
II Preservation Management and National Strategies

Johannes Kistenich-Zerfaß

Managing the Preservation of Originals – Aims, Maxims, Instruments

Abstract: The *National Recommendations for Action* issued by the Coordination Office for the Preservation of Written Cultural Heritage (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 which is an interdisciplinary, cross-sectional task for institutions holding cultural heritage. Its primary aim is to plan, implement and evaluate preventative measures – but also 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 financial feasibility so as to permanently preserve – to the extent technically possible – the written cultural heritage in its original form, thus enabling the maximum range of evaluative options. Following this proposed definition of preservation management, this paper 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 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 digitisation, although this article will unequivocally emphasise the primacy of the original.

1 Definition of Preservation Management

The trilingual version of DIN EN 15898:2020-02, *Erhaltung des kulturellen Erbes – Allgemeine Begriffe* [Conservation of Cultural Heritage – General Terminology] uses the term ‘preservation’ [Bestandserhaltung] as a synonym for conservation or conservation-restoration – though admittedly in the German-speaking context only – but does not use or define the term ‘preservation management’, however, it is now established and commonly used in the German-speaking specialist discus-

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

sion.¹ The use of the suffix ‘management’ may seem pompous or modernistic at first glance but it is employed here with full conviction as the specialist task of preservation fulfils today the defining characteristics of a management process in many cultural heritage institutions: a target-oriented approach in the business sense for which management, organisation, coordination, planning and control are decisive, and this across various professional fields.

As the relevant DIN EN standard has not yet adopted the term ‘preservation management’ this article provides an opportunity to put forward a possible definition for discussion. The following paragraph offers a proposed definition that also formulates the target goal:

Preservation management is a specialist cross-disciplinary task for organisations that preserve cultural heritage. The main focus is primarily on the necessary preventative and conservation/restoration measures. These measures must be planned, implemented and evaluated on the basis of reliable data and a comprehensible and transparent prioritisation of holdings or segments thereof on the one hand and, on the other, measures that take into account relevant standards and economic efficiency. The aim is to preserve the written cultural heritage permanently in its original form – as far as technically possible – and thus make it available for the greatest possible variety of utilisation options.

In this formulation of goals key maxims and instruments of preservation management that have proven themselves in practice will be considered in the following.

2 The Specialist Cross-Sectional Task of Institutions That Preserve Cultural Heritage

Preservation as a specialised task concerns *all* employees in institutions that preserve cultural heritage, not just specialists in preservation as such. Certainly, when thinking of the preservation of cultural heritage, the first thing that comes to mind is conservation and restoration, cultural venues, storage climate or emergency preparedness but there are also overlaps of varying degrees in other specialist tasks. It is worth having a look at the world of archives as an example; preserving cultural assets is also but not exclusively an end in itself because we preserve cultural heritage to ensure access to authentic sources. Conversely, every utilisation poses

¹ DIN EN 15898:2020-02, *Erhaltung des kulturellen Erbes – Allgemeine Begriffe*; Dreisprachige Fassung EN 15898:2019. For a summary of the terms ‘preservation’ and ‘preservation management’ in the context of the specialist discussion in the German archives sector, see Kistenich-Zerfaß 2019.

a risk in terms of preservation; the provision and use of aids for proper handling during use – both within the institution preserving the cultural artefacts and by patrons –, clear guidelines for the transport of archive materials within the institution, between properties, for external exhibition purposes, etc.² are among the key factors in this context as well as the careful creation and online provision of high-quality reproductions, today primarily in the form of digital copies.³ But even if one traces the life cycle of an archival document back to its creation various points of connection with preservation management are evident; cataloguing as a typically serial work process on entire holdings or larger segments of holdings can and should be used consistently to record data on the physical condition of holdings or individual cataloguing units systematically and in a form suitable for efficient database evaluation. In the upstream process of evaluating the archival value and thus the reclassification of written material or documents as cultural heritage, questions of archival suitability must also be taken into account in order to minimise follow-up costs – as far as is technically justifiable – and to document damage patterns that require separation during transfer at an early stage so that a ‘black-and-white separation’ (contaminated/not contaminated) can be made during accessioning. Finally, over the past two decades, the issue of ‘preparatory work’, i. e. advice from the producers of written material, has come back into focus in archives not only with regard to the fundamental challenges posed by e-government but also with regard to so-called analogue documents. We must state self-critically that despite some encouraging steps there is ultimately only very limited success if archives promote the use of age-resistant writing and support materials⁴ in the interests of long-term resource conservation, the proper and professional storage of records and the inclusion of centralised old records, at least in emergency network structures.

As an interim statement, preservation management is therefore about creating awareness of the problem and building competence through advice, training and further education in three areas: among the producers of written documents, among colleagues in our own institution and among our patrons.

