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DEEP STORAGE: REBURIAL AS A CONSERVATION TOOL

EMILY WILLIAMS

ABSTRACT

Reburial is increasingly being considered as a conservation tool to help preserve archaeological materials and to relieve the pressure on already strained curation facilities. This paper will examine the rationale and ethics behind this trend and consider as a case study the recent reburial of architectural material excavated in the early 1930s and 1940s by the Colonial Williamsburg Foundation. The sheer volume of the material and the need to manage it responsibly has, in the past, had a detrimental effect on the accessibility and care of other segments of the collection. After much consideration, controlled reburial was chosen as a storage option for portions of this material. The approach chosen for reburial will be assessed and potential future modifications discussed.

1. BACKGROUND

Rapid property development as well as new excavation and data recovery techniques have led to an exponential growth in the number of archaeological collections placed in storage since the 1970s. In America, a national curation crisis was declared in the 1990s and the situation has not improved notably since then (Stankowski 1998; Traver 2001; Reichhardt 2007). Museums and States have been forced to close their curation facilities to incoming finds or have run into severe problems finding space for collections they are contractually obligated to take (Thompson 2000; Traver 2001). Critical space shortages are often compounded by lack of funds to adequately catalog older collections, lack of expertise and manpower and the vast quantity of objects excavated across the nation on an annual basis. The cost of building and manning new repositories that meet the standards laid out in 36 CFR part 79 are high and difficult to sustain over the long-term (GPO 1990).¹ It is illogical to expect that collections can continue to grow and migrate like hermit-crabs to ever larger facilities. In Europe, similar problems exist (Swain 2010; Perrin 2010). The response to these pressures has been somewhat different in each locale. In America, attention has focused on the question of deaccessioning while in Europe, research has centered on the problem of reburial or preservation in situ (Rohe 1998; Byrne 2000; Corfield et al. 1998; Taryn 2004).

Deaccessioning, defined as “the formal process used to remove permanently an objects from the collections” (Byrne 2000, 15) is used widely for most types of non-archaeological collections and is seen as a valid technique for removing objects that no longer fit within an institution’s collecting mission or are problematic (for example fakes, forgeries, or hazardous materials) or in cases where the preservation of the piece no longer warrants its inclusion in the collection. However, deaccessioning within an archaeological context is viewed as a riskier undertaking because of the interdependence of the artifacts within a site and an often cited belief that removing any materials from the collection compromises the potential of future analysis. Vague ethical codes may exacerbate this. For example, the Society for Historical Archaeology’s code of ethics states in Principle 4 that members of SHA “have a duty to collect data accurately during investigations so that reliable data sets and site documentation are produced, and to see that these materials are appropriately curated for future generations” (SHA 2003). What constitutes a reliable data set? Is it the product of 100% collection or of significance testing?² If the latter, which statistical subsets should be selected? These arguments neglect to notice that

deaccessioning already routinely occurs under the aegis of the Native American Graves Repatriation and Protection Act (NAGPRA).

Another reason that deaccessioning is regarded with dissatisfaction by the archaeological community is the lack of a satisfactory method for disposing of the materials. Of the three disposal techniques commonly used by typical museum collections (sale, transfer to another institution and destruction) only one is available to archaeologists since the sale of archaeological collections is widely accepted as being unethical (SHA 2003) and, given the types of artifacts most commonly considered for deaccessioning, transfer to another institution or collecting body is rarely an option. Destruction therefore may appear to be the only option. When weighed against the presentation of archaeology as a preservation-related activity however, destruction is not a particularly palatable one.

Reburial, most commonly carried out on marine sites or waterlogged terrestrial sites, seeks to emulate the depositional environment prior to disturbance by excavation and thereby create a storage environment that has preservation capabilities that can be compared with a “normal” museum storage environment. Ideally, the reburial environment should match or exceed the expected survival rate in a museum environment. The advantages lie in avoiding treatment costs and minimizing the continuing care of the collections while the disadvantages lie in the interconnectivity of the sites with their landscape (changes in land-use miles up the road can have enormous impacts on drainage potentials), the need to really understand the pre-disturbance environment and the fact that the optimal techniques are still being defined and developed (Corfield et al. 1998; Nixon 2004; Bergstrand and Nyström Godfrey 2007). Reburial studies often focus on large scale organic structures, such as buildings or shipwrecks that would be prohibitively expensive to raise and conserve. However, one project, the *Reburial and Analyses of archaeological remains*, or RAAR project, in Marstrand, Sweden has set out to look at a number of different classes of deliberately reburied 18th century materials (such as ceramics, glass, metals, and all classes of organics), twentieth century controls and the packing and labeling materials commonly used with archaeological materials over a fifty year period (Bergstrand and Nyström Godfrey 2007; Nyström Godfrey et al. forthcoming). Controlled retrievals occurred at 1, 2, 3, 6, and 12-year periods and are also scheduled to occur at the 24 and 48-year marks. Already the project has experienced funding shortages which have made it difficult to carry out the full analytical program on the retrieved samples. These sorts of problems bode poorly for the sustainability of long-term reburial projects (Nyström Godfrey et al. 2012).

