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Archival processing of born digital material and digitization of archival documents in Germany

Summary

In 2007, the State Archives of Baden-Württemberg adopted a digitization strategy. This strategy aims at coordinated and integrated proceedings on all fields of work regarding born digitals and the digitization of archival material. The archival processing of born digital material is put into effect within a partnership with the State Archives of Hesse and Bavaria. The digitization of archival material follows well-considered priorities and is embedded into various projects, including the national level. Approximately seven percent of the holdings are to be digitized within a reasonable timeframe. But who pays the bill? Remarks are made on the challenges in the digital world, federalism and the climate of change in Germany.

1. Challenges in the digital world, federalism and the climate of change

My presentation deals with two main challenges for archives in the digital world: archival processing of born digital material and digitization of archival documents.¹ I will report on the situation in Germany, speaking about the efforts in the state of Baden-Württemberg, which is one of 16 federal states. I'll talk about strategies, not about technical solutions.

To begin with the keywords of this congress – my presentation is about sustainability (because we aim at sustainability in large dimensions on these fields of work), but in some respect it is about identity as well, because federalism is part of our German identity. And federalism is the frame for our conditions in order to respond to the challenges of the digital world

In Germany we have one Federal Archives (the Bundesarchiv), 16 state archives (Staatsarchive /Landesarchive) and thousands of independent local archives

¹ As to the state of discussion in Germany cf. Archive im digitalen Zeitalter. Überlieferung – Erschließung – Präsentation. 79. Deutscher Archivtag 2009 in Regensburg, ed. Heiner Schmitt, Tagungsdokumentationen zum Deutschen Archivtag 14, Fulda 2010.

(municipal archives, district archives, church archives and so on).² Of course we have networks on various levels (especially regional networks and for the different branches of archives like the church archives), but no centralized organization which goes top-down. So networks for various activities are rather initiated bottom-up. There is no central institution for steering activities. The Federal Archives are not to be understood as national archives in the common sense, because state archives and local archives are not subordinated to the Federal Archives.

And this means there is no national budget for archives. Consequently we have difficulties financing projects of national interest, especially at times like these when all kinds of archives have been confronted with reduced resources since many years.³ So who pays the bill?

This leads me to another keyword of this congress I want to adopt: Is there a climate of change in Germany, due to the challenges of the digital world? Yes, there is. But there is the financing problem. And in consequence there is a wide gap between theoretical awareness and practical solutions, especially in regard to born digital material.⁴ In order to respond to the challenges of the digital world and to finance practical solutions, we must establish new networks. This is what just happens at the moment, and I will expand on this at the example of the State Archives of Baden-Württemberg.

So after this introduction I will say some words about the State Archives of Baden-Württemberg. My next topic is a strategy which we published in 2007 with the title: The State Archives of Baden-Württemberg in the Digital World. After that I will speak about our practical solutions and networks in the fields of archival processing of born digital material and digitization of archival documents. In the next part I will shortly report on activities on the national level and latest recommendations by the Board of

² Archive in Deutschland, Österreich und der Schweiz. Ein Adressverzeichnis, ed. Ardey-Verlag in Zusammenarbeit mit dem VdA – Verband deutscher Archivarinnen und Archivare. e.V., twentieth edition, Ardey-Verlag 2009.

³ Cf. e.g. Entwicklung der Personalstrukturen im Archivwesen der Länder in der Bundesrepublik Deutschland. Strategiepapier der ARK 2011, in: *Archivar* 64 (2011), 397-412.

⁴ Christian Keitel, Elektronische Archivierung in Deutschland. Eine Bestandsaufnahme, in: *Für die Zukunft sichern! Bestandserhaltung analoger und digitaler Unterlagen*. 78. Deutscher Archivtag 2008 in Erfurt, ed. Heiner Schmitt, Tagungsdokumentationen zum Deutschen Archivtag 13, Fulda 2009, 115-128. In between some archives have started to establish digital archives, but their number is still small.

Science in Germany concerning born digital material and digitization. I will end with some final remarks on federalism, challenges in the digital world and our climate of change.

2. The State Archives of Baden-Württemberg

As I said before, the State Archives of Baden-Württemberg are one of 16 State Archives in Germany. We are responsible for the administration of the state of Baden-Württemberg in the southwest of Germany and its predecessors since the middle ages.⁵ We have approximately 145 kilometers – 475.721 feet – of archival material in our depots, dating from the early middle ages to the present. The head of our organization is situated in Stuttgart and we have nine departments at eight locations all over the state of Baden-Württemberg, in correspondence to the history of the southwest of Germany: six archives with large depots, two departments for central services, including technical services, and one department for preservation and conservation.