The keywords ‘awareness of the problem’ and ‘competence building’ lead directly to the next section of our definition of goals where a look at the basis of Mario Glauert’s still inspiring pyramid model of preservation may be help-

2 Bestandserhaltungsausschuss 2020.

3 DIN 33910:2023-08, *Information und Dokumentation – Objektschonende Digitalisierung von Archiv- und Bibliotheksgut* [Information and Documentation – Object-friendly Digitisation of Archive and Library Holdings]. See also *Archiv- und Bibliotheksgut schonend digitalisieren* 2019 [Digitising Archives and Library Materials carefully].

4 Gemeinsames Positionspapier 2015; Gemeinsame Stellungnahme 2019.

ful.⁵ Many institutions, especially smaller ones, that preserve cultural heritage are of course dependent on external advice to build up their expertise. What is lacking is not so much access to basic information but above all secure access to ‘competition-neutral’ specialist advice for specific issues and preservation projects on site. Such an infrastructure is not yet guaranteed across Germany although the structural impetus provided by the special programme for the preservation of written cultural heritage launched by the Federal Government Commissioner for Culture and the Media in 2017⁶ and the activities of the Coordination Office for the Preservation of Written Cultural Heritage (KEK)⁷ over the past ten years has led to a significant increase in the density of the advisory network and new formats of mediation, for example through workshops in individual federal states.

3 Prioritising Preventive Measures

It is as simple as it is crucial: preventing damage is more economical than repairing damage. Therefore, prevention has priority and resources must first and foremost be invested in measures that serve to preserve *as much of the original cultural heritage as possible*. If the conditions for proper storage – the building, storage conditions, storage – are missing, sustainable preservation management cannot succeed; if, for example, a collection were to undergo decontaminating cleaning and then be returned to a damp storage room, resources for conservation and restoration measures would simply be ‘squandered’. But it is also clear that we are already

⁵ Glauert and Ruhnau 2005.

⁶ Point 5.2 of the funding conditions for this programme, which is administered by the KEK, requires initial approval at state level; <https://www.kulturstaatsministerin.de/SharedDocs/Downloads/DE/Foerdergrundsaeetze/2023-schriftliches-kulturgut.pdf?__blob=publicationFile&v=1> [last accessed 22 April 2024]. This has led to the establishment of new coordination and advice centres in a number of federal states that did not yet have such centres, such as Berlin-Brandenburg (<<https://bestandserhaltung.zlb.de/>> [last accessed 22 April 2024]) or North Rhine-Westphalia (<https://afz.lvr.de/de/technisches_zentrum/konservierung_und_restaurierung/konservierung_und_restaurierung_1.html> [last accessed 22 April 2024] and <https://www.lwl-archivamt.de/de/bestandserhaltung_notfaelle/beratung_bestandserhaltung/> [last accessed 22 April 2024]) and, more recently since 2022, also in Saxony (<<https://www.staatsarchiv.sachsen.de/koordinierungs-und-beratungsstelle-bestandserhaltung-saechsische-archiv-kbb-5647.html>> [last accessed 22 April 2024]) and Schleswig-Holstein (<https://www.schleswig-holstein.de/DE/landesregierung/ministerien-behoerden/LASH/Service/LFB/_documents/202301_lfb_Vorstellung.html?nn=c4c41399-dc48-45e2-a0e0-940730afb1d6> [last accessed 22 April 2024]).

⁷ See the recently-published specialised information: <<https://www.kek-sp.k.de/fachinformation>> [last accessed 22 April 2024].

preserving large amounts of damaged cultural heritage, some of which is subject to progressive damage, the long-term preservation of which has to be ‘dearly bought’ by means of conservation and restoration measures. The preservation of original cultural heritage therefore requires long-term stable resources and economic quantity procedures should be prioritised.

4 Conservation and Restoration Measures

The economic framework conditions for successful preservation management and the implementation of conservation-restoration quantity procedures – in particular (decontaminating) cleaning, conservation packaging, mass deacidification,⁸ restoration in quantity⁹ – have improved significantly in Germany. The initiatives of the Federal Government Commissioner for Culture and the Media, the Cultural Foundation of the German Federal States and the KEK over the past ten years have had a catalytic effect in many federal states and have led to a significant increase in funding among institutions for the preservation of original cultural heritage. If subsidies, other third-party funds, budgetary resources for preservation and additional equity capital are added together, the total volume in the public sector (federal government, federal states, local authorities, universities) in Germany in 2021 totalled over 20 million euros (Figure 1) and was therefore about twice as high as nine years previously compared to the figures from 2012 (10.9 million euros), which formed the basis for KEK’s *National Recommendations for Action* and represented around a third of the total requirement of 63.2 million euros per year identified in the recommendations for action as the ‘task of the century’.¹⁰ It should be noted that the

8 Mass deacidification in accordance with DIN 32701, *Information und Dokumentation – Prüfung der Wirksamkeit von Mengenverfahren zur Papierentsäuerung anhand eines Testpapiers* [Information and Documentation – Testing the Effectiveness of Mass Procedures for Paper Deacidification using a Test Paper] is a professionally recognised and proven measure for preserving originals. Applied in good time to papers with sufficient stability, it is the most important and sustainable option for preserving original documents affected by paper decay in conjunction with correct (cold) storage; see as a practical guide *Durchführung von Massenentsäuerungsprojekten* 2019.

