Libraries in a Changing World

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Abstract: We find ourselves in a time of violent conflicts. Conflicts between liberal democracies and au-tocratic regimes are being fiercely fought out in various regions. At the same time, we are fac-ing a digital-technological transformation, however its effects are difficult to predict, particu-larly due to the further advancements of artificial intelligence. Preserving the comprehensive knowledge of mankind and thus ensuring its existence and dissemination is a task belonging to libraries. But how can libraries really fulfill this responsibility? And if so, under what condi-tions? This paper will discuss thoughts on the role of libraries in a changing world.

Keywords: libraries, political education, access to knowledge, cultural heritage, information literacya

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When I was thinking about the theme of this conference, "Information Production and Circulation in the Age of Crisis", I asked myself: Do libraries have a role to play in a changing world, and if so, which one? In this deliberation my thoughts are less centered around climate change, although it can be felt all over the world, but more on political change, on the advance of autocracies, which we encounter so directly, and which distresses and worries us. Everything currently happening in Europe and the Middle East is devastating and there are countless examples of other countries where the population is subjected to cruel violence and brutal oppression. Romania has a shared border with Ukraine. It is hardly possible to be here today and not have to think about this cruel war, which was euphemistically referred to as a "special military operation" for a long time. We see that oppositional thinking can only be stopped by violence, as we recently experienced and had to endure with the example of Alexei Navalny. We also know that this war is being waged with a toxic mixture of manipulation, censorship and state propaganda. This effect is being reinforced by the various instruments from the artificial intelligence toolbox that are now available. In addition to this, many people live in what are effectively "parallel worlds". In "Deep Fakes and the Infocalypse"[1], social scientist Nina Schick describes information bubbles in which people find themselves due to the algorithms used by social media. This creates separate worlds of information and adds to people living in different realities. Disinformation and deep fakes mean that the common (information) basis for a democratic dialog is being lost in many places.

How is a society supposed to be able to classify "alternative facts" correctly? Russian history textbooks are currently being rewritten for school lessons and university programmes. Satellite dishes in Mariupol have been re-programmed: Now only the reception of Russian state television is possible.[2] Even if libraries certainly do not play a crucial role in this context; perhaps they can make a small contribution to a better-informed and more educated society. I would like to mention five focal points for this, which were also be addressed in various specialist contributions at this conference.

1. Nina Schick, *Deep Fakes and the Infocalypse* (London: Monoray, 2020).
2. A new Russian school textbook has been produced that distorts the history of the war against Ukraine and encourages students to join the army: https://www.bbc.com/news/world-europe-68550459 [Accessed: 18.06.2024] and https://www.tagesschau.de/ausland/europa/russland-geschichtsbuch-100.html [Accessed: 18.06.2024]

1. Libraries as places of political education with democratic educational programmes
2. Libraries as institutions that promote free access to knowledge/information
3. Libraries as places where knowledