

Conference proceedings: *Awareness and Action – University Museums Today*, September 25 – October 1, 2005, Uppsala, Sweden

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Communicating scientific heritage: the university museums and collections of the University Louis Pasteur of Strasbourg

Introduction

Apart from resulting from a personal interest, it is not common for a scientist to take heritage into consideration¹. Scientific activity, as defined by scientists themselves, consists mainly of producing new knowledge, new technical tools, and new services. Few scientific areas need to refer to the past to achieve this goal, even though some, like astronomy or meteorology, often use data collected in the past. Consequently, for most scientists past scientific knowledge, artefacts, instruments, scientific collections, and paper records, often become rapidly obsolete and useless. How are 'research and innovation' and 'heritage and the past' to be reconciled?

In this paper, I will outline the preservation policy on scientific instruments and collections developed at the University Louis Pasteur of Strasbourg and pay particular attention to the reasons why this policy was initiated. I will then discuss national and local factors that contributed to the establishment of such policy, as well as their limitations.

The beginnings

In 2003, I was appointed to coordinate the collecting and preservation of twentieth century physics heritage in Strasbourg. This concerned mainly paper archives, but also included instruments and other materials related to the activity of physicists at the University of Strasbourg. Six physics laboratories or institutes were selected: the Institute

¹ This paper addresses the heritage of the physical sciences and technology. The use of the terms 'scientist' and 'scientific' should therefore be understood in this context.

of Physics, the Astronomical Observatory, the Charles Sadron Institute (research on macromolecules), the Institute of Subatomic Research, the Institute of Physics and Chemistry (magnetic and optical properties of materials), and the Laboratory for Complex Fluids Dynamics. These six departments encompass most of the research in physics pursued at the University and the heritage resulting from it.

The programme had multiple objectives, ranging from providing access to historical records and instruments of modern physics through the internet and other media, to the establishment of paper archives and an instruments management plan for laboratories of physics under the jurisdiction of the University. Moreover, the development of historical research on twentieth century physics, as well as research on the building process of heritage within scientific communities is closely linked to this preservation management plan.

The programme mobilized numerous people from diverse knowledge and know-how backgrounds, such as archivists, historians of science and technology, physicists and curators. A scientific committee was created to set up the programme, which also relied on strong partnerships with regional and national departments in charge of the preservation of cultural, historical and scientific heritage². The project received funding from several important sources: a three-year grant from the ministry of research enabled paper archives collecting, the inventory of instruments as well as research activities; a grant from the Friends of the Centre for the History of Physics of the American Institute of Physics contributed to the inventory of archives; important financial support to catalogue instruments was also provided by the regional inventory department.

As far as archives are concerned, this initiative is certainly unique in France, where no dedicated centralised structure for scientific archives exists. The National Archives Office, although aware of the specificity of these archives, has not developed a national long term policy for the benefit of this kind of material. In general, few universities care about the preservation of their archives and there is no department of records at the University Louis Pasteur. Last but not least, the programme considers physics as the first step in setting up a general policy for the preservation of scientific heritage of the university. Firstly, the plan aims at having a more precise idea of what we are talking about in terms of university heritage, how many collections, how many scientific instruments – what for, what is their value, what is their current preservation state, could they be used for display, for teaching, for research? Secondly, the plan aims at (re)thinking the role of this heritage in terms of research and teaching: historical research and pedagogical tools for teaching science are to be developed.

Considering how little attention has been given so far to the preservation of scientific heritage and university collections in France and across Europe, the programme's ambitions are quite surprising. Of course, local or personal actions have been taken here and there to save precious heritage in universities and scientific institutions. But scientific heritage mostly owes its salvation to having fallen into oblivion in dark basements or attics. Why then did the University Louis Pasteur of Strasbourg decide to develop a preservation plan?

² For example, the Regional Department of Inventory, the Regional Department of Archives, and the National Department of Scientific Heritage at the Ministry of culture.

Preserving to communicate, communicate to exist

Although scientific institutions have for a long time been strongly concerned with informing the general public about their activities, awareness towards science communication has increased in the past 20 years. There has been a multiplication of opportunities to address the general public, coupled with innovative ways of doing it. Heritage is certainly one of these new ways to gain access to broader audiences. Moreover, in France, the growing concern about heritage in various scientific institutions, particularly in universities, can be linked to the growing difficulties these institutions have faced during the last few years. Heritage appears an effective tool to reinforce their legitimacy, which has been frequently contested on many levels.