9 Restoration in quantity is characterised by the implementation of certain measures using standardised methods and/or techniques on a number of objects that generally exhibit similar damage patterns. Restoration in quantity is typically characterised by process-based procedures, i. e. a division of labour (formulation from a consultation with the KEK Advisory Board from autumn 2022).

10 Following on from guidelines from the 1990s, the aim is to treat at least 1% of damaged written records per year. Koordinierungsstelle für die Erhaltung des schriftlichen Kulturguts 2015, 5, 10, 12, 15, 17.

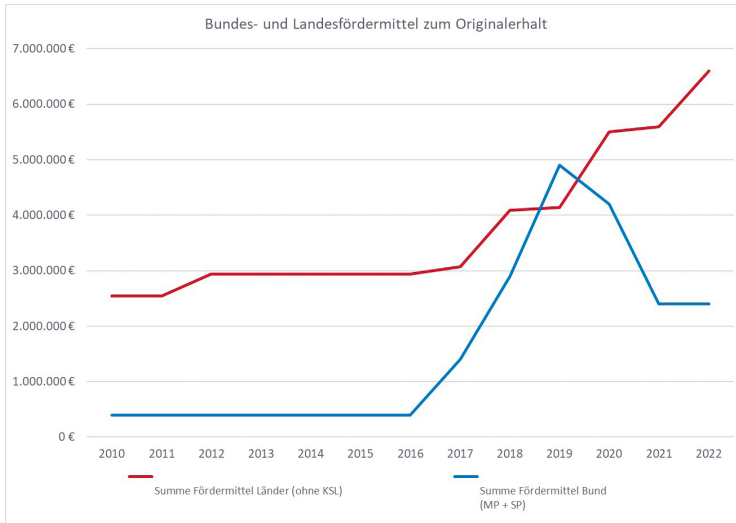


Fig. 1: Increase in funding for the preservation of written cultural heritage since establishment of the KEK. Image: Johannes Kistenich-Zerfaß

Hessian State Archive has achieved the 1% target since 2020 thanks to a significant increase in its equity capital and new state and federal funding in recent years.¹¹

5 Secure Data Basis

The conception and management of this ‘task of the century’ requires a reliable data basis in the institutions that preserve cultural heritage. In addition to planning figures such as boxes per linear metre, average number of sheets per box, target cost rates for certain measures such as packaging, dry cleaning, mass deacidification, full restoration, etc., which are also relevant for other specialist tasks, this also includes an overview of the overall requirement as a ‘political number’ in order to be able to communicate transparently the dimension of the long-term task of preserving originals for society, politicians and superior authorities.¹²

A key instrument here is damage assessment, i. e. a categorisation according to the type and extent of damage from a restoration perspective with a view to the loss of information and substance that has already occurred or (threatens to

¹¹ See *Tätigkeitsbericht 2020*, 26; *Tätigkeitsbericht 2021*, 25.

¹² For further information, see Kistenich-Zerfaß 2018; Kistenich-Zerfaß 2018a.

occur) during use in the institution preserving the cultural heritage. Depending on the holdings, such surveys can be carried out for entire collections (mass uniform preservation condition) in a sampling procedure or by analysing individual objects.

As a rule it makes little sense to differentiate too narrowly between types of damage; rather, types of damage should be categorised straight away with regard to the measures to be taken and the calculation of the costs of measures. Although there are measures that have a 1:1 allocation of damage type and measure (e. g. paper decay → deacidification, ink erosion → phytate treatment) or that are of such high cost that they should be recorded individually, such as objects sealed in film, blocked books or files or massive deformation of entire volumes, measures such as soiling, demetallisation and smoothing of creased pages can ultimately be carried out in one treatment step or workflow ('dry cleaning'). Therefore, these damage patterns do not necessarily have to be documented individually when recording damage.

The relevant differentiation according to the extent of the damage (damage categories) should be based on the question of whether use (internally or by patrons under typical reading room conditions) is possible without the risk of loss of information and/or substance. Three- or four-stage differentiations in the damage categories are possible and have, in practice, been usually made to date, although they are not essential and are not of significant control relevance. Generally speaking, a division into 'restricted use' – meaning need for action – and 'usable' – meaning no (acute) need for action – is sufficient.

