ZESZYTY NAUKOWE UNIWERSYTETU JAGIELLOŃSKIEGO MCCCXX

doi: 10.4467/20843852.OM.11.005.0262, s. 61–69 OPUSCULA MUSEALIA Z. 19 2011

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Managing the scientific heritage of a medieval university: Uppsala University phase II

Abstract

Since August 2008 a project at the Uppsala University Museum, the Museum Gustavianum, has been auditing the university's unmanaged departmental collections. Two years into the audit the project has entered into its second phase and in this article we discuss the goals we have in mind as well as some of the problems that we have encountered. By way of two case studies we illustrate the development of the project and finally we discuss the results that we have already achieved as well as those that are expected.

Introduction: the Uppsala audit phase I

Most of the older European universities have collections of all imaginable sorts and of immense historical value. Uppsala University, founded in 1477, is no exception[1]. Many of these fantastic items can be found at the university's museums. However, there are also many departments at the university that have preserved items that are no longer used in either research or education. The vast majority of these collections are only known to the staff at the respective departments and in some cases hardly even to them, thus these collections go largely unmanaged. In the fall of 2008, a project aimed at auditing these unmanaged departmental collections commenced at the Museum Gustavianum[2].

[1] Concerning the cultural heritage of UU see *Bryggan över sekler: Museers och föremålssamlingars uppgifter, organisation och finansiering vid Uppsala universitet*, Rapport från 1999 års museiutredning, Dnr 9053/98, Uppsala 1999.

[2] Similar auditing projects have been conducted at a couple of universities. One project that has been an inspiration is reported in R. Wittje, O. Nordal, *Universitetshistoriske samlinger ved NTNU:*

The first phase of this project was aimed at gathering information as to how many of the university's 83 different departments that actually have collections, how large they are and what sorts of items have been preserved[3]. So when a collection was located, together with representatives from the department we would tour the collection, take notes of the objects, contact persons and take photos of some of the items and document how these items were being kept. After this initial investigation was done, recommendations were made to the university leadership regarding how these collections were to be taken care of in the future.

By the end of the first year, 31 different collections had been located. All of the items that have been located can fit into three different and very general categories. Firstly, there are collections of items that have been used to facilitate research and education such as telescopes, microscopes and other such instruments. Secondly, there are collections of study material such as rocks, plants and so forth. Thirdly, there are more miscellaneous collections of items that mark the interests of a department or mark milestones in its history. These items could be gifts to individuals at the department, ceremonial regalia or personal collections of different sorts that have been donated to the department, etc. These departmental collections constitute an important part of the university's cultural heritage. Unfortunately a number of collections have already disappeared over the years and the preservation of the ones that remain is far from guaranteed[4].

The goals of phase II

Having identified the departmental collections, their scope and the manner in which they are kept, in phase II we wanted to take steps towards preservation and accessibility. This is unavoidably a long process, which has a real potential for becoming expensive. It is for this reason that our first step must surely be to convince the university leadership of the importance of these collections. There are a number of different ways to accomplish this. Firstly, exhibitions can be made which focus on telling the story of highlight items from the university's history. Secondly, research articles about items from the uni-

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Rapport fra kartleggingen av vitenskaps- og teknologihistoriske gjenstander og samlinger ved NTNU, og perspektiver for bevaring og tilgjengeliggjøring for forskning, undervisning og formidling, Trondheim 2005.

[3] The result of phase one has been reported in U. Josefsson, J. Worley, *Föremålssamlingarna vid Uppsala universitets institutioner*, Delrapport 1: Förutsättningarna för ett samlat omhändertagande av det vetenskapliga kulturarvet vid Uppsala universitet, Uppsala 2010. Unpublished project report, Museum Gustavianum, Uppsala University; J. Worley, *Husbyborg as a museum storage facility*, Delrapport 2: Förutsättningarna för ett samlat omhändertagande av det vetenskapliga kulturarvet vid Uppsala universitet, Uppsala 2010. Unpublished project report, Museum Gustavianum, Uppsala University.

[4] For a comparison with other European universities see M. Lourenco, *Between Two Worlds: The Distinct Nature and Contemporary Significance of University Museums and Collections in Europe*, Conservatoire national des arts et métiers, École doctorale technologique et professionelle Paris, Thèse de doctorat, Histoire des Techniques, Muséologie, Paris 2005.

versity's collections can be published[5]. Thirdly, students can become involved with the collections either by way of research or education, or in various other ways. The point being to show the university leadership that what they have hidden away in closets and storerooms all over the campus is *cultural capital*. In other words, these collections make up an important and as yet untapped source which represents centuries of research and teaching excellence. Investing in the preservation of these items is not solely a money--losing proposition. If used properly, these collections can vastly enhance the reputation of the University[6].

