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Preserve the future – not only the past

In Germany we have around 310 Natural History collections at Museums, 255 Natural History collections at Universities, ca. 140 million objects, of which ca. 100 million objects are in the eight largest Museums.

After decades of struggling, the situation of German Natural History collections has significantly improved. Although this view might not be held by many directors of smaller or even mid-sized museums, the situation as a whole and – most important – the perspective onto scientific collections has changed profoundly. The key to open a door for a new acceptance is the change from a mere retrograde («preserve the past») view to research questions of which the current and future answer can only be found in scientific collections. Already in 2004 the Deutsche Forschungsgemeinschaft (German Research Council) supported a five-year project on collections in German universities with the striking result that nearly 300 from more than a thousand have been lost or destroyed!

1. First major step: «Recommendations on Scientific Collections as Research Infrastructures»

In 2008 the Wissenschaftsrat (Council of Science and Humanities) has taken the lead and introduced a working group titled «Sammlungsbezogene Forschung» (collection-based research). The Wissenschaftsrat is one of, if not the major leading science policy advisory bodies in Germany. It produces «recommendations» on various aspects of science, research and higher education, and these are often no paper tigers but involve their implementation with financial effects.

In 2011 the 68 pages «Recommendations on Scientific Collections as Research Infrastructures» were published (available online in German and English). Although

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they focus on university collections as an example, they also consider the very large so-called Leibniz Museums (see below). The following short extracts from the recommendations clearly illustrate the high estimation of scientific collections:

- «Scientific collections are a significant research infrastructure. In the past, the German Council of Science and Humanities was concerned mainly with investment-intensive infrastructure and large-scale equipment that is primarily required in research relating to the natural and engineering sciences. The Council of Science and Humanities is now widening its focus to include infrastructures which have a greater disciplinary breadth and are characterised by high operating costs rather than high investment costs. To this end, the Council has set up working groups to deal with the following topics: research infrastructures for the social sciences and humanities, library network systems and scientific collections».

- «A scientific collection is simultaneously the object, tool and product of science».

- «For many subjects, collections are an essential basis for scientific advancement: innovations often occur in connection with collections and objects that have been around for some time but which can be used and interpreted in new way as a result of new methodological approaches and research questions».

- «The value of a collection of objects for science results from how it is used in research».

- «Scientific collections are therefore an indispensable basis for many research processes. In particular, research into biodiversity, the transformation of ecosystems and material culture, and research questions in the fields of anthropology, archaeology, ethnology, geoscience, the history of art, and the history of science and engineering are fundamentally reliant on objects».

The President of the Wissenschaftsrat at that time, now President of the Deutsche Forschungsgemeinschaft, and member of the working group condensed the issue in one sentence: Collections can give answers to questions, which we currently don't know. So, conserving collections is preserving data for the future. Collections are no longer seen as «load» but as chance, and curators have to take an active position although this might be difficult after years of running against walls.

Last citation from the «Recommendations»: «If the passion for collecting is combined with an overarching epistemological interest, the object is removed from its primary functional context and transformed from an object of utility into an object of contemplation. If collecting is based on selection criteria and structured according to the principles that guide research, the objects organised in this way have a value that exceeds the individual object in its specific materiality and implies a well-founded taxonomy. Even more than a single object, a structured collection is capable of constituting a knowledge base and offering new insights».

Nature commented on February 3rd, 2011: «But the value that the Wissenschaftsrat now places on collections should make such battles easier to win. Research organizations in other countries should look to see if they could follow its lead».

2. Second major step: White Paper on Research Museums of the Leibniz Association

In 2012 a «Bund-Länder-Eckpunktepapier zu den Forschungsmuseen der Leibniz-Gemeinschaft» has been published. The webpage of The Leibniz Association (German: Leibniz-Gemeinschaft) says that it is a union of German non-university research institutes from various branches of study. In 2011, 87 non-university research institutes and service devices for science belong to the Leibniz-Gemeinschaft. The fields range from natural science, engineering, and ecology, to economics, other social sciences, space science, and humanities. The Leibniz Institutes work in an interdisciplinary fashion, and connect basic and applied science. They cooperate with universities, industry, and other partners in different parts of the world. The «evaluation» of the Leibniz-Gemeinschaft is a benchmark for all institutes. The Leibniz Institutes employ 16,800 people and their total budget is € 1.4 billion.