6 Easy to Understand and Transparent Prioritisation of Holdings, Segments of Holdings and Measures

If the preservation of original cultural heritage requires stable resources in the long term and if the needs of overall requirements have been determined, a further message is just as important: the preservation of original heritage is 'not a bottomless pit'. Surrendering to the magnitude of the challenge, doing nothing and simply waiting is the worst of all options for cultural heritage which cannot preserve itself. We must take action to preserve cultural heritage, proceed in a planned manner and prioritise holdings or segments of holdings and measures with a view to their sustainability.¹³

¹³ See footnote 12; in the literature cited there also for an overview of the research situation.

In order not only to communicate convincingly the overall needs to society, politicians and funding bodies but simultaneously to demonstrate transparent and practicable solutions, it is necessary to formulate manageable work packages (phase models/work programmes), which should also be oriented towards the planning intervals (e. g. electoral periods) of the funding bodies of institutions where possible. It is therefore a management matter to mediate between the overall requirement and the specific holdings-related measures as an order to an in-house workshop or else an external specialist service provider.

Given the scale of the ‘task of the century’ and the knowledge that the budget for preserving originals is always limited, it is imperative to prioritise. We must prioritise, and we can and do prioritise, in certain contexts as a matter of course, e. g. when deciding on salvage priorities in emergency preparedness. The decision to implement a specific measure with regard to one holding is always possibly a decision to accept progressive damage to another holding. Ultimately, this may mean that cultural heritage can no longer be saved if not treated; in archival terms, a second valuation decision is effectively made.¹⁴ The aim must be to manage the process of preserving cultural heritage in a wise and planned way instead of leaving the chance of preservation to personal preferences, ‘gut decisions’ or ‘natural biological development’. In this context, prioritisation expressly does not mean questioning the principle that cultural heritage is ‘valuable’ without distinction because there is no such thing as a ‘second-class cultural artefact’. But we will only be able to preserve the cultural heritage in its entirety in the long term if we approach the task with convincing strategies or the combination and skilful packaging of various measures.

A few years ago, as part of a pilot project funded by the KEK, we at the Hessian State Archives developed a proposal to this end which develops key figures for the prioritisation of holdings or segments of holdings as well as for preservation measures and sets them in relation to each other in the sense of a risk assessment or relevant risk management methodology.¹⁵ Based on the prioritisation of a holding (segment) according to defined and differentiated criteria, a value is determined that provides a measure for how important it is to treat a particular holding or a specific holding segment in the context of preservation: regarding which holding is it more likely that existing or progressive damage will have to be accepted because it is deferred? Where can we not afford for anything whatsoever to happen and what must be given priority? In terms of risk management, the calculated value therefore makes a statement about the ‘extent of damage’ in the event of non-treatment.

¹⁴ Glauert 2012; Glauert 2014.

¹⁵ For the scheme funded as part of the KEK pilot project, see Adler and Kistenich-Zerfaß 2016. For further development, see the literature mentioned in footnote 12.

The prioritisation of measures relies essentially on the results of the damage assessment but is based on another principle and takes the point of view of the treatment objective, which is ‘as much as necessary, not as much as possible’. Treatment standards must be adapted with regard to the intended future main form and intensity of use. If, for example, a blocked file is to be presented again at a later date in its original form at enormous cost for a full restoration – perhaps due to its outstanding source value –, a different treatment goal and workflow will be chosen than if the leaves and fragments resulting from the separation of the blocked leaves are to be digitised and used in this form as far as possible.¹⁶ Not every binding removed from an official register must be restored because of its intrinsic value; rather, from a cost perspective, one will have to examine whether the binding and quires of the official book could in future be stored side by side.

The following applies to the prioritisation of measures based on the results of the damage assessment: priority is given to the treatment of progressive types of damage such as paper decay, ink corrosion, pieces sealed in film or applied non-ageing-resistant self-adhesive products. A certain middle ground is occupied by old microorganism contamination (mould), which does not represent a progressive damage pattern if stored appropriately but which, with regard to occupational safety issues and the risk of a new outbreak in the event of climatic fluctuations (e. g. in the event of a technical failure), must be kept in mind differently from, for example, soiling or mechanical damage. Volumes massively blocked due to water damage such as the archival holdings affected by the Leine flood in Hanover¹⁷ or the Kahn files in the State Archives of North Rhine-Westphalia¹⁸ cannot be used until they have been treated, but under professional storage conditions they are not at any significant risk of further damage and can therefore be put on hold for the time being.

However, a different picture emerges when the extent of the damage is considered. Measured against this criterion, items are prioritised which have been damaged so badly that they have to be taken out of use.