In France, these general assertions are associated with the emergence of a genuine concern with the preservation of scientific heritage at national level. Since the late 1980s, in various French scientific institutions actors with different backgrounds and knowledge, took action and made considerable efforts to locate and inventory different types of collections. The preservation of scientific instruments and collections has been on the agenda of several ad hoc committees of both the French Ministry of Research and the Ministry of Culture. Thus, however inhibited this recognition might be, the legitimacy of the preservation of scientific heritage was reinforced by recognition of the French administration. Museums, scientific places, buildings and instruments – like, for instance, the Musée des Arts et Métiers, astronomical observatories and instruments, the first French nuclear reactor Zoé and the instrument collections of the Ecole Polytechnique – benefited from this new concern. Moreover, many public scientific institutions took major steps by creating, not without substantial difficulties one should add, a records department of their own. More recently, the Musée des Arts et Métiers initiated a national programme for the preservation of contemporary scientific instruments. This programme had been commissioned by the Ministry of Research in 2003.

These initiatives had diverse objectives, of which the most important was to increase access to instruments, collections, exhibitions, homes and laboratories of famous scientists from the general public. They have emerged in a particularly favourable atmosphere in France: firstly, the mood existed for a significant and sustained collaborative reflection with professionals of museums and heritage; secondly, the emergence during the 1980s in France of social history of science resulted in growing concern for scientific practices, research policies and the understanding of science in social context, which in turn contributed to raising questions about the existence and the use of historical materials supporting research and policies; and thirdly, the development of a scientific culture policy resulting from a decrease in the number of students in scientific courses enabled the multiplication of media of public communication.

The University of Strasbourg provides a good example of these remarks and the establishment of a preservation plan for scientific heritage is certainly to be understood in this national context.

A Franco-German history

Locally, other factors granted a favourable environment, of which the first is historical. The University of Strasbourg was created by Germany in 1871, after they defeated France during the Franco-Prussian War and annexed Alsace and Moselle. The Emperor Wilhelm I decided to turn Strasbourg into a display ground of German power and modernism and invested considerable money in rebuilding the town. Particular attention was given to the University. New buildings were constructed and well-equipped with libraries, scientific instruments, and scientific collections for research and teaching. Famous professors were invited to head the different departments, with very attractive salaries. Most importantly, the Kaiser Wilhelm Universität of Strasbourg was founded on modern Humboldtian values expressed in the integration of research and teaching courses. Nothing was overlooked – an astronomical observatory and a station of seismology were built, as well as a museum of zoology, a museum of mineralogy, and a botanical garden.

When the French returned in 1919, they were keen to prove that they could do as well as the Germans, if not better. Considerable investments were again made by Germany during World War II and then again by France after 1945. Thus in many fields, not only in science but also in the humanities, Strasbourg had certainly one of the best universities in Europe. Historically, physics played an important role in the development and fame of Strasbourg University. Research developed from 1880 to 1950 contributed significantly to the emergence of new fields in physics. Physics is still a major department of the University and its present president is a physicist, which is one of the reasons why the preservation plan started with this field. Moreover, dimension and scope of the physics' heritage was unknown and, therefore, there was a danger that it could disappear.

Fortunately all university buildings survived bombing during World War II. Unfortunately, paper archives were less lucky and numerous scientific instruments were taken by the Germans when they fled Strasbourg. However, many instruments and scientific collections are still preserved today, although some are in poor state. At present, there are four museums at the University. The Museum of Zoology and Mineralogy were inherited from the past, while the Museum of Seismology and the Museum of Anatomy were recently created. The Botanical Garden has also been preserved and is open to the general public. In the 1990s, a Planetarium was created next to the astronomical observatory.

Scientific culture and history of science

The preservation plan is also supported by two departments of the University: the *Mission Culture scientifique et technique* (Scientific and technical culture department) and the *Institut de recherches sur les sciences et la technologie* (research institute on science and technology).