3. Strategy: The State Archives of Baden-Württemberg in the Digital World

Our holdings are very heterogeneous. We have mediaeval charters and rotuli, administrative books of the middle ages, early records and drawings, photographs and audiovisual media, modern records and digital objects of our time. Our strategies must respect the variety of this heterogeneous material. In 2007 we developed a strategy with the title *The State Archives in the Digital World*.⁶ It aims at integrated activities for all sorts of archival material and all fields of archival work that are concerned (which simply means: every field). So it deals with the integration of traditional and digital material by focusing on connections and interactions on the fields of appraisal, preservation and conservation, arrangement of the holdings, description and access. You can see that, if you look at these chapters of our strategy:

1. Improvement of access to archival material

⁵ <http://www.landesarchiv-bw.de/web/> (07.22.2012).

⁶ Das Landesarchiv Baden-Württemberg in der digitalen Welt. Einführung und Textabdruck, in: *Archivar* 61 (2008), 14-19.

2. Integration of traditional and digital archival material
3. Preservation of traditional and digital archival material
4. Efficiency and sustainability in the fields of digital born material and digitization
5. Open access to archival material

What were the consequences for our organization? The main point was and is: All departments have to deal with traditional and digital material. There is no exclusive department for digital material as such. Of course we have centralized technical services within the State Archives and our data hosting is centralized at an agency of our Ministry of Finances. But apart from that the Digital State Archives are an integrated substructure of archival work. Which means: the appraisal of digital born material goes together with the appraisal of records on paper. Digital born material is integrated into the structure of holdings, in correspondence with the principle of provenance. The description of digital born material is integrated into our online information system. Whenever we digitize material to be accessible in the net, we have connected measures in the field of preservation and conservation in order to harmonize our activities. And our main aim behind all that is to give access to our material in the digital world.

4. Practical solutions and cooperations

4.1 Archival processing of born digital material

The strategy of 2007 is our basis for each practical solution in the fields of archival processing of born digital material and digitization of traditional holdings.⁷

Let me first say something about archival processing of born digital material.⁸ Very important for the Digital Archives was the establishment of our Digital Depot with 200 million datasets at the moment. Our digital holdings are rapidly increasing since its

⁷ A survey is given by Gerald Maier, Archive als Informationsdienstleister in der digitalen Welt. Bestandsaufnahme und Perspektiven am Beispiel des Landearchivs Baden-Württemberg, in: Robert Kretzschmar (Ed.), Staatliche Archive als landeskundliche Kompetenzzentren in Geschichte und Gegenwart. Zum 65. Geburtstag von Volker Rödel, Werkhefte der staatlichen Archivverwaltung Baden-Württemberg A 22, Stuttgart 2010, 245-312.

⁸ Christian Keitel, Digitale Archivierung beim Landesarchiv Baden-Württemberg in: Archivar 63 (2010), 19 –26.

foundation. We had an initial project for its development from 2006 to 2009, financed by the Ministry of Science with a budget of 650.000 euros. Three staff members (two archivists, one technician) worked on it within this budget. They elaborated the concept and developed the software (DIMAG), using open source software and producing new open source software like Ingest-List.⁹ In 2010, the concept of the Digital Archives was approved by the government of Baden-Württemberg as a permanent substructure within the State Archives. Eight new positions for archivists and technicians were implemented in our budget for that, located at different departments. Apart from that we have fixed annual running costs at an amount of 75.000.- euros.¹⁰

The standards that we regard are OAIS, PREMIS and METS, but also ISAD(G) and EAD. Our activities treat all kinds of digital objects: records, single files, data bases, websites and audiovisual material. We apply traditional methods of appraisal, complemented by the concept of significant properties and an evaluation of new possibilities for future users in the digital age.

There was another important step. And now I talk about new networks. Last year a contract was signed between the State Archives of Baden-Württemberg, Hesse and Bavaria as a basis of cooperation in the field of archival processing of born digital material.¹¹ So the south and the middle of Germany work together now on the basis of the same software. We have divided the responsibility for different modules: The core module is under the administration of the State Archives of Baden-Württemberg, while the ingest module is in the hands of Hesse and the access module is attended to by Bavaria. We are establishing new networks for archives in the digital age. And maybe more state archives will join us; we are in negotiations with several other state archives in Germany.