Based on the damage assessment of a holding or a segment thereof, and the percentage distribution by type and extent of damage, factors can be used to determine a second value (in addition to the prioritisation of holdings or segments thereof) which provides a measure for how severely damaged the holding or the segment

¹⁶ Such considerations were developed, for example, in the context of the large-scale ‘Kahnakten-restaurierung’ project in the State Archives of North Rhine-Westphalia: Kistenich 2011, 52–53. This option is of particular importance in connection with fragments from the Historical Archive of the City of Cologne, which collapsed in 2009; see Fischer and Späinghaus 2019, 89–93.

¹⁷ Goetting 1986.

¹⁸ See footnote 16.

thereof already is and how urgently it must be treated in order to avoid total loss ('probability of occurrence').

The Hessian State Archives additionally include a resource efficiency analysis in the risk assessment based on the prioritisation of holdings or segments thereof on the one hand and measures according to the type and extent of damage on the other according to the maxim: which measure benefits the most archival material per euro spent? A work programme developed on this methodological basis has now for six years been systematically implemented in the Hessian State Archives. This approach has recently been applied successfully to the library division of the state and university libraries in Baden-Württemberg.¹⁹

7 Compliance with Relevant Standards

Hardly any other field of activity of institutions preserving cultural heritage is as comprehensively standardised as preservation, both internationally and nationally, if we think for example of the Hague Convention, the Cultural Property Protection Act, archive and library laws, standardisation at ISO, EN and DIN level, technical guidelines or practical recommendations and model documents.²⁰ This represents an advantage that should not be underestimated: standards strengthen the professional positioning vis-à-vis external partners, form a reliable basis for professional communication and create transparency and commitment in cooperation (for example in connection with public procurement) from service specifications to quality assurance.

In addition, the exchange of best practice and close networking within and between expert committees are a key prerequisite for successful preservation management; with its various dialogue formats, the KEK also plays a key role in this.

8 Cost Effectiveness

Research, investment and innovation are highly desirable both for established bulk treatment processes such as those used in cleaning, mass deacidification and paper stabilisation as well as for newly-introduced processes, and a significant increase in

¹⁹ Recommendation from Christian Herrmann as part of the VIII. Nationwide Expert Meeting on Preservation in Archives and Libraries on 22 September 2022.

²⁰ Relevant for the area of standardisation: Allscher and Haberditzl 2021.

capacity is required to meet overall demand. Successful preservation management depends to a large extent on a corresponding understanding of the role of conservators in cultural heritage institutions, in scientific research and on the service provider market. On-site workshops will continue to be required for consulting, monitoring, ad hoc tasks and the execution of specialised restoration work, support for tenders and work by external service providers, right through to evaluation, etc., albeit with a professional profile that has been undergoing rapid change in recent years.

KEK's *National Recommendations for Action* rightly emphasised the shared responsibility of the federal government, the federal states, the funding bodies of institutions and the institutions themselves.²¹ However, we will not be able to realise the overall need for measures to preserve originals in the limited time available without an efficient service provider market. Conversely, service providers need a minimum degree of planning security in order to invest in capacity expansion, innovative process developments, workflow optimisation, etc. A key element in ensuring that these interests between institutions preserving cultural heritage and the service provider market come into a productive cycle is that the increase in budget and funding for the preservation of originals that has been achieved in Germany over the past ten years is consolidated urgently and expanded further. Just a reminder: from a nationwide perspective, we are at just one third of the required financial volume for the 'project of the century'. Nothing would be more fatal than falling into a 'cycle of failure' in which budgetary and funding resources are cut because the money does not flow due to a lack of market capacity or surmountable obstacles in the processes of funding instruments, thus creating the impression that the resources are not needed in the first place.

9 Original Form and Its Preservation

The highest maxim of preservation management is the primacy of the original in its original form as far as this is technically possible. Admittedly, it must be noted that statements such as 'The original is irreplaceable' and the still similarly formulated legal obligation to preserve cultural heritage no longer represent a self-evident basic consensus in specialist discussion. Germany's largest state archive is taking a different approach here and openly promoting the primacy of digitalisation. First formulated as the result of a comprehensive internal strategy process in the 2018

