

UNIVERSEUM Working Group on Recent Heritage of Science

http://www.universeum.it/working_groups.html

Selection criteria for recent material heritage of science at universities

The material heritage of recent science at universities and other research and teaching institutions is very large. We are able to preserve only a small amount of the instruments, objects, and other material from recent scientific activity. This document aims at providing a roadmap for making decisions concerning which objects to keep and which objects to discard. It addresses specifically selection criteria for recent science, which we define as the period after WWII until the present, and is based on discussions in the UNIVERSEUM Working Group on Recent Heritage of Science (Trondheim 2012, Valencia 2013, and online).

The vast majority of late 20th and early 21st century scientific heritage will disappear, whether we like it or not. There is no space, no money, and no interest. It is out of the question to have the same "everything is to preserve" attitude we normally have with ancient instruments up to the early 20th century. It will remain difficult to quantify, but estimates are that 80-95% of post-WWII scientific instruments and equipment cannot be preserved. Many of the scientific objects and larger installations that cannot be preserved in their complete physical form, call for documentation, preservation and presentation through different media, such as photography, film, 3-D scanning and oral history.

The task that lies ahead of us is to make informed choices. If we collect too many objects or the wrong things, storage rooms will be filled, and things nobody knows why they were collected in the first place will eat up our resources. This also means that our collecting activities have to be accompanied by solid documentation that makes clear why objects are collected.

The following comprehensive list of selection criteria for recent material heritage is divided into 'historical significance', 'conservation and preservation criteria' and 'disputed criteria'.

Selection criteria related to the historical significance of objects

There is no straightforward way to estimate the historical significance of scientific objects. Laboratory-, instrument- and collection based research and teaching will leave a bigger footprint in historical collections than text-based / theoretical activities. Which and how many of the artefacts should be collected from the different research and teaching activities, and from which periods, should depend on the significance of these research groups and teaching programs. The question is, how do we determine significance? The following criteria should be considered:

1. One has to favour the preservation of scientific heritage of local importance. Some collection policies strictly limit their collection activities to objects being used, made or owned by the university or people and institutions related to the university. Other collection policies extend their mandate and responsibility to local industry and manufacture.
2. Has the artefact been used at the university in teaching, research, instrument making or administration? We should preserve instruments and other objects if they have been used by scientists leading in their field or breaking the way for new research methods and instruments. Deciding on what has been leading research is, however, a difficult decision especially for contemporary heritage since future generations of historians might judge differently. The 'leading scientist' and 'leading research' criterion ignores teaching instruments and other objects related to teaching entirely, which make a large part of the activity and the heritage of a science department and should be represented in the collection accordingly. We will choose some objects that have been typical for the activity of a department or group at the university. But we might also choose some atypical and odd objects to preserve.
3. Has the instrument / object been designed, made, and / or modified at the university? These objects are usually tighter connected to the university's history and not likely to be collected by anybody else. But not everything that is made locally is worth protecting.
4. Is it a rare or unique object, or can the same object with different provenances (origins) be found in other collections? This can prove difficult to check. We have to be careful to preserve some "common" instruments, otherwise there is a risk we eliminate all of them. Common instruments today are sometimes being shared among many groups and universities.
5. Has the object / instrument been cannibalised, has it been damaged? We might prefer complete and undamaged objects. But damages and modifications can also give important information about the use of an object.

6. Does the instrument / object have any iconic or symbolic value? If an object is important to the identity of a local or national community it is worth protecting it.
7. What is the documentation status on the object? Recent scientific instruments are often black-boxed, modular and industrially produced. Without documentation like manuals, laboratory notebooks, technical drawings, publications or photography, the stories of the objects are difficult to unravel.
8. Is the instrument / object part of a larger collection, group of objects or well-documented history? Apparently common or not very interesting instruments should be preserved if part of a homogeneous group / collection of instruments, used, for example, for a series of well-defined operations or in the frame of a specific research or teaching program.
9. Is the object a primary source of information for the history of scientific research, scientific practice, the history of teaching, and / or the history of the institution?

Conservation and preservation criteria:

1. Do we already have the same object in the collection? We can select one, in certain cases two objects of the same type, but not 10 or 15.
2. Do we have space to keep the object? Some curators prefer smaller rather than larger objects or to preserve small, essential parts from large apparatus. But what the essential part of an apparatus is already a critical choice to make.
3. For some cases we should also find solutions to preserve large scientific installations. If they are too large to remove and to preserve we can accumulate documents, instructions, photography, video and conduct interviews with researchers and technicians. While it is unrealistic to turn many large installations of recent science into museums, some laboratories and buildings can partly be preserved in situ by keeping some of the old features while modernising them.
4. Does the object / instrument contain any hazardous substances like radioactive materials, mercury, asbestos or PBC? They have to be handled safely but not be eliminated just because they can be potentially dangerous. Especially radioactivity is a very difficult issue. We might be able to keep spinthariscopes and uranium glass. But what about things like research reactors? Many times the only chance we have is to document them well with media such as video, photography and oral history.
5. What could the object be used for in the future? We have to evaluate whether an object will be used in a display or an exhibition, or in teaching or research.

Pointing out the potential future use of objects can help to secure financial resources. It also serves as an important argument for institutions and individuals to take care of the object.

Disputed selection criteria

Some selection criteria are heavily disputed by curators, reflecting different attitudes and policies, but also different uses of the collections.

1. Does the instrument still work, or can it be put into working order? Many museums and collections want to demonstrate working instruments in the display or in demonstrations or workshops. However, much of the microelectronics in contemporary heritage has a very limited life span. Even if it works now it will not work in at least a few decades. If we try to work with old instruments from recent heritage, they often 'die' in the process. Repairing becomes difficult and is highly problematic from a conservational perspective, especially when original parts are not longer available.
2. Do we want to collect objects for a working collection? If we want students or museum educators to use the instruments / objects, it can make sense to collect several of the same object, which we consider rather common and not very valuable. This, however, leads to two collections, one for use and one for conservation.
3. Is the artefact materially appealing? Being more appealing makes it more likely for an object to be exhibited. But we also run the risk of disposing objects just because they are visually not very attractive even though they are very valuable else wise.

To conclude, we should be idiosyncratic in our choices. Not everybody should, or will collect according to the same criteria. Local and institutional situations will always be very diverse. This will ensure a desirable diversity in collections of contemporary scientific heritage.

In order to improve and professionalise our activities in selecting recent material heritage of science we need networks of actors from different institutions in order to

- evaluate objects and collections
- get an overview of who collects what
- circulate collection plans and practices for contemporary heritage