2021 WIR FEIERN 10 JAHRE KEK

International Conference

"Preservation in Perspective"

23 and 24 November 2021, Berlin & online

Panel 1 · Strategies for Sustainable Preservation

23 November 2021, 11.30am–12.30pm

Managing the Preservation of Originals – Instruments, Maxims, Goals

Johannes Kistenich-Zerfaß, Hessian State Archives, Department Marburg State Archives

The National Recommendations for Action issued by the KEK in 2015 laid out the challenges to preserving written cultural heritage at archives and libraries in Germany. Tackling these challenges requires effective preservation management.

Preservation management is an interdisciplinary, cross-sectional task for institutions that hold cultural property. Its primary aim is to plan, implement and evaluate the preventative measures, first and foremost – but also the conservational and restorative ones – that are needed, on the basis of both reliable data and a clear and transparent system of prioritisation among collections, sub-collections and measures. This should be pursued following a structured approach in accordance with applicable standards and with a view to financial feasibility in order to permanently preserve the written cultural heritage – to the extent technically possible – in its original form and thus enable the maximum range of evaluative options.

Following this proposed definition of preservation management, this session will present examples of tried-and-tested concepts and management tools, such as the practice of linking damage assessment to the prioritisation of collections or collection segments in order to draw up work programmes. It will also articulate guiding principles for preservation management and, beginning with an assessment of the status quo, identify key factors for successful progress over the coming years, such as the availability of consulting skills, a needs-based market of service providers and the relationship between preservation and digitalization, although this talk will unequivocally emphasize the primacy of the original.

Cradle-to-Cradle or Sustainable Media Works – A Challenge for Preservation?

Stephanie Preuss, German National Library, Leipzig

The presentation deals with sustainable book and paper production and focuses on cradle-to-cradle treatments. In Germany, more and more publishers offer sustainable media, concentrating on cradle-to-cradle cycles or other sustainable resources. What does that mean and what is behind all this? Is it a new ecological label or just marketing? What does it mean for conservators and curators when more and more sustainable media works are in our collection? In the presentation, sustainable paper production will be discussed with a focus on the challenges for preservation.

Panel 2 · Preservation in International Perspective

23 November 2021, 2.00–3.30pm

Conservation Scenario Modelling – the Classense Library Case Study

Floriana Coppola, University Ljubljana

The complex challenge of conservation requires evidence-based tools to evaluate and compare diverse preservation scenarios that support preservation management. In recent years, non-destructive methods of analysis and dose-response functions have been developed, enabling just that.

Building on this research, a survey of the collections of the historical Classense Library (Ravenna, Italy) was conducted: about 300 books, from the 14th to the 20th century, were analysed non-destructively, confirming overall trends of physical and chemical properties of paper with age. The significant quantitative dataset for rag paper, covering a 600-year period, allowed for new, general observations about rag paper, such as the first experimental estimation of its rate of degradation. For the first time, the predictions of the time for a real collection to become too brittle to withstand manual handling ("expected lifetime") in diverse environmental scenarios were elaborated. This informs the likely preservation outcomes of different environmental management options.

The survey thus represents an efficient source of evidence needed for conservation scenario modelling of individual collections, although the full potential of this approach can only be harnessed if the uncertainty associated with both modelling and analyses is further explored.

The Library of Congress Preservation Directorate – Fiscal and Organizational Sustainability
Jacob Nadal, Library of Congress, Washington, D.C.

Jacob Nadal will describe the Library of Congress efforts to ensure the health of its preservation program. These include a series of reorganizations, completed in 2017 and 2021, and an ongoing series of cost studies that examine total costs of major service areas and multi-year scenario planning around pay and non-pay activities. These combined efforts are intended to show how the Preservation Directorate will be able to respond to changes in immediate requirements across strategic planning cycles while making progress on large-scale preservation needs. This includes planning for the workforce and fiscal resources needed to maintain options for use of the collections over the long term.

Preservation at the Royal Danish library – Achievements and Future Perspectives
Marie Vest, Royal Danish Library, Copenhagen

The Royal Danish Library is Denmark's national library. It serves as library for several Danish universities and holds the national legal deposit collections as well as significant national documentary collections. Preservation of the extensive cultural heritage collections constitutes a pillar in the mission of the Royal Danish Library, and it is therefore a basic task in operating the library. Safeguarding the collections calls for a mix of actions, including preventive measures, mass treatments and conservation treatments of individual objects to make them accessible and usable for readers in the short and the long term. To prioritize actions and resources for preservation it is important to understand the significance and size of the collections. Likewise, it is necessary to survey the collections regularly to obtain information on the chemical and physical composition of the materials, their state of preservation and their storage conditions. Altogether, this knowledge forms the foundation for the library's preservation strategy and day-to-day decision-making.