But what about the local archives? At the moment we are very engaged in a discussion of the topic: Do we need special offices to coordinate archival processing

⁹ Christian Keitel – Rolf Lang, DIMAG und IngestList – Übernahme, Archivierung und Nutzung von digitalen Unterlagen im Landesarchiv Baden-Württemberg, in: Archivische Informationssysteme in der digitalen Welt. Aktuelle Entwicklungen und Perspektiven, ed. Gerald Maier – Thomas Fritz, Werkhefte der Staatlichen Archivverwaltung Baden-Württemberg A 23, Stuttgart 2010, 53 – 63.

¹⁰ <http://www.landearchiv-bw.de/web/51240> (07.22.2012).

¹¹ <http://www.landearchiv-bw.de/web/53471> (07.22.2012).

of born digital records (as for instance in Switzerland¹²)? The State Archives of Baden-Württemberg will offer local archives different forms of cooperation with local archives to choose. One possible solution is that they use our software and get support via our hotline. Another solution is: We do the whole job. Of course we'll need different models of payment for the two solutions that we are just developing at the moment.¹³

4.2 Digitization of archival documents

My next topic is digitization of traditional archival material. The State Archives are on the way to become a centre for digitization. Our aim is to present all finding-aids without legal restrictions online within the next few years. We offer online information systems¹⁴ respecting the standard of ISAD(G) where you can find the guide to all of our holdings with descriptions of each holding. As to the level of the single holdings, about 50 percent of our finding-aids are already online with 182.884 descriptions of the single units. And you will find about 2.000.000 images of digitized archival material within our online information systems. We are continuously digitizing our material on the basis of our strategy and specific action plans which define priorities according to certain criteria that we identified in 2010.¹⁵

What are our priorities?¹⁶ First of all we digitize visual material of interest for many users (like photographs and historical maps). Secondly we give priority to material of high interest for historical research (which means to us: you can answer a large variety of questions with that material). Third of all we digitize material of special

¹² <http://kost-ceco.ch/cms/> (07.22.2012).

¹³ <http://www.landesarchiv-bw.de/web/53990> (07.22.2012).

¹⁴ <http://landesarchiv-bw.de/midoso21> (07.22.2012); Thomas Fritz – Thomas Fricke – Gerald Maier, Ein einheitliches IT-System von der Überlieferungsbildung bis zur Online-Bestellung. MIDOSA 21 im Landesarchiv Baden-Württemberg, in: Der Archivar 60 (2007), 221-228; Thomas Fritz, MIDOSA 21. Das modulare Fachinformationssystem des Landesarchivs Baden-Württemberg, in: Archivische Informationssysteme in der digitalen Welt. Aktuelle Entwicklungen und Perspektiven, ed. Gerald Maier – Thomas Fritz, Werkhefte der Staatlichen Archivverwaltung Baden-Württemberg A 23, Stuttgart 2010, 31 – 52.

¹⁵ Gerald Maier, Archive als Informationsdienstleister in der digitalen Welt. Bestandsaufnahme und Perspektiven am Beispiel des Landearchivs Baden-Württemberg, in: Robert Kretzschmar (Ed.), Staatliche Archive als landeskundliche Kompetenzzentren in Geschichte und Gegenwart. Zum 65. Geburtstag von Volker Rödel, Werkhefte der Staatlichen Archivverwaltung Baden-Württemberg A 22, Stuttgart 2010, 269-282.

¹⁶ As to the the discussion in Germany cf. Frank M. Bischoff – Marcus Stumpf, Digitalisierung von archivalischen Quellen. DFG-Rundgespräch diskutiert fachliche Eckpunkte und Ziele einer bundesweiten Digitalisierungskampagne, in: Archivar 64 (2011), 343-346.

interest in relation to anniversaries in the near future (like the oncoming centenary of the First World War in 2014). We also give priority to holdings of special interest for large groups in the population, like for instance the records of immigration for all the people who came to Germany within the last 60 years. There are two other aspects: we digitize material that is hard to describe by words (for instance visual material like photographs, maps and plans and so on) to make it accessible in the net instead of describing it in detail. And we digitize archival material that is endangered in its physical substance in order to give access to the digitized representation instead.

A broad action plan was elaborated on the basis of these main principles in 2011 to be put into practice within the next ten years. What are the quantities? On the whole we want to produce 88.000.000 images until 2021 – which corresponded to 7.34 percent of our holdings in 2011.