The *Mission culture scientifique et technique* (MCST) is in charge of communication and diffusion of scientific culture. This department is indeed the regional coordi-

nator of events such as the Science Week and special events such as the commemorations of the World Year of Physics in 2005. Many activities have been developed for various audiences and scholars. More particularly, the MCST is leading a general project of the University to promote scientific culture and public understanding of science: the development of the *Jardin des sciences* (Garden of science). This project aims at developing a science centre, the activities of which will be sustained by the four other museums, the planetarium and the botanical garden. This project should enable the development of a central management unit and stimulate collaboration between the different museums of the University and thus create a general dynamics in which heritage has a central place.

The research group on social studies of science and technology has established scientific heritage as a subject of its research activities. Its researchers are interested in the processes through which sciences – practices, knowledge, cognitive and social forms – are instituted as heritage or remembrance place, i.e. *lieu de mémoire*. This research is based on the conviction that practices of remembrance, its motives and the aims it puts forward, particularly within a university, cannot be seen as separate from historical or sociological viewpoints.

Thus, the background in terms of historical heritage, the existence of several important university collections and a department in charge of their valorisation, coupled with history of science and scientific heritage as an object of research, certainly facilitated the development of the preservation plan within the University of Strasbourg.

Concluding remarks

So far, a general inventory of the archives preserved by each physics department (c. 70 meters) has been achieved, as well as three finding aids: Marguerite Perey personal archives; the archives of the university nuclear reactor and the archives of the Institute of Physics (1945–1964). As far as instruments are concerned, a pre-inventory has been developed (almost 300 instruments of broad historical interest might be preserved) and the inventory of astronomical instruments (c. 180 instruments) is now complete. A website with downloadable historical information and search tools was put online³. Furthermore, historical research into post-war physics in Strasbourg has been initiated and a symposium on the building process of scientific heritage was organised in November 2005. Two other symposiums – one on scientific archives and the other on university museums and collections – will be held in Strasbourg in 2006⁴. These meetings will contribute to developing several practical aspects of the preservation plan and also to deepen the reflection on scientific heritage in general.

However favourable this context might be, it is still far from ensuring the establishment of a long-term policy on the preservation of scientific heritage of the University. Indeed, scientists who care about heritage preservation are still few and when they do, they often seem to fear that heritage associates them too much with the past,

³ <http://www.hp-physique.org>

⁴ International conference on scientific archives, Strasbourg, 19–21 April 2006; Universeum annual meeting, Strasbourg, 22–24 June 2006.

whereas their main objective is to present their activity, their research and their institution as innovative and future-oriented. This difficulty is reinforced by, and linked to, the change of the status of science in society, with science raising increasingly controversial issues among wide sectors of the public. Thus, the preservation of scientific heritage and its display for the general public is perceived by scientific institutions as a tool to reinforce their social visibility, for the public understanding of science and as a valuable communication asset.

Universities and other scientific research institutions in France are also experiencing strong questioning and changes regarding their role in French society. Heritage and historical research should help to reinforce a legitimacy that is under question. In my opinion, this tension puts under question the possibilities of proper long-term policies for the preservation of heritage within scientific institutions. Is heritage preservation compatible with scientific activity? What happens when commemorations and special events are over? So far, the experience in France tends to prove that heritage concerns, as well as the know-how and memory of what have been achieved, can rapidly fall into oblivion. Proper answers on how to inscribe care for this heritage in the longer-term are yet to be given. A strong link with research activities and teaching is certainly one serious direction we ought to be heading to.

STRESZCZENIE

Przekazywanie dziedzictwa naukowego: muzea i zbiory Uniwersytetu Louis Pasteura w Strasburgu

Wydział Mission culture scientifique et technique Uniwersytetu Louis Pasteur w Strasburgu odpowiada za rozpowszechnianie kultury naukowej. Wśród wielu zadań tego wydziału znajduje się też administracja badaniami i zbiorami pedagogicznymi Uniwersytetu, zgromadzonymi głównie w okresie niemieckim w latach 1870–1918. Większość zbiorów jest przechowywana w pięciu muzeach. Tylko dwa z nich są stale otwarte dla publiczności, a pozostałe trzy – otwarte częściowo lub po umówieniu się na zwiedzanie. We współpracy z kuratorami muzeum, *Mission* organizuje wystawy, specjalne wizyty i wydarzenia celem ułatwienia zwiedzającym dostępu do zbiorów. *Mission* ma na celu stworzenie skoordynowanej polityki przechowywania dziedzictwa naukowego Uniwersytetu Louis Pasteur. W niniejszym artykule przedstawiam i omawiam to zagadnienie.