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## *Managing the scientific heritage of a medieval university: The case of Uppsala University*

### **Introduction**

The University of Uppsala was established by a papal bull in 1477. Over the past five centuries its various departments have collected a vast array of items that have been used for teaching or research. These items bare silent witness to the cultural history of each department and cumulatively of the University itself. Some mark not only fundamental milestones for Uppsala University and for Sweden, but for the history of science as a whole.

In 1997, the Museum Gustavianum was established as the center piece of a small group of museums designed to showcase the cultural heritage of Uppsala University<sup>1</sup>. In addition to Museum Gustavianum with the Art Collections and the Coin Cabinet there are four other museums at Uppsala University: Carolina Rediviva, the Museum of Evolution, the Botanical Garden with Linnaeus' Garden and Linnaeus' Hammarby, and the Museum of Medical History.

At several departments and other units at Uppsala University there are objects and collections that are no longer used in research or education. That it was necessary to conduct a survey of the unmanaged collections has long been clear. The issue has been raised at regular intervals at least since the 1980s. Among the responsibilities delegated to the Museum Gustavianum was the overseeing of all the collections in all the various departments of the University that were not being managed by any of the other museums. The problem was that, while recognizing the importance of these responsibilities, the Museum lacked the funds and the personnel, let alone the storage capacity, to fulfill these duties.

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<sup>1</sup> Concerning the cultural heritage of Uppsala University see Bryggan över sekler: Museers och föremålssamlingars uppgifter, organisation och finansiering vid Uppsala universitet, Rapport från 1999 års museiutredning, Dnr 9053/98, Uppsala 1999. L. Burman, Att förvalta sitt pund: Om kulturarv och kulturarvsstrategier vid Uppsala universitet – ett underlag, Uppsala 2008.

In August 2008, Vice-Chancellor Anders Hallberg, approved an application submitted by Museum Gustavianum's director Ing-Marie Munktel, for the funding of a project aimed at auditing all the unmanaged collections of Uppsala University<sup>2</sup>. Urban Josefsson is the project leader and John Worley joined the project in December 2008. Thus far we have visited 31 different collections. In this article we focus on these unmanaged departmental collections at Uppsala University and the findings of the first year of the Auditing Project.

## The vulnerability of dispersed collections

Like in so many other universities across Europe, dispersed departmental collections face many challenges and are often at risk<sup>3</sup>. In Uppsala, there are no surveys of the dispersed departmental collections. There is no joint register or catalogue that comprises all of the collections at university level and, in most cases; the collections have no registers at all. In the few cases where a collection did have a register, it was found to be incomplete and thus not reflective of the collection's current state. The vast majority of the collections are only known to the staff at the departments where they are located and in some cases hardly even by them.

In practice, it is not the Museum Gustavianum that oversees the departmental collection but rather the prefects of the departments where the collection is found. It comes with their job to care for them, along with all the remaining equipment at their department. One important problem is that no distinction is made between museum objects and utility items.

Items have been saved largely due to dedicated enthusiasts at each department. These individuals have seen the historical value in the old and obsolete instruments and collections and thus ensured their preservation. In many cases, this was done in spite of the fact that this is outside their normal duties and often puts them at odds with those who would like to have more space or resources and thus see the old items as being 'in the way'. It is dangerous and arbitrary that care for these collections is dependent on the efforts of idealists. Furthermore, when one leaves the department, the collection that they once cared for will be in danger.

The one common denominator joining almost all of these enthusiasts together is that they are all either retired or soon will be retired. Many of them have expressed concerns as to the fate of the collections once they get too old to engage themselves in the activities at their old departments. We refer to this problem as the Generation Gap and it is by far the most serious challenge facing the collections at present. It is often the enthusiasts

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<sup>2</sup> Similar auditing projects have been conducted at a couple of universities. One project that has been an inspiration is reported in Roland Wittje & Ola Nordal, *Universitetshistoriske samlinger ved NTNU: 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).

<sup>3</sup> For a thorough study of the situation at universities in Europe, see M.C. Lourenço, *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 professionnelle Paris*, Thèse de doctorat Histoire des Techniques, Muséologie, Paris 2005.

who are in possession of the intimate technical details and contextual knowledge that would justify the expense of preserving the items. After these enthusiasts have left the departments, this important information will be lost.