The next step is to inventorize each of the 31 different departmental collections. This is in itself a long process that ultimately must involve more people as it is a question of several thousand objects spread out all over the whole university campus. This is one of the reasons why we have taken the only step we thought possible and that is to use students to do what we refer to as *field inventories*[7]. Naturally this is not something that we would do without caution. Students are not archival specialists nor are they used to dealing with antiquities. The students work in close cooperation with both the department whose collection they are inventorizing and the museum itself. Great care is taken so that no harm comes to either the students or the antiquities that they are inventorizing.

Identification, however, is only the first step in a much longer process. The next step would be to ensure the security of the collection. After which the acquisition / de-acquisition process can begin. This allows the museum to analyze each individual item so as not to spend precious funds on the preservation of redundant items. This, however, must be done in a controlled environment where records can be made of that which is kept as opposed to that which is discarded. Then, once recorded and accepted into a collection, the items can be returned to a secure storage facility. An obvious prerequisite for this process however is additional financing so that a secure environment can be ensured for the items that are accepted into the collection.

After documentation and preservation, accessibility would be the final step in the process. With accessibility comes the ability to truly utilize the items in the collection. A collection that is accessible is a collection that will "work for its keep".

Problems encountered during phase II

If we are to achieve the above mentioned goals several problems will have to be solved. First, while the museum has been given responsibility for the departmental collections it has been given neither the finances nor the storage space to be able to properly care for them. What's more, the items in these collections cannot be found on any list or

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[5] One article has already been published about a collection identified by the project. See U. Josefsson, R. Flodin, *Julius Swanlunds farmacihistoriska samling*; „Uppsala Medicinhistoriska förening", 2011, p. 116–121.

[6] L. Burman, *Att förvalta sitt pund: Om kulturarv och kulturarvsstrategier vid Uppsala universitet – ett underlag*, Uppsala 2008.

[7] J. Worley, U. Josefsson, *Managing the scientific heritage of a medieval university: The case of Uppsala University*, „Opuscula Musealia", 2010, vol. 18, p. 51–60.

register, which means that they could easily be stolen or lost without anyone ever knowing about it.

The second problem that we have encountered is the lack of an official university-wide policy for the handling of old and obsolete material. If the museum is to takeover care of the collections then such a policy will be necessary, because at present the departmental collections are at the mercy of the head of each department. Recommendations to remedy both of these problems have been submitted to the university leadership at the end of phase I. However, as of the composition of this article there has been no response.

The third problem is also the one that is by far the most threatening to the collections and that is what we have referred to as the 'generation' gap. While touring the departments we have found that the majority of the individuals that possess the technical and contextual knowledge about their department's collection are individuals who are either retired or will soon be, i.e. in the near future they will no longer be active at their departments and the information that they possess runs the risk of being lost. Additionally, the younger individuals at the departments are seldom involved with collections and thus, on average, know nothing about them. This is why we refer to this issue as the generation gap as there is a distinct gap in the transfer from one generation to the next of technical and contextual information regarding the older and obsolete items that constitute a departmental collection.

Development during phase II: two case studies

Case study 1: an exhibition

Phase II of the project began with the construction of an exhibition. It was called "Hidden and Forgotten: 500 years of collecting at Uppsala University" and displayed items from 22 different departmental collections. Our goal with the exhibition was to bring to the attention of both the public and those within the university, some of the items that have been found during the audit. We also wanted to establish or deepen contact between the museum and the university's many different departments and other units.

The exhibition was spread out over all four stories of the Gustavianum building and throughout we attempted to relay the "story" of the university via a selection of items. We found that the stories we told was not only scientific but also a human story, sometimes tragic, sometimes humorous. Our desire was to interest people in the history of the university and in this manner awaken debate as to the ultimate fate of the departmental collections.

The exhibition was also an attempt to make some headway with another problem that we have encountered during the audit and this in regards to a lack of information about some of the collections. For example, the anthropological collection contains about 160 items from Africa and Central America, and as far as we know there is no register of any kind and the individuals at the Anthropological Department have no details regarding the items either. This is not only in regards to provenance and approximate date, but indeed some of the questions are far more elementary, such as what exactly the item is and what function did it have.