But until now we don't know how to finance that. There are certain institutions of sponsorship like the German Research Foundation (DFG) and other self-governing organizations for science and research where you receive some funding for projects. We make use of that as far as possible. And we take part in various digitization projects that bring together several institutions of the cultural heritage: archives, libraries, museums. So here again we build networks in order to respond to the challenges of the digital world. But even if we make use of all that, finances are too restricted. The main problem is that here is no national fund to finance the digitization of cultural objects in Germany. So what we need – and this happens since some years – is a discussion on how to finance the challenges of the digital age on the national level.

5. The national level

So let us take a look at the national level. Concerning archival processing of born digital material several years ago a network was build with the name NESTOR to discuss standards and develop recommendations.¹⁷ This network was sponsored by the Federal Ministry of Science and Culture for some years, but there is no sponsoring now. It is very important, because NESTOR continuously initiates

¹⁷ http://www.langzeitarchivierung.de/Subsites/nestor/DE/Home/home_node.html (07.22.2012).

different working groups with representatives of various branches and areas (archives, libraries, museums, universities, data processing centres) which produce significant papers. So we must find ways to finance these activities.

Concerning the digitization of archival material we will have the beta launch of the so called German Digital Library in autumn.¹⁸ The German Digital Library is a portal on the national level for our cultural heritage and science to give access to digitized material from desirably 30.000 institutions in Germany. As such it is part of and the national aggregator for the EUROPEANA on the European level.¹⁹ All big archives and libraries are digitizing their holdings in order to be presented within the German Digital Library. The technical development of the German Digital Library and its hosting are financed on the basis of a contract between the Federal Government of Germany and the 16 federal states with a budget of 2.6 million euros per annum. But there is no money on the national level for the digitization of the content. So each state – like Baden-Württemberg – must pay the bill by itself, using different possibilities of sponsorship on the national and federal level.

The German Digital Library will be linked to the online information systems of the various institutions. As I said before, we have an online information system for the State Archives of Baden-Württemberg. And we have various portals for special target groups. For example we started a new portal this year under the name “Explore the Presence and History of the Southwest”.²⁰ This portal – another new network – offers combined information and digitized material of 18 institutions relating to the presence and the past of Baden-Württemberg. We will integrate the content into the German Digital Library later on. Under the roof of the German Digital Library there will be many new networks that started from a national point of view bottom-up like this one.

¹⁸ <http://www.deutsche-digitale-bibliothek.de/> (07.22.2012).

¹⁹ <http://www.europeana.eu/portal/> (07.22.2012).

²⁰ <http://www.leo-bw.de/> (07.22.2012); Wolfgang Zimmermann, Vernetzen, visualisieren, kontextualisieren. LEO – Das landeskundliche Informationssystem für Baden-Württemberg, in: Robert Kretzschmar (Ed.), Staatliche Archive als landeskundliche Kompetenzzentren in Geschichte und Gegenwart. Zum 65. Geburtstag von Volker Rödel, Werkhefte der staatlichen Archivverwaltung Baden-Württemberg A 22, Stuttgart 2010, 313-323.

This is the general situation in Germany. Many institutions have started to preserve digital born material and to digitize traditional archival material within various projects, financed in various ways, and partly by building up new networks. We are very creative in that respect. But at the moment the limits of that system are obvious. And they are perceived in science and society. Politics and science are becoming aware of the situation.

So in Baden-Württemberg our government has established a working group to deal with these topics and to develop a strategy for all institutions that are concerned on the level of the state of Baden-Württemberg.

And two months ago latest recommendations were published by the German Board of Science.²¹ I want to refer to two main aspects of these recommendations by picking up the question which I put before: Who pays the bill? The members of the German Board of Science recommend a big program to finance suitable bottom-up activities on the national level which develop informational structures of research in the digital age. And they recommend the foundation of a special board for informational structures of research in Germany in order to organize this program. We must wait and see whether and to what extent politics on the national level will follow these recommendations.

6. Final remarks on challenges in the digital world, federalism and the climate of change

I come to an end with some final remarks on federalism, challenges of the digital world and the climate of change in Germany. In society we have a growing awareness of the need of archiving digital born material and digitization. We have a growing awareness that many activities must be harmonized and financed on the national level. And as to the archives we have a climate of change which produces new networks to respond to the challenges of the digital age.

²¹ <http://www.wissenschaftsrat.de/download/archiv/2359-12.pdf> (07.22.2012).

These networks must be financed respecting the principles of federalism which is part of our identity. The advantage of federalism is that it is suited to promote bottom-up activities, producing creative solutions on various levels. The disadvantage results from the fact that you need an official agreement by the national government and 16 states to finance common activities. As to the cultural heritage both is needed in the digital world: bottom-up activities as well as common funds to finance them on the national level. We must find solutions for that in the next few years.