21 Koordinierungsstelle für die Erhaltung des schriftlichen Kulturguts 2015, 8–12.

edition of *Forum. Das Fachmagazin des Bundesarchivs* on the central theme of ‘The Federal Archives in the Digital Age’²² the Federal Archives revealed its repositioning in a technical article published in *ABI Technik* at the beginning of 2021:²³ ultimately, the Federal Archives are effectively pursuing a strategy of ‘substitute digitisation’ for a large part of their holdings and are deliberately foregoing measures to preserve the originals.²⁴ The *Bestandserhaltungskonzept des Bundesarchivs* [Federal Archives’ Preservation Concept] which was published online at the beginning of 2022 is aligned accordingly.²⁵ Germany’s largest public archive thus interprets the requirement under Section 3 (1) of the Federal Archives Act to ‘safeguard’ cultural heritage in such a way that at least for the major part of its holdings a digital copy fully replaces the original in the long term; authenticity and source value thus do not require originals.²⁶ The Federal Archive rules out established methods of bulk treatment such as mass deacidification and only envisages other measures such as packaging in the downstream process of digitisation. The alternatives mentioned such as cold storage are not fleshed out and are unlikely to be realisable in the near future in times of energy shortages and taxation; essential questions about long-term secure storage for the replacement digital copies and the eternal costs for gigantic amounts of image data remain unanswered; instead, one argues and calculates with a perspective of ten years, which, for archives at least, is unusually short.²⁷

The discussion about the primacy of the original versus the primacy of the digital has thus also been initiated in the German specialist community and the

22 Hänger and Hollmann 2018, 20–22.

23 Hänger et al. 2021; Boden et al. 2023.

24 A few excerpts from the technical contribution may clarify the position: ‘This means [...] that objects created in the digitisation process are not just copies, but are manifestations of the original and can ultimately also replace the original. Building on this, Michael Hollmann deduces that the cultural value of the original is not primarily determined by its materiality, but by the characteristics associated with it by other people. [...] This is exclusively about operationalising the strategic decision for the primacy of the digital, about economic implementation and the ensuring of integrity, authenticity, provision, long-term security and access authorisation. [...] Digitising the core holdings is the only way to secure the content of the records in the long term and prevent the loss of information. [...] In the long term, it is not possible to digitise a large number of records and, at the same time, finance costly measures for the preservation of the originals of the entire holdings’. Hänger et al. 2021, 79–80, 82, 85. [Translation C. O’Neill].

25 *Bestandserhaltungskonzept Bundesarchiv* 2022.

26 Special measures are to be applied to individual ‘core’ or ‘lead holdings’ that have not been defined in more detail; see e. g. Hänger and Hollmann 2018, 22; Hänger et al. 2021, 80; Boden et al. 2023, 40.

27 Hänger et al. 2021, 85.

fundamental question of the importance of preserving originals has been raised. Meanwhile, the KEK Advisory Board has positioned itself publicly in favour of the primacy of the original.²⁸ Needless to say, original preservation *and* digitisation (in this order of priority) should and must go hand in hand: high-quality digital copies created in a way that preserves the originals, protects the latter and at the same time increases availability and ease of use.²⁹ However, anyone who believes that the primacy of the original must be abandoned in favour of the primacy of the digital is accepting the total loss of cultural heritage on a massive scale and has ‘capitulated’ unnecessarily in the face of at best vaguely foreseeable future consequences to a solvable task: managing the preservation of the original.

References

- Adler, Lars and Johannes Kistenich-Zerfaß (2016). ‘Risikoanalyse durch Schadenserfassung und Beständepriorisierung. Abschlussprojekt eines Darmstädter Modellprojekts zur Erstellung eines Arbeitsprogramms für die Erhaltung schriftlichen Kulturguts’, *Archivnachrichten aus Hessen*, 16/2: 80–82. <https://landesarchiv.hessen.de/sites/landesarchiv.hessen.de/files/2022-12/archivnachrichten_aus_hessen_2016_2.pdf> (last accessed 9 October 2023).
- Allscher, Thorsten and Anna Haberditzl (2021). *Bestandserhaltung in Archiven und Bibliotheken*, 7. Aufl., Berlin, Wien, Zürich: Beuth.
- Archiv- und Bibliotheksgut schonend digitalisieren* (2019). Gemeinsames Grundlagenpapier des Bestands-erhaltungsausschusses Konferenz der Leiterinnen und Leiter der Archivverwaltungen des Bundes und der Länder, der Bundeskonferenz der Kommunalarchive beim Deutschen Städtetag und der Kommission Bestandserhaltung des Deutschen Bibliotheksverbandes. <https://www.bundesarchiv.de/DE/Content/Downloads/KLA/digitalisierung-grundlagenpapier.pdf?__blob=publicationFile> (last accessed 9 October 2023).
- Bestandserhaltungsausschuss der Konferenz der Leiterinnen und Leiter der Archivverwaltungen des Bundes und der Länder (2020). ‘Empfehlungen der KLA zum bestandsschonenden Transport von Archivgut’, *Der Archivar*, 73/4: 365–370. <https://www.archive.nrw.de/sites/default/files/media/files/Archivar_2020_4_Internet.pdf> (last accessed 9 October 2023) and <https://www.bundesarchiv.de/DE/Content/Downloads/KLA/bestandsschonender-transport-archivgut.pdf?__blob=publicationFile?> (last accessed 9 October 2023).