One of the unexpected results of the exhibition was that at least one of the items displayed a LINC-8 minicomputer from the mid-60s that was preserved at the Department of Psychology, was actually completed and now is possibly the only totally complete LINC-8 in existence. The other pieces to it were found during a move. The point here is that had the computer not been on display, then the other parts to it may well have been discarded with a lot of other things the department discarded before the move. Another result, this one more expected, was that we were in several of the local daily papers and a radio show to promote the exhibition. This is good as it allowed us to put the problem of the departmental collections to the public in a way that otherwise could not have been possible.

Case study 2: a field inventory

During February 2010, a field inventory was conducted at the Department of Materials Chemistry by two students from the ALM (Archive, Library and Museum) Department. The inventory was done during an internship at the museum. The supervision of the students was a cooperative effort between both the Museum Gustavianum and the Department of Materials Chemistry.

The students' main task was to gather and digitalize as much information as possible about each item. At the time of the documentation the collection consisted of approximately 400 scientific instruments and tools that at one time or other were used for either teaching or research. The collection had already been thinned out in 1997 when the department moved to the Ångström Laboratory. Most of the objects date to between the years 1918–1969 with the vast majority of items dating to the 1940s. Calculation was a key part of the work at the department. Early calculators and some forerunners to modern computers are important parts of the collection. Over the years, however, and as calculating machines became more common they were discarded with increasing regularity and thus later versions do not figure in the collection. The collection also contained items of glass, sometimes well-packaged, but not always. Some of the glass items contained gases or mercury and thus had to be handled with care. Other instruments were stored in their original wooden boxes which made them very easy to handle.

The students had a limited timeframe with which to finish the documentation. Thus, and keeping the scope of the collection in mind, their main priority was to include some basic information and photographs on each item. The documentation was to serve as a basic reference for the collection, the idea being that further information could be gathered at a later date.

Neither of the students had previous experience with chemistry or scientific equipment. Consequently, they lacked an understanding of the objects they were to document. Fortunately, many of the contextual questions could be answered by the staff at the department. It was, however, important for the students to adopt a new perspective regarding scientific equipment as the conveyors of cultural heritage. They also had to be able to find solutions to problems as they arose.

The collection itself was spread out to several different places, with objects located in the department itself, in the laboratory and in showcases in the public areas of the campus building. The vast majority of the items however were kept in a storage room

about 20 square metres in size. Seeing as how most of the work that was to be done had to be carried out in close proximity to the collection, the students set up a work space and a make-shift photo studio within the confines of the small store room.

The work required a great deal of lifting and practical organization of the shelves so that items that have been registered could be separated from those that have not. When the work was finished, however, the instruments had been placed on the shelves in a more systematized manner and the shelves marked and all of the items that previously were unlabeled were labeled with inventory numbers.

The students were given some general information categories that were deemed necessary for any documentation and that would juxtapose with the museums' existing database. The categories were adapted to items in the collection and an Excel spread sheet was made that had all of the relevant categories of information that were applicable, such as: inventory numbers, type of object, usage, the manufacturer, year of acquisition, measurements, condition, inscriptions, materials and a general category for other information such as published articles or any other sort of contextual information that is deemed relevant.

In order that the students might work more effectively they divided the work in two. One would photograph an object, check if it had an old inventory number and if it did take note of it. The other would work with the Excel spreadsheet and enter the inventory number and all the information from, among other things, an old index catalogue containing information about the objects.

Many of the items were already marked with an inventory number, which could then be correlated with information about the item in an index catalogue. These catalogues were however incomplete. They consisted of binders with archival material from 1940 and many of the cards had fallen out. Fortunately some of these missing cards were later found. Copies of an additional inventory catalogue entitled "Curiosities from the inorganic division", listed what had been registered during an inventory done in 1997. Many items had been added to the collection without having been given an inventory number. The existing inventory number system needed to be supplemented, reorganized and restructured so that it adhered to the system adapted for the registration of all the university's departmental collections. When information about an object was missing in the index, a representative from the department, Dr. Nils-Olov Ersson, a retired Research Engineer, helped to complement the missing information.

The students used the same numbers as in the earlier registration but expanded upon the earlier system. If an object was already marked with a number then a prefix was added so for example an object marked with *315:1* became *UUMK315:1*. The prefix stands for *Uppsala University Materials Chemistry* and is a part of a larger prefix system used for all of the departmental collections. Unmarked items were marked with new inventory numbers beginning with UUMK01 and running up to the first of the previously used numbers and then moving on from the last of the preceding numbers.

The photography was done from two different perspectives: one with a measuring stick, either from the front or from above, whichever was most applicable, and one from above and to the side for a more artistic image of the item. Once the photographs were taken they were organized with the correct inventory number containing all the proper information on the object.