An additional threat to the departmental collections is in regards to economy. Demands for prefects to save money have hit the collections very hard. The prefects and enthusiasts both are caught in a 'catch 22': they are aware of how much storage of these items costs and find themselves forced to choose between the development of science and the preservation of significant items of cultural and historical value. In most cases the old and obsolete objects lose and are discarded. This is severely aggravated by the absence of university policies and guidelines for the disposal of objects of cultural and historical value.

### **The Uppsala Audit: Questions, scope and goals**

The Uppsala Auditing Project was initiated in January 2009 and its first stage was completed in November 2009. For the purposes of the collections survey, we have used the same definition of 'university cultural heritage' that was issued by the Steering Committee for Higher Education and Research, Council of Europe in 2004: "[t]he heritage of universities is understood as all tangible and intangible traces of human activity relating to higher education"<sup>4</sup>. In our project we are primarily dealing with the tangible portion of Uppsala University's heritage. To be more specific, we are dealing with collections of objects that have been used for research or education and that are either obsolete or more than 25 years old.

All collections that fall within the scope of the definition given above are however not included in the current project. First, as was stated earlier, we have only concerned ourselves with the university's unmanaged collections. Additionally, we are not dealing with collections of archival documents, manuscripts, books, art or furniture as these objects fall under the purview of other museums. Having said this, we are studying any collection that a department has considered it justifiable to keep. As can be imagined, the collections in question cover a wide range of objects with vastly differing natures.

With these questions in mind the goals of the auditing project are: firstly, to investigate the nature and size of the unmanaged departmental collections. Secondly, to make suggestions as to how these collections should be managed in the future.

In terms of methodology, the Audit was initiated by a questionnaire sent to all prefects and department heads. The questionnaire introduced the project and defined approximately the type of items we were looking for. The questionnaire also asked if there were any such items in that department. Those that gave a positive answer were later contacted and a date was set for a visit.

This first visit was intended as a preliminary visit aimed at compiling as much information about the collection as possible. Often these were followed by several other

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<sup>4</sup> *Revised Draft Recommendation on the Governance and Management of the University Heritage with a Revised Draft Explanatory Memorandum*, Steering Committee for Higher Education and Research (CDESR), "Council of Europe", 19 August 2004, p. 8.

visits during the course of the project. Once at the department, relevant people that were connected to the collection in question were interviewed. The interview was informal and open and included the following questions: What collections were to be found at the department? Approximately how large were the collections in question? What condition were the items in? How were the items being kept? Were the items marked in any way? Were there any registers, catalogues or inventories and, if so, have they been kept up-to-date? We have also asked if there were any protocols in place that guide how the items in the collection are to be cared for. Finally, we asked how the department would feel about the Museum Gustavianum taking over the care of their collection.

Answers were recorded and other recommended names were taken for additional information about the items in the collection. During the visits, we have also photographed the items extensively in order to document their diversity, as well as their storage and conservation conditions.

During the course of the Audit we have also gathered as much contextual information as possible in order to assess the collections importance, value and relevance to the history and cultural identity of Uppsala University.

## Development and results

During the first year of the auditing project we have visited 39 of Uppsala University's 83 different departments and other research and education units. Of these 39 departments, 10 were within the disciplinary domain of the humanities and social sciences, six were from medicinal and pharmaceutical faculties, 16 were from scientific and technological faculties and seven were from the Faculty of Educational Sciences. The remaining 44 departments, with the exception of a few departments that have not answered our inquiries, have told us they had no items or collections of interest.

Some collections belonged to conglomerates of departments and others to subdivisions of departments. In other words, of the 39 departments that we have visited we have seen 31 different collections. The seven departments of the Faculty of Educational Sciences, for example, have compiled all of their objects into a single collection, while the Department of Medical Chemistry has three collections. This is largely dependent upon how the various collections are being managed today.

As said above, we initiated the Audit with a rather open and all-encompassing definition of university heritage and collection. During the project we have realized that the majority of 'collections' we have encountered are composed of items that, for one reason or another, have simply not been discarded. As said above, this is largely on account of enthusiasts who have recognized the cultural and historical value of the items and thus ensured their preservation<sup>5</sup>.

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<sup>5</sup> We would like to emphasize that it is not our intention to make claims that the personnel at the departments are mismanaging their duties, but rather to stress that they have inherited responsibilities outside their sphere of expertise.



Fig. 1. Objects at display at the Department of Earth Sciences (photo by John Worley)

As regards the storage of the collections, we have found three main types. Firstly, in several of the departments we have found items used in small exhibitions. Typically, objects on display were those that marked milestones in the department's history. While the Museum Gustavianum supports such displays, they can be cause for security concerns given the significant monetary value of the objects. Moreover, some of the items were quite old and are in need of special conservation attention as regards the environmental conditions in which they are kept.