This presentation will focus on how the library strives to work with high standards and has developed a preservation strategy to meet challenges linked to growing collections, increased demand for preservation skills and decreasing resources. It will also describe how decisions around collection care have to adapt to changes in the general library strategy and navigate within changing internal organizational structures. Furthermore, it will put into perspective how external political priorities and their response to global challenges such as climate change has an impact on the library's preservation decisions and considerations around sustainability in heritage preservation.

Panel 3 · International Initiatives and Cooperation
23 November 2021, 4.00–5.30pm

The Endangered Archives Programme – Responses to the Pandemic
Sam van Schaik, Endangered Archives Programme, British Library, London

The Endangered Archives Programme (known as EAP) gives funding to people running projects to digitise and preserve archival materials at risk of destruction. These can date from any time before the middle of the twentieth century, and from most parts of the world except Europe and North America. Projects funded by EAP are either based in the same countries as the archives, or work closely with an archival partner in the country. Digital images and sound files generated by EAP projects are kept at the archival partner and at the British Library.

The advent of the Covid-19 pandemic in 2020 brought new challenges across this enterprise, including the process of assessing applications, paying projects (the funding aspect), purchasing and transporting equipment, and safety at work (the project aspect), and receiving and processing digital material for the EAP website (the curatorial aspect). This talk presents some of our responses to these challenges, an ongoing process in which we are still adjusting our approaches and learning from the experiences of others.

Protecting Culture in Crisis – Blue Shield's International Cooperation for the Protection of Cultural Heritage
Susann Harder, Blue Shield Germany

Blue Shield is an international non-governmental organisation, which endeavours to protect cultural heritage during times of crisis. While the main context of the organisation is cultural property protection during armed conflict in accordance with the 1954 Hague Convention, Blue Shield International and its now 28 National Committees have also been active to provide first aid to cultural heritage as well as support to heritage institutions after major disasters.

In her talk, Susann Harder will first introduce Blue Shield to the audience. The main part of the presentation, however, will focus on a number of relief measures for cultural heritage Blue Shield provided in recent years. Most notably, this will include reports on activities that responded to damages after the massive explosion at the Beirut port in August 2020 and the floods in several European countries in July 2021. She will further discuss the help Blue Shield – as an NGO and actor of civil society – can deliver in such scenarios, both at a national and international scale.

International Collaboration and Research Infrastructures for the Library Community
Matija Strlič, Institute for Sustainable Heritage, University College London/University Ljubljana

In the recent decade, European Commission investments into shared research infrastructures have meant two things: (i) increased collaboration and research efficiency, and (ii) decreased need for investments into research infrastructures locally. Some of these infrastructures specifically support social sciences and humanities research, such as languages or digital humanities, while for the purpose of understanding and sustainable management (including conservation) of heritage, the European Research Infrastructure for Heritage Science (E-RIHS) is being developed. Such infrastructures not only offer access to research facilities, but also enable shared training, strategy development as well as public and community engagement.

Within E-RIHS (as well as the infrastructure project IPERION HS, funding access before E-RIHS becomes fully operational), services for the library community include material analysis, environmental assessment and preventive conservation or collection surveys. A number of facilities are available either as fixed laboratories (in which case objects need to travel), or as mobile laboratories that can be

set up in a library, or as digital services that enable e.g. modelling of collections of environmental data. In addition to having access to cutting-edge facilities and expertise, access is free of charge provided that applications for exciting, interdisciplinary research are favourably evaluated.

Panel 4 · Mass Deacidification
24 November 2021, 9.00–10.30am

Mass Deacidification at the Swiss National Library
Agnes Blüher & André Page, Swiss National Library, Berne

40 years ago, alarmed archivists and librarians coined the buzzwords "paper decay" and "acid devour" and thus brought the preservation of archival and library holdings into the public eye. The quantity of threatened cultural heritage prompted scientists and technicians to develop a wide variety of mass deacidification methods. Mass deacidification serves a memory-institution as a measure for preserving originals. It also has the function of a beacon with the signal that conservation itself is perceived as a core task and provided with the necessary resources.

In Switzerland, the Federal Archives and the National Library (NL) opted for the papersave® process in 1995. This project finds its implementation in the "papersave swiss" facility and is available to all interested parties in Switzerland until 2022. In the years 2000–2014, the NL has treated all collections that are intended and suitable for deacidification. The quality assurance concept also includes long-term monitoring of the treated holdings. Over the observation period of currently seven to twenty years, the deacidification treatment proves to be sustainable and stable in 97% of the cases.