The documentation of the collection proved to be an exercise in problem-solving as well as an opportunity for the students to apply their theoretical knowledge in practice. It was an opportunity to see a concrete example of the selection process that shapes the university's cultural heritage. The students felt that it was important to take advantage of expert advice on the objects and listen to the departments' own wishes for the preservation of their own history. The equipment was once used in research and education and after it became outdated much of the equipment was thrown away. Only certain select items were preserved. In other words the present collection does not represent a complete picture of the departments' cultural inheritance. Through the objects the students could see the items that have been important to conserve. Many of the objects were preserved only because they had personal connection to the staff. The students were able to take advantage of many personal stories related to the activities at the Department for Materials Chemistry and its collection. In this manner the tangible heritage became alive.

Conclusions and expected results

As yet we are only half way through the second phase of the Uppsala audit, but we have seen some of the results already. For example, as was stated above, using the students has been a success. Firstly, without help from them, the inventories would not get done as there is no way that two people could achieve this task. After the inventories are complete we can start the acquisition / de-acquisition process. But this is dependent upon the museum actually having the space required to conduct such work properly, i.e. this work must be done under controlled conditions and then the items must be stored properly and at present that is not possible.

The university leadership is becoming aware of the value historically and monetarily of the items that they have scattered all over the campus. This will in turn allow us to lobby them for additional funds for the proper care and preservation of the items. There have also been some unexpected results, for example, we have found that having the students there inventorizing a collection at a department creates interest in the collection in itself as information comes to the surface or is searched after.

As regards the exhibition that was mentioned earlier, we have also found that to be a success. Firstly it is an exhibition of highlighted items from the university's history which in itself is enough for a university museum. But through the exhibition we have also been able to gather further information about some items. Other items have had to have the information we had on them edited rather radically and still other items have had missing pieces come forward to complete them that ordinarily would not have done so had they not been on display.

At the beginning of phase II we stated that we wanted to take steps towards the preservation and accessibility of the items in the departmental collections. Halfway through this second phase we can emphatically state this is an achievable goal providing we have the time and finances to see it through.

Summary

After five centuries of teaching and research, Uppsala University has accumulated a vast array of items that act as silent reminders of its proud history. The problem is that this vast resource is as yet unrealized. By the end of the second phase of the project we will at least have some of the departmental collections fully documented. This work is largely being done by dedicated students, working in collaboration with representatives from the departments and the museum as was the case with Hedvig Gottberg, Rebecca Flodin and the collections at the Department of Materials Chemistry that was detailed above. The field inventory system the project is developing is far from fool proof but it does allow for the documentation of the collections and will facilitate the preservation of vital technical and contextual information resulting in further interest in the collections and filling the generation gap, which in turn will lead to better financing and schemes for preservation and utilization of the departmental collections.

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ACKNOWLEDGEMENTS

We would like to seize this opportunity to acknowledge our indebtedness to some of the persons that have facilitated our work with this project: Anders Hallberg, Vice Chancellor of Uppsala University, for approving the application for the funding of the project; Ing-Marie Munktell, Director of Museum Gustavianum, for entrusting us with the task of realizing the project; Marta C. Lourenço, Museum of Science, University of Lisbon, for constant support. We would like to thank all enthusiasts that we have met at various departments of Uppsala University and who take care of collections on purely idealistic grounds. Finally we would like to thank all of the enthusiastic students and volunteers that have shown such interest in the project.

STRESZCZENIE

Opracowywanie dziedzictwa naukowego średniowiecznego uniwersytetu: Uniwersytet w Uppsali, faza II

Od sierpnia 2008 roku w Muzeum Gustavianum przy Uniwersytecie w Uppsali są prowadzone badania mające na celu opracowanie niezinwentaryzowanych kolekcji poszczególnych wydziałów. Dwa lata po rozpoczęciu projektu badania weszły w drugą fazę. Artykuł omawia założenia oraz problemy, które powstały w trakcie przeprowadzania badań. Na dwóch przykładach przedstawiamy rozwój projektu, już osiągnięte, a także oczekiwane wyniki.

Ill. I. A portion of the exhibition “Hidden and Forgotten”. Photo J. Worley

Ill. II. Rebecca Flodin and Dr. Nils-Olov Ersson studying the collection inventory.
Photo H. Gottberg

Ill. III. Hedvig Gottberg preparing to photograph an object. Photo R. Flodin

Ill. IV. Late 18th century laboratory glass from the Department of Marierials Chemistry. Photo R. Flodin