Secondly, we found that many items were spread out in offices, lunch rooms, conference rooms, and hallways. Apart from the security and conservation issues raised above, there is also concern that, without a proper register, it is difficult to know exactly where the objects are located. Moreover, there is the ever present danger that objects from collections will get mixed up with personal property and disappear from the premises when departmental staff members leave their positions.

Thirdly, we found that the vast majority of the objects were simply placed in storage rooms, under variable conditions. In some, we found objects piled on top of one another, which could lead to items being unnecessary damaged. Again, without a proper regis-

ter, no one would notice if items disappeared. In many instances museum objects were mixed up with utility items and thus there was a constant risk of them being discarded by mistake, especially when a department moves to new premises.

As regards the collections, it is important to realize that changes are taking place on a constant basis. For example, one of the largest collections we have visited, at the Division of Plant Ecology, Department of Ecology and Evolution, no longer exists. The Department had been in the same building since 1914 and specimens had been accumulated for almost a century. In the spring of 2009, it moved to the Center for Evolutionary Biology and was forced to dispose of the material. The Museum Gustavianum, through a hasty selection made by its chief antiquarian Geoffrey Metz, was able to rescue a few items, but most of the collection had to be discarded. As a matter of fact, had it not been for this project, the museum would not have heard anything about this whole situation until it was too late.

All of the items in the collections that we have visited can be divided into three large and very general categories: a) items that have been used to facilitate research and education, such as telescopes, microscopes and other instruments; b) collections of study material, such as rocks, and plants, among others; and c) miscellaneous items that mark the interests or other milestones in the department history such as gifts to individuals, ceremonial regalia or personal collections that have later been donated to a department.



Fig. 2. Objects in a storage room at the Department of Materials Chemistry (photo by John Worley)

## Recommendations

The initial stages of the project were exploratory, aimed at gathering preliminary information about the nature of the dispersed collections, their sizes and also how they were being kept. During the following stages, a far more detailed inventory of each collection, on an item by item basis, should be developed. Individual records will be later integrated in the Museum's official database<sup>6</sup>. This will involve working *in loco* at the departments for extensive periods of time as bringing the items to the Museum is impossible due to space constraints. This is a massive task as we are dealing with tens of thousands of items spread out over the whole university campus. The Museum therefore contemplated the possibility of involving students in *field inventories*. Student engagement ultimately accomplishes two goals. On the one hand, detailed inventories can be done simultaneously on several collections. On the other hand, students and the departments will be involved in the preservation of their own history, thus filling the *Generation Gap*.

Such a course is not taken without due caution. The students work must be strenuously trained and constantly supervised. The Museum needs to guarantee that no harm comes to either the objects or the students. Moreover, the Museum should ensure that the students are not gathering a mass of superfluous or inaccurate information. Each student or student team will be working in cooperation with representatives from the Museum and representatives from the departments where the collection is being kept. In this way the information is gathered from a reliable source and can be checked as the inventory is being done.

The Museum aims at training a few students in the initial stages of the field inventories so that they in turn can serve as supervisors for the next group of students. Our intention is to establish guidelines and procedures that all students who conduct field inventories can use<sup>7</sup>.

We further propose, after having seen the collections' size, complexity and storage conditions, that the Museum Gustavianum takeover the care of all departmental collections, providing that it is granted the indispensable personnel, space and financing. As regards departmental exhibitions, we believe it is important not to dissuade the departments from having items on display. Items materialize the history of research and teaching at the departments and, more often than not, they have more meaning in their original locations. These exhibitions should therefore be stimulated, provided that proper security and conservation protocols are developed, under the Museum's supervision.

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<sup>6</sup> In this respect some problems are unavoidable, such as photography. Due to a lack of financing we are forced to make do with inexpensive solutions. This means that the quality of the photographs that are taken may not be good enough to be used in the Museum's database and may have to be retaken on a later occasion. At this stage however what is important is that a photo of each object is taken and kept with the documentary information as a part of the register so that there is a permanent record of the object.

<sup>7</sup> For example, if the items are photographed first, then not only will those doing the inventory get an excellent overview of the collection they are dealing with, but also the pictures can be put on a CD, which can then be circulated at the relevant departments. This will allow for the gathering of information from those who would know best, and doing so in a manner that is convenient for them, while also informing all personnel at the department of the scope of the material history of their own department.