²⁸ Frohmann et al. 2023.

²⁹ Of course, there are media for which replacement digitisation is required in the short term in order to ensure the preservation of the information, either because they are subject to irreversible, rapid processes of decay or because there is a lack of reproduction options, playback devices, etc.: colour photographs, magnetic tapes, obsolete video formats, etc. In addition, there are holdings for which an objective discussion about replacement digitisation can and should indeed be held due to the advanced state of damage and/or the large-scale uniformity, if one thinks, for example, of the far more than 10 linear kilometres of data entry sheets from the 1950 census in Germany.

- Bestandserhaltungskonzept Bundesarchiv* (2022). <<https://www.bundesarchiv.de/assets/bundesarchiv/de/Downloads/Erklaerungen/bestandserhaltungskonzept2022.pdf>> (last accessed 9 October 2023).
- Boden, Ragna, Christian Hänger, Jens Niederhut, Dirk Förstner and Kristina John (2023). 'Bestandserhaltung als Massengeschäft – Das neue Bestandserhaltungskonzept des Bundesarchivs', *ABI Technik*, 43/1: 37–45. <<https://www.degruyter.com/document/doi/10.1515/abitech-2023-0005/pdf>> (last accessed 9 October 2023).
- Durchführung von Massenentsäuerungsprojekten* (2019). Gemeinsames Grundlagenpapier vom Bestandserhaltungsausschuss der KLA und der dbv-Kommission Bestandserhaltung. <https://www.bundesarchiv.de/DE/Content/Downloads/KLA/massenentsaeuerungsprojekte-grundlagenpapier.pdf?__blob=publicationFile> (last accessed 9 October 2023).
- Fischer, Ulrich and Markus Späinghaus (2019). *Geschichte mit Zukunft – 10 Jahre Wiederaufbau des Kölner Stadtarchivs* (Mitteilungen aus dem Stadtarchiv Köln, Sonderband), Köln: Historisches Archiv.
- Frohmann, Jakob, Johannes Kistenich-Zerfaß, Maria Elisabeth Müller, Stephanie Preuss, Laura Scherr, Alessandra Sorbello Staub and Marcus Stumpf (2023). 'Zum Verhältnis von Originalerhalt und Digitalisierung von schriftlichem Kulturgut', *ABI Technik*, 43/2: 104–110. <<https://www.degruyter.com/document/doi/10.1515/abitech-2023-0018/html>> (last accessed 9 October 2023).
- Gemeinsames Positionspapier der Konferenz der Archivreferentinnen und -referenten und Leiterinnen und Leiter der Archivverwaltungen des Bundes und der Länder (ARK) sowie der Bundeskonferenz der Kommunalarchive beim Deutschen Städtetag (BKK) (2015). 'Nur Papier nach DIN EN ISO 9706 erfüllt die Voraussetzungen für eine dauerhafte Archivierung von schriftlichem Kulturgut. Hinweise zur Beschaffung von Papier für die öffentliche Verwaltung', *Der Archivar*, 68/1: 38–40. <https://www.archive.nrw.de/sites/default/files/media/files/Archivar_1_2015.pdf> and <https://www.bundesarchiv.de/DE/Content/Downloads/KLA/positionspapier-alterungsbestaendiges-papier.pdf?__blob=publicationFile> (last accessed 9 October 2023).
- Gemeinsame Stellungnahme des Bestandserhaltungsausschusses der Konferenz der Leiterinnen und Leiter der Archivverwaltungen des Bundes und der Länder, der Bundeskonferenz der Kommunalarchive beim Deutschen Städtetag und der Kommission Bestandserhaltung des Deutschen Bibliotheksverbandes (2019). 'Es bleibt dabei: Nur Papier nach DIN EN ISO 9706 erfüllt die Voraussetzungen für eine dauerhafte Archivierung von schriftlichem Kulturgut', *Der Archivar*, 72/2: 149. <https://www.bundesarchiv.de/DE/Content/Downloads/KLA/stellungnahme-din-iso-20494-2019.pdf?__blob=publicationFile> (last accessed 9 October 2023).
- Glauert, Mario and Sabine Ruhнау (2005). 'Bestandserhaltung beginnt im Kopf, nicht im Geldbeutel', in Mario Glauert and Sabine Ruhнау (eds.). *Verwahren, Sichern, Erhalten. Handreichungen zur Bestandserhaltung in Archiven* (Veröffentlichungen der brandenburgischen Landesfachstelle für Archive und öffentliche Bibliotheken, 1), Potsdam, 1–12. <<https://www.yumpu.com/de/document/view/12526528/mario-glauert-sabine-ruhnau-bestandserhaltung-beginnt-im-kopf->> (last accessed 9 October 2023).
- Glauert, Mario (2012). 'Strategien der Bestandserhaltung', *Archive in Bayern*, 7: 109–127. <<https://www.fh-potsdam.de/sites/default/files/2022-07/strategien-der-bestandserhaltung-mario-glauert-dokument-fhpotsdam-2022-06-22.pdf>> (last accessed 9 October 2023).
- Glauert, Mario (2014). 'Von der Strategie zum Konzept. Bestandserhaltung zwischen Willkür, Wunsch und Wirklichkeit', *Archivpflege in Westfalen-Lippe*, 81: 27–34. <https://www.lwl.org/waa-download/archivpflege/heft81/27-34_glauert.pdf> (last accessed 9 October 2023).