Three out of eight Research Museums of the Leibniz Association are natural history museums: Museum für Naturkunde (Museum of Natural History), Berlin; Senckenberg Naturmuseen, Frankfurt a. M., Görlitz und Dresden; Zoologisches Forschungsmuseum Alexander Koenig (Zoological Research Museum), Bonn. The interesting aspect to become member of the Leibniz Association is that Leibniz Institutes are funded publicly to equal parts by the federal government and the Federal states (Bundesländer). The total budget of the eight Leibniz-Research Museums was ca. 150 Mio. Euro in 2013. The budget for the three Leibniz Natural History Museums was about 80 Mio. Euro. Highest fundings of a single Museums were Deutsches Museum (68,3 Mio. €), Senckenberg (57,9 Mio. €).

To stress an important aspect here: The Leibniz Association has gained such an importance because of its federal structure. As I said during our meeting in Rome, I am convinced that the time for one huge national museum of natural history is gone, and that federal and virtual structures are the basis on which we should built any net of scientific collections.

The following points of action («Handlungsfelder») are taken from the White Paper:

- the fundamental function of the collection for research in the museums;
- the development of attractive and innovative research topics from the collections;
- research using databases and the increased use of collections for metaanalysis, reconstructions, scenarios, and modelling (e.g., of changes in ecosystems during regional and global environmental changes);
- interdisciplinary research approaches based on the collections; explaining how research works;
- the support of holistic approaches in biodiversity and evolutionary research (genome research, example-based treatment of complex systems, joint development of methodologies across all subjects and collections);
- the implementation of joint research projects with universities and stronger subject links with university research institutes;

– joint training of young scientists in disciplines that are key to the research work in museums and which are at risk of disappearing from the universities, e.g. numismatics or morphological and taxonomic studies.

3. Third major step: Specific funding for collections and collection-based research from different federal and private organizations

Beside the Deutsche Forschungsgemeinschaft with its special programme on indexing and digitalization, the Federal Ministry of Education and Research (BMBF) has created a special programme: The language of objects – material culture in the context of societal developments. The Ministry promotes here especially research with cultural heritage in collections, museums, libraries and archives. «The aim of the funding priority is to unlock the knowledge condensed in or derivable from objects...». In the 1st round 12 projects were supported with around 13 Mio. Euro, 2nd round is pending.

The Volkswagen Foundation was the first to set up a programme «Research in Museums» with a total volume of about 15 Mio. Euro spent on 48 projects in small to medium-sized museums. The focus on these museums has sometimes initiated subsequent funding in the Federal states. The motivation of the Volkswagen Foundation was first to safeguard many important objects in such museums. Second, it is easier for large museums to get access to grant money, as private sponsor they are always looking for niches to sponsor. Third and most important, with the obligation of a cooperation between universities and museums, the Volkswagen Foundation wanted to have a long-term impact to lead small or medium-sized museums to current research topics.

Another private foundation, the Mercator Foundation, has set up a programme named «SammLehr – An Objekten lehren und lernen» with a total of 948.000 Euro for 9 projects supporting university collections. The title plays with «Sammeler» (collector) spelled «Sammlehr» evocating the potential of «Lehre» (= higher education). The focus of this project is the importance of objects in university teaching and their continual loss or replacement by virtual media in education.

4. Personal Conclusion

More than 20 years ago, the situation of small to large museums in Germany was threatening especially for many institutions of the former German Democratic Republic. The way out was a clear and with the time more and more convincing strategy that research counts first. Money never came to safeguard collections but only in their context with research. Scientific collections are always the result of research interests and research is the motivation to collect. The most important desideratum is to enormously increase the effort of digital indexing. Not size matters but the accessibility of a collection. Collections are part of a global research infrastructure and will gain their future importance from their participation in the net.