Tennessee has stepped up to provide space and staffing, but it can't afford to rehabilitate the collections.

The result: a curatorial crisis. "We don't even know at some level what's going on in those bags," Sullivan says, adding that some

of the metal artifacts—axes, knives, gun parts, and hoes—are rusting.

Sullivan isn't alone in her plight. Many collections in other repositories are in "much worse shape," she says. Indeed, says Dean Snow, president of the Society for American Archaeology, "the curation problem is at crisis proportions." The effects are being felt not only by researchers using museum collections but also by archaeologists in the field, who worry about where to store the artifacts they recover—and whether they should recover any at all. "I think it's the end of the days of endless archaeology," says archaeologist Teresita Majewski of Statistical Research Inc., a cultural resource management firm in Tucson, Arizona.

The curatorial problem has been brewing for decades. In 2000, a report on the U.S. Army Corps of Engineers' collections—millions of artifacts occupying nearly 50,000 cubic feet of space that could fill a dozen tractor-trailers—concluded that in about 75% of cases, artifacts had been stored in improper conditions and were quietly disintegrating; about 10% needed immediate attention. "If not properly cared for soon," the report concluded, "many [artifacts] will lose their educational and research value." As archaeologist and for-

mer curator Julia King of St. Mary's College of Maryland in St. Mary's City explains, good curation is essential because it is not the objects alone but "the relationships between the artifacts that are the critical contribution of archaeology." Curating the corps' collection, which includes projectile points and stone tools from some of the New World's earliest inhabitants, would cost an estimated \$20 million, officials estimate.

In December 2005, Heritage Preservation, a nonprofit organization in Washington, D.C., made the first comprehensive survey of U.S. collections held in the public trust. They found that roughly 20% of archaeological collections need better care and that more than 40% of bulk cataloged archaeological collections have an unknown status, meaning that they hadn't recently been inspected by archaeological staff.

Lack of space is a critical problem. Federal and state laws often require archaeological surveys before construction work, so collections swell wherever development is rapid. A repository at the University of California, Los Angeles' Fowler Museum is almost full, says curator Wendy Giddens Teeter. In Arizona, the fastest growing state in the country, archaeologists are doing more than twice as much work as they did several years ago, says Majewski. The governor recently appointed a commission to study the curation problem, and the resulting report predicted that Arizona's principal repositories will be full in 5 to 10 years; the state's main repository, Arizona State Museum in Tucson, is now storing some items offsite.

As a result, archaeologists are thinking harder about what they collect. "For decades and decades, people were collecting everything and keeping it all," says S. Terry Childs, an archaeologist with the National Park Service in Washington, D.C. Now, archaeologists try to choose a representative sample of artifacts, she says. "They are thinking about 'What do I keep?'" Those decisions must be made in the field, and they aren't always easy, says King. She mentions a dig in Maryland in which one of her colleagues, working pro bono, left the artifacts in the ground instead of cleaning and analyzing them. He identified them—and the house he was trying to date—as 20th century; later, more detailed excavation showed that it was 19th century.

One extreme solution is the use of non-collection surveys, says Childs, in which

researchers simply record artifacts' location on the surface and leave them there. "This is just horrible," she says, adding that anecdotal reports suggest such surveys are on the rise. Omitting actual artifacts risks the discipline's integrity, agrees Christopher Pulliam of the Army Corps of Engineers. "Archaeology professes to be a science," he says. "If one can't replicate research results or reanalyze the materials from a site, then [archaeology] can't proclaim to be a science."

Another solution is to remove redundant items or those with little research value, called deaccessioning. For example, until a few years ago, the San Diego Archaeological Center in California housed 30 boxes of 30-year-old, decomposing soil samples owned by the Department of Defense. Given their minimal research value, center director Cindy Stankowski kept representative samples of various soil types and threw away the rest.