- Goetting, Hans (1986). 'Vor vierzig Jahren. Das Hauptstaatsarchiv Hannover und die Hochwasserkatastrophe vom 9.–11. Februar 1946', *Niedersächsisches Jahrbuch für Landesgeschichte*, 58: 253–278. <https://www.historische-kommission.niedersachsen.de/download/77542/JB_58_1986.pdf> (last accessed 9 October 2023).
- Hänger, Andrea and Michael Hollmann (2018). 'Das Bundesarchiv im digitalen Wandel', *Forum. Das Fachmagazin des Bundesarchivs*: 4–33. <https://weimar.bundesarchiv.de/DE/Content/Publikationen/Forum/forum-2018.pdf?__blob=publicationFile> (last accessed 9 October 2023).
- Hänger, Christian, Kristina John and Vera Zahnhausen (2021). 'Status quo und Planungen der Kulturgutdigitalisierung beim Bundesarchiv', *ABI Technik*, 41/2: 79–89. <<https://www.degruyter.com/document/doi/10.1515/abitech-2021-0017/html>> (last accessed 9 October 2023).
- Kistenich, Johannes (2011). *Gesunkene Schätze. Die Kahnakten. Schadensgeschichte und Restaurierungsgeschichte* (Veröffentlichungen des Landesarchivs Nordrhein-Westfalen, 36), Detmold. <<https://www.archive.nrw.de/sites/default/files/media/files/Kahnaktenbroschuere.pdf>> (last accessed 9 October 2023).
- Kistenich-Zerfaß, Johannes (2018). 'Entwicklung eines Arbeitsprogramms zum Originalerhalt auf der Grundlage einer Risikoanalyse'. *Arbeitsblätter des Arbeitskreises Nordrhein-Westfälischer Papierrestauratoren*. 23. Fachgespräch der Papierrestauratorinnen und -restauratoren an Archiven, Bibliotheken und Museen am 3. und 4. April 2017 in Bonn. Meckenheim, 81–88.
- Kistenich-Zerfaß, Johannes (2018a). 'Den Zerfall nicht dem Zufall überlassen – Entwicklung eines Arbeitsprogramms zum Originalerhalt in Hessen', in Klara Deecke and Ewald Grote (eds.). *Massenakten – Massendaten. Rationalisierung und Automatisierung im Archiv 87. Deutscher Archivtag in Wolfsburg* (Tagungsdokumentationen zum Deutschen Archivtag, 22), Fulda: Selbstverlag des Verband Deutscher Archivarinnen und Archivare, 169–185.
- Kistenich-Zerfaß, Johannes (2019). 'Berufspraxis und Ausbildung. Archivische Kompetenzen im 21. Jahrhundert – Bestandserhaltung'. Vortrag anlässlich des 24. Archivwissenschaftlichen Kolloquiums. <https://www.archivschule.de/uploads/Publikation/VOE68/VOe68_Kistenich_7Febr2020.pdf> (last accessed 9 October 2023).
- Koordinierungsstelle für die Erhaltung des schriftlichen Kulturguts (KEK) (2015). *Die Erhaltung des schriftlichen Kulturguts in Archiven und Bibliotheken in Deutschland. Bundesweite Handlungsempfehlungen für die Beauftragte der Bundesregierung für Kultur und Medien (BKM) und die Kultusministerkonferenz (KMK)*, Berlin. <<https://www.kek-spk.de/publikationen>> (last accessed 9 October 2023).
- Partsch, Christoph J. (2021). *Bundesarchivgesetz. Handkommentar*. 2. Aufl. Baden-Baden: Nomos.
- Tätigkeitsbericht des Hessischen Landearchivs* (2020). <https://landesarchiv.hessen.de/sites/landesarchiv.hessen.de/files/2022-12/hla_tatigkeitsbericht_2020_final_0.pdf> (last accessed 9 October 2023).
- Tätigkeitsbericht des Hessischen Landearchivs* (2021). <https://landesarchiv.hessen.de/sites/landesarchiv.hessen.de/files/2022-12/hla_tatigkeitsbericht_2021_final_0.pdf> (last accessed 9 October 2023).