Mass deacidification is an intervention in the original substance and cannot be reversed or repeated at will. The responsible selection of holdings and deacidification methods is of decisive importance, for which international standards and sufficient experience are now available.

20 Years of Mass Deacidification in Poland – From Idea to Experience
Anna Czajka, Polish State Archives/Central Archives of Historical Records, Warsaw

More than twenty years ago, the Polish government launched the unprecedented, long-term program "Acid paper – Rescuing endangered Polish library and archive resources on a mass scale". It was initiated by the General Directorate of State Archives, the National Library and the Jagiellonian University. The program guaranteed funding for eight years and 38 tasks including: multilateral research on acid paper, support for the Laboratory of Research on the Durability and Degradation of Paper at the Faculty of Chemistry of the Jagiellonian University, construction and operation of mass deacidification installations in libraries and archives, and the modernization of the network of archival microfilming laboratories. The State Archives and the two largest Polish libraries (the National Library and the Jagiellonian Library) still profit from the investments made into the construction of mass deacidification centres, where millions of books and archival documents have been treated.

The idea of the mass deacidification of the paper heritage in Poland was amended due to specific conditions, mainly the poor state of preservation of documents and books made of low quality papers. A mass conservation approach was developed both by archive and library conservators–restorers. It was implemented, resulting in establishing mass conservation centres where mass deacidification is only one of several possible treatments in the technological line.

Cooperative Preservation – Legal Deposit Copies as Basis for a Mass Deacidification Strategy
Michael Fischer, Baden State Library Karlsruhe

The German National Library and the state, regional, and *Land* libraries each collect, catalogue and archive a legal deposit copy of all media published within their respective territorial jurisdiction. In its

National Recommendations for Action, the KEK recommends that the deposit libraries be tasked with safeguarding printed written matter since 1851 in accordance with their current responsibilities in the German states. Regardless of the deposit regulations that were actually in place historically, these libraries should assume a duty of preservation for the printed matter published on the territory for which they are responsible today. Because multiple copies have survived in many cases, at first the deposit copies must be identified in the libraries' catalogue systems and be designated as the archival copies to be preserved under any circumstances. These deposit copies should then also be given priority for deacidification.

Panel 5 · Sustainability and Risk Management
24 November 2021, 11.00am–12.30pm

Simulating the Effect of Preservation Options – Are Archives More Complex Than Rockets?
Cristina Duran Casablancas, Amsterdam City Archives/Institute for Sustainable Heritage, University College London

The effect of preservation measures cannot be easily assessed in real time. Therefore, models are used to assist archives and libraries with decision making, for example, regarding storage strategies and environmental conditions affecting the (chemical) preservation of collections. Thanks to the major contributions made in the last decade, we believe that we are embarking on a new phase in modelling, where preservation is approached as a complex system. This means we need to acknowledge that the global behaviour of a system is not the simple sum of the behaviour of its parts. Unexpected outcomes are common, for example, the same preservation measure might have a different impact when applied in different archives.

We will discuss how the concepts of complexity provide the basis for the models currently developed, e.g. the importance of capturing the heterogeneity of collections and inclusion of time-dependent measures. The challenges we are encountering will be also addressed, for instance when other functions within the archives (e.g. providing access to the collections) are included in the model.

Sustainable Conservation of Collections – The Push for Passive
Chris Woods, National Conservation Service, London

For forty years our sector has been told that collections need tight environmental control of storage conditions, fresh air ventilation to remove internal pollutants and rapid air movement to stop mould growing. These conditions, we were led to understand, could only be delivered using air conditioning (HVAC) systems. It is clear now that our collections do not need tight temperature control through the year, that boxes alone reduce RH fluctuation, that RH fluctuation on any scale is largely caused by HVAC systems, that internal pollutants do not need continuously to be removed with fresh air, that air movement alone does not stop mould growing, that out-of-control HVAC systems cause mass mould outbreaks, damaging collections and causing health risks, and that many stores, when HVAC systems are switched off, are more stable and safer than when they are running.

We have spent many hundreds of millions on capital installations of HVAC systems, hundreds of millions more on energy and maintenance costs, and been forced to accept that systems only last twenty years before needing to be replaced (even if, as in most cases, they were not working properly for much of this time). Is this sustainable conservation?

Climate Change and its Impact on Cultural Heritage
Johanna Leissner, Fraunhofer-Gesellschaft, Brussels

The Earth's climate is becoming hotter and more extreme. Scientists are no longer talking about climate change, but about the climate crisis. It is high time to act. From 1 to 12 November 2021, the World Climate Conference COP26 will take place in Glasgow and important climate policy decisions

are pending: adaptation to climate change and, above all, climate finance as well as climate-related damages and losses. These issues also affect our cultural heritage – we know it is threatened by the climate crisis and that irreplaceable losses are already occurring.