But artifacts uninteresting to some are valuable to others. Back in the 1990s, King co-directed the excavation of the 17th century home of Charles Calvert, governor of Maryland, and found many brick frag-



Ready for a rescue. Curators took over this collection and now keep it in high-quality storage.

ments. Bricks were considered expendable and most were discarded, but King says some revealed the earliest evidence of a decorative technique used in the Chesapeake Bay region.

The federal government is drafting new rules to guide deaccessioning some of their hundreds of millions of artifacts; the Department of the Interior alone is responsible for 90 million artifacts. The government tried to implement deaccessioning regulations in 1991 but backed off after ferocious opposition from archaeologists,

who said that even artifacts of no research value now might yield important information when examined with future technologies. But Childs, who chairs the working group drafting the guidelines, says the current effort is likely to be more successful. The guidelines are expected to be made available for public comment in the next 6 months or so.

Despite the gloomy outlook, many archaeologists see signs of progress, as institutions such as the National Endowment for the Humanities and Save America's Treasures, both in Washington, D.C., recognize the value of certain archaeological collections and pay to restore them. But there's much to do. "The problem with collections is that they're not considered sexy," says Childs. She and others note that many more Ph.D.s are awarded for field-based than collections-based research, and that few universities offer classes in collections management. She and her collections-minded colleagues hope to change that. The future of archaeology," says Childs, "is in excavating the collections."

—MICHAEL BAWAYA

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EDUCATION

Who Ranks the University Rankers?

Everyone would like to score well in an academic beauty contest. But is it really possible to assess an institution's worth?

Who gets to take credit for Albert Einstein's Nobel Prize? The question seems absurd, but it's important for the reputations of two Berlin universities. The reason: Even Nobels bagged 90 years ago are counted in the "Shanghai ranking," an influential list of the world's 500 best universities. Both Free University (FU), founded in West Berlin in 1948, and Humboldt University (HU), on the other side of the former Wall, claim to be the heirs of the University of Berlin, the erstwhile home of Albert Einstein and many other Nobelists.

The resulting tug of war has had bizarre results. When the team at Shanghai Jiao Tong University produced its first ranking in 2003, it assigned the prewar Nobels to FU, helping it earn a respectable 95th place. Swayed by protests from the other side of town, the team assigned them to HU in 2004, propelling it to 95th rank and dropping FU by more than 100 places. After FU in turn cried foul—and

many e-mails between Germany and China later—the team simply took both universities out of the race. Both are still missing in the 2007 edition, published 3 weeks ago.

The controversy is just one among many in the booming business of university rankings. Invented by the magazine *U.S. News & World Report* in 1983 as a way to boost sales, these academic beauty contests—called "league tables" in the U.K.—now exist at the national level in a dozen countries; there are a handful of European and global lists as well. Almost all have come under fire from universities, scientists, and, in some cases, fellow rankers.

This year, for instance, presidents of more than 60 liberal arts colleges refused to participate in a key component of the *U.S. News & World Report* rankings, published last week. The rankings, they wrote, "imply a false precision and authority" and "say nothing or very little about whether

students are actually learning at particular colleges or universities." Last year, 26 Canadian universities revolted against a similar exercise by *Maclean's* magazine.

The critics take aim not only at the rankings' methodology but also at their undue influence. For instance, some U.K. employers use them in hiring decisions, says Ellen Hazelkorn of the Dublin Institute of Technology, adding that funding organizations, philanthropists, and governments are paying increasing attention as well. France's poor showing in the Shanghai rankings—it had only two universities in the first top 100—helped trigger a national debate about higher education that resulted in a new law, passed last month, giving universities more freedom.

Measuring up

So how do you measure academic excellence? Most rankings start by collecting data about each university that are believed to be indicators of quality. After giving each a different, predetermined "weight," the indicators are added up to a total score that determines a university's rank. But there are vast differences in the number and the nature of the indicators, as well as the way the data are obtained.

National university rankings cater primarily to aspiring students about to choose