Fig. 3. Erik Hedin and Maria Sonmark, students at the Faculty of Medicine, working with a pharmacological collection (photo by John Worley)

At University level, we recommend that a general policy be adopted for the management and disposal of old and obsolete material. Furthermore, we recommend that clear protocols are implemented so that prefects and other unit heads have clear guidelines to contact the Museum Gustavianum before disposal of material that could be of cultural or historical value.

## Conclusions

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. This vast resource, however, is as yet unrealized. The second year of the auditing project will see some of Uppsala's collections fully documented. This work will largely be done by dedicated student volunteers, working in collaboration with representatives from the departments as well as from the Museum. The field inventory system that the auditing project is developing will enable the preservation of the vital technical and contextual information in the possession of the departmental enthusiasts, thus filling the *Generation Gap*<sup>8</sup>.

<sup>8</sup> Recently, we learned about an inspiring student-based project similar to our own being conducted at the University of Leeds (M. Steadman, *Progressions towards establishing a Museum of the History of Science, Technology and Medicine at the University of Leeds*, unpublished communication presented at the Universem Annual Network Meeting, University of Toulouse, 11–13 June 2009).



There are more mutual benefits for the Museum, the students and the departments. Field inventory provides students with valuable hands-on experience and skills that can serve them in the future, particularly those pursuing museum studies. Departments are actively engaged in the preservation of their own history. The Museum Gustavianum, provided it receives the necessary resources, could implement in practice what already exists in paper, which is the museological supervision of dispersed collections. This in turn would lead to improved accessibility and preservation standards and more meaningful cultural heritage at the University of Uppsala.

Perhaps one of the most important lessons learned after the audit's first year is how mere preservation is no longer justifiable and how paramount collections accessibility and use is. Improving university collections accessibility and use can be done in many different ways and here we provide only three examples.

The first is through exhibitions. This is the most obvious method, but it must be well financed and done properly. Each item has a story and it is important that this comes out in the exhibition. It is important too that the visitor is engaged and encouraged to learn more. Secondly, collections can be used more in teaching and research. In this respect, the work of Otto Sibum, Professor of the History of Science in Uppsala can be inspiring<sup>9</sup>, as well as other initiatives being developed in Europe<sup>10</sup>. Thirdly, the internet is a valuable tool as concerns accessibility. If Uppsala University's collections were put online, then anyone with an internet connection can access, learn, research or use in teaching, any item in the collections. This is providing of course that they have been properly catalogued in the first place. Surely putting Uppsala University's collections online should be the ultimate goal of the auditing project<sup>11</sup>.

## 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. Last but not least we would like to thank all enthusiasts that we have met at various departments of Uppsala University and who takes care of collections on purely idealistic grounds.

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<sup>9</sup> Otto Sibum is Hans Rausing Professor of the History of Science at Uppsala University. He has developed and published about re-enacting groundbreaking scientific experiments with replicas of historical scientific instruments (O. Sibum, *The Experimental History of Science*, Workshop held at Museum Gustavianum, 28 April 2009).

<sup>10</sup> See, for example, the latest issue of the journal *Studies in History and Philosophy of Science* (40, 2009, edited by L. Taub), presenting several papers about the use of scientific instruments from the Whipple Museum at Cambridge University for research in the History of Science.

<sup>11</sup> Such a project is currently being carried out at the University of Vienna (<http://bibliothek.univie.ac.at/sammlungen/>).

*STRESZCZENIE**Zarządzanie dziedzictwem naukowym średniowiecznego uniwersytetu: przypadek uniwersytetu w Uppsali*

Od ponad pięciu wieków uniwersytet w Uppsali gromadzi materialne ślady nauczania i badań naukowych, które są tu nieprzerwanie prowadzone. Przedmioty te przechowują poszczególne wydziały uniwersytetu. Ich los jest raczej niepewny, gdyż jak dotąd nie wchodzi w skład kolekcji żadnego z muzeów uniwersyteckich, nie są zinwentaryzowane, a niektóre wydziały nie wiedzą nawet o ich istnieniu.

W minionym roku w Museum Gustavianum na uniwersytecie w Uppsali powstał projekt, mający na celu zbadanie kolekcji wydziałowych. W artykule omówiony został wspomniany projekt, sformułowano wnioski i zalecenia dla uniwersytetu, dotyczące jego dziedzictwa naukowego i materialnego.



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Fig. I. Dr. Josefsson discussing objects with Dr. Gunnar Jansson and Dr. Sverker Runeson at the Department of Psychology (photo by John Worley)