What can we do to protect cultural assets? What dangers exist for the written cultural heritage in libraries and archives? How do we deal with losses? We urgently need to address these issues.

That is why the Council of the European Union has given the EU Commission the mandate to set up an expert group based on the Open Coordination method. With a view on the "Paris Agreement" (2015) and the UN Sustainable Development Goal 13 on climate change, the state of play of cultural assets in relation to climate change in the respective countries will be identified, and best practices as well as innovative measures for the historical environment will be collected. Delegates from 25 EU Member States and 3 associated countries started work in January 2021. Results from a survey show that information from the areas of libraries and archives is hardly available. Here it is important to deal more intensively with the effects of climate change and to develop appropriate measures.

Panel 6 · Digital Technologies – Opportunities and Synergies for Preservation
24 November 2021, 2.00 – 3.30pm

Multispectral Analysis of Paper and Parchment Objects – the Amalgamation of Archaeometry and Conservation
Oliver Hahn, Federal Institute for Materials Research and Testing, Berlin

This talk is dedicated to the material science analysis of drawings and manuscripts using imaging techniques commonly referred to as multispectral analysis. Multispectral here means the examination with electromagnetic radiation from the range of UV, visible and NIR light. Radiation diagnostics is extended by the use of X-ray fluorescence analysis, which uses distribution images to depict the spatial arrangement of characteristic elements on the drawing or writing surface.

Such analyses not only provide general insights into the type and composition of the materials used. In the field of drawing research, insights into the genesis of the drawing can be gained by locating preliminary drawings, determining revisions and corrections; sometimes it is also possible to draw conclusions about the provenance of the pencils, crayons or inks used on the basis of characteristic trace elements. Furthermore, multispectral analysis provides essential insights when examining palimpsests, in order to make erased or deleted texts visible again.

The non-invasive examinations allow a comprehensive insight into the materiality of paper and parchment objects and thus form the basis for the development of sustainable conservation and restoration campaigns.

Digital Reconstruction of the Cologne Fragments – How "Cologne Flakes" Turn Into Complete Units with the Help of AI
Ulrich Fischer (for Bettina Schmidt-Czaia), Historical Archive of the City of Cologne

After the devastating collapse of the Cologne City Archives in 2009, around 95% of the archival holdings were salvaged – much of the material largely intact, but some of it highly fragmentary. During the process of reviewing the salvaged materials ("salvage capture"), which will soon be concluded, millions of "puzzle pieces" have been recovered from all groups of holdings. As with all salvaged archival materials, these fragments are also intended to be restored to render them usable again in the medium and long term.

Manually reassembling these fragments, which are entirely jumbled, soiled and mechanically damaged, is out of the question. Furthermore, the available staff need to focus their conservational and archival

resources on working with the archival materials that survived intact. For these reasons, a separate workflow was identified for processing the fragmentary archival holdings. At the referral of the Fraunhofer Institute for Production Systems and Design Technology (IPK), the Historical Archives of the City of Cologne cooperated with its partner MusterFabrik Berlin to develop a technical solution and carry out the appropriate procedures to reassemble these so-called "Cologne flakes", at first virtually.

Since 2020, the "Digital Reconstruction of Fragments from Cologne" project has been under way at a massive scale. The Historical Archives of the City of Cologne has found the deployment of artificial intelligence to be an important tool – in combination with the employees' specialist skills and knowledge of the holdings – for reconstructing even these severely damaged archival materials.

Planning Mass Digitisation – Challenges and Solutions for Large-Scale Projects
Ville Kajanne, National Archives of Finland, Helsinki

The presentation focuses on how a reliable implementation model, a meaningful schedule and a reasonable cost structure in terms of long-term digital preservation and usability of digital manifestations can be implemented in a large-scale digitization production.

Not all records are suitable for large-scale mass digitization. The fragile condition of the material, its cultural-historical value or restricted personal data may be grounds for exclusion from the service. By exclusion, worst risk scenarios regarding disposal-oriented digitization can be dealt with. Production can be effective and credible only if the material has been carefully reviewed, e.g. through pilot test production. This applies to both cost structure and qualitative target points. Competent staff can increase autonomy, as turnkey solutions often do not exist, and cut ongoing maintenance costs.

Image quality, content recognition, file format and archival transfer package are key requirements, but achieving them in a large-scale production requires sophisticated, both automated and human-based implementations throughout the digitization process. The final disposal process requires quality control checkpoints at various stages of the digitization process, complemented by customer testing of the access files and a secure disposal procedure.