2. THE PROBLEM

In late 2007, Colonial Williamsburg was faced with a problem that caused us to consider both these approaches, their benefits and their drawbacks, and to create a hybrid solution to fit our needs. We were in the process of moving the bulk archaeological collection from an overcrowded and aging storage facility to a new one. The move, funded in part by grants from the Institute of Museums and Library Services Conservation Project Support Program and the Save America’s Treasures Grant fund, provided a number of amenities, such as a climate controlled space for environmentally sensitive parts of the collection, new storage furniture and room for long-term growth. At a late stage in the move, 50 pallets of architectural materials, dug up by the Foundation between 1930 and 1950, were transferred to the Department of Archaeological Research. Recovered prior to the advent of stratigraphic excavation in

Williamsburg, the material consisted largely of brick and stone fragments from building foundations within the Historic area and from sites outside of Williamsburg. The material was not catalogued although some items were labeled and occasional paper records were found with individual items. It was housed in pine crates which had clearly not been accessed in many years, judging by the mice nests, snakeskins and other detritus in them. Many of the pine crates and the wooden pallets they rested on were disintegrating, the result of action by powderpost beetles. In total, the material represented over 5000 cubic feet of storage or approximately 45% of the budgeted long-term growth space in the new facility. In considering the material and its information potential against that of the archaeological collection as a whole, it became clear that there was an imbalance that posed a degree of risk to the long-term preservation of the archaeological collection.

3. THE SOLUTION

For various reasons, it was necessary to find a solution within a short time frame and at minimal cost. It was proposed that we sort through the material, select non-diagnostic pieces and rebury them in the cellar of a site currently under investigation, an approach that was accepted after some discussion. This course of action recognized the fact that much of the material might be of little research value under current conditions, but retained the option that should circumstances change, the material could be excavated and studied. In adopting this approach we took advantage of the long-term stability of the materials with which we were working. It is not an approach that we would have felt nearly as comfortable adopting had the materials been more prone to deterioration during burial.

Working site by site, each fragment was removed from its packing crate and laid out for curatorial assessment. Items were chosen for reburial based on a number of criteria. For stone fragments, materials selected for reburial included those with **no** discernible wear marks, shadowing, finished edges, holes, markings, attachments, construction evidence, or other characteristics. For brick, materials chosen included primarily severely broken and crumbled brick. Samples of even the most ordinary broken brick, stone and mortar were retained for testing, comparison with other examples in the archaeological collection, and a general understanding of all materials represented from the different groupings. This included brick fired at different temperatures or made of different clays, all types of mortar, and a representational sample of all types of stone present from 18th century to modern marble. Whole brick, shaped brick, stone with any markings, attachments, finished edges, wear marks or other use and construction evidence were all retained. Of the items selected for reburial, stone fragments comprised 91% of the reburied material; of these, the majority was less than 4 inches in dimension.

Once they were emptied, the crates were examined carefully; those with any evidence of borer activity or other structural weakness were disposed of. The materials to be reburied were replaced in the sound crates. Brick, stone less than 4 inches in dimension, and stone greater than 4 inches in dimension were segregated into different crates by site. Two polyethylene bags, each containing a Tyvek label on which the site information was written in both pencil and Sharpie, were pushed as deeply into the box as possible. The materials that were slated for retention were moved to shelf storage pending further curatorial work. The crates were placed in the cellar. Materials were grouped by site and an attempt was made to segregate the sites from each other. The crates were stacked no higher than two deep to ensure that they did not extend beyond the

lip of the cellar. The cellar was subsequently filled with engineering sand and then the site was backfilled.

4. ASSESSMENT

To some degree, the success of this approach can only be measured over the long-term. Can the material be readily retrieved and consulted if necessary? However, there are certainly lessons that we have learned from this experience and that we feel may be of value should we adopt a similar approach in the future. To begin with, while the availability of the cellar allowed us to adopt this option in the first place, in the future, we would ideally site a reburial trench outside the historic area. The use of a structure imposed certain limitations. The first was that although we would have liked to establish a long-term environmental monitoring program at the reburial site, this was not possible because of the Foundation's desire to maintain as authentic an 18th century landscape as possible. Although it is not strictly necessary given the materials we chose to rebury, the opportunity to have collected this data would have been beneficial for future planning. Additionally, while there are no short-term or even long-term plans to rebuild the cellar site at present, plans can change. The slight degree of uncertainty that that imposes over the reburial site is one that we felt was acceptable but not ideal. Finally, if we were to carry this reburial out in the future, we would not use the pine crates. At the time of the project, it was the only option available to us, both because of the timeline and due to financial constraints. However, we know that the pine crates will deteriorate much more rapidly than anything else at the reburial site, and that there will be a certain loss of order within the reburial site as a result. We believe that we were able to segregate the individual sites well enough that they should not bleed into each other, the sorting of brick and stone sizes is likely to be compromised with the deterioration of the crates. Were we to do this again, our current choice would be to use high density polyethylene crates to house the materials. We chose not to label the materials individually for several reasons. One was the lack of any true provenience information beyond the site designation. Another reason was that we could not be sure that any method of labeling applied directly to the surface of the object would survive. Finally, given the number of fragments we were working with, individual labels did not appear feasible. Given more time, the ability to carry out simulated aging tests under reburial conditions on a number of labeling materials would have been valuable.

Looking at broader issues, we feel that the project has benefited the archaeological collection as a whole in several ways. Although it has been argued that one of the disadvantages of reburial, when compared to museum storage, is loss of access, we feel strongly that the limitations placed on accessibility were offset by the preservation gains that were made by the collection as a whole. It can be argued that the larger a collection becomes, the harder it is to preserve and service its various parts. Cataloging efforts, stabilization treatments and accessibility can all become bogged down as a result. At its transfer to the Department of Archaeological Research, the architectural material required huge amounts of curatorial time in order to catalog it, and even begin to make it accessible for researchers and scholars. Further scarce resources were needed to rehouse the material in archival packaging, a process which was not only likely to give it a larger footprint (since materials would be spaced out) but also fell under the umbrella of the conservation department and was therefore likely to divert attention from other objects in more dire need of stabilization. Viewing the archaeological collection holistically, it could be argued that the needs of the newly-added architectural materials were out

of balance with the collection as a whole, particularly given its collection history and lack of true provenience. To address its needs meant prioritizing this material above objects generated by systematic stratified excavation and diverting resources from other projects. To ignore its needs meant a degree of risk to other artifacts in the collection in both the short term by putting them at risk of pest infestation and in the longer term due to overcrowding and the pressures that it exerts on a collection.

Recognition of these risks required an understanding that the value of collections shifts and changes over time. What in 1930 seemed extremely valuable as an architectural link to the city under restoration has a different value in the 21st century when it is considered against the products of 50 plus years of systematic archaeological excavation. The need to reassess collections on a periodic basis is a basic tenet of collections building, but it is one that is often forgotten by the archaeological community where curation by record has become the norm (Swain 2010). This may be in part because the accessioning of archaeological artifacts differs from that of other museum collections in that it is rarely considered at the time of collection. Great amounts of thought are given to which site should be excavated and why, but the materials produced by the site are not always given equal thought. Archaeologists comfort themselves with the concept that even if they do nothing with these collections now, future generations may be able to apply advanced and undreamed of analytical techniques to them as they slide them into long-term storage. Yet it is true that often these collections are not revisited and the analytical techniques when they are invented often focus on one-of-a-kind pieces or freshly excavated materials.

In many ways this project is not a model project. There are a number of things that we would have changed if the circumstances had been different, such as those already mentioned. However, it did achieve its goal of reducing risk within the collection. It also opened the door for discussion of a topic that had heretofore been completely off the table. Engagement in deaccessioning and reburial decisions challenges the often held and comfortable idea that conservators should not be involved in making value judgments about artifacts or collections. It may be true that conservators should not lead these efforts; however, this author believes that we do have a unique voice to bring to the discussion. While archaeologists and curators are better equipped to speak to the significance of individual finds or groups of finds, particularly as these may change site to site, era to era; conservators are uniquely placed to address the risks that an object or group of objects faces in a collection; consider the risk it poses to other materials in the collection; and to assess the deterioration processes not only in storage but during reburial. As with treatments, there is the risk that the actions we take to mitigate one risk may impose a new risk. If reburial is chosen, it can quickly transform in policy maker's minds to an 'out of sight, out of mind' situation at which point the reburial actually becomes an artifact dump (akin to the many paths made of body sherds one finds on near-eastern digs). By conservators involving ourselves, pushing for long-term planning and advocating for the artifacts even as they transition into new environments, we have a greater chance of driving a successful outcome. Therefore we must involve ourselves in these decisions.

The reburial process reminded everyone involved of the need to look at the collections and consider their preservation and curation needs from a holistic rather than a particularistic point of view, and try to come up with solutions. It has spurred continuing discussion on a range of collection management issues. Reburial is not a viable option for every collection or every site. It works at Colonial Williamsburg in part because we have access to both undeveloped and protected land, which can be utilized for this type of undertaking. It must be considered, in part

because of the size of our collection, currently topping 20 million artifacts; its rapid growth rate (which can exceed a quarter of a million artifacts per year depending on the types and combinations of sites we excavate); and the knowledge that over half of Colonial Williamsburg's Historic area remains to be excavated.

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NOTES

1. 36 CFR Part 79 is the federal regulation on the "Curation of Federally-Owned and Administered Archaeological Collections". It contains the definitions, standards, procedures and guidelines for preserving collections of prehistoric and historic material remains, and associated records, recovered under the authority of: the Antiquities Act (16 U.S.C. 431- 433); the Reservoir Salvage Act (16 U.S.C. 469-469c); section 110 of the National Historic Preservation Act (16 U.S.C. 470h-2), and the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm).

2. Clearly, the ability to consult the largest possible sample is most valuable but it is not always possible. Sampling strategies may be employed on sites or in the collection of artifacts and statistical methods used to interpret them. A result is deemed "statistically significant" if it is unlikely to have occurred by chance, however, the fewer artifacts are collected and considered the higher the chance that their actual significance may be over or underestimated by this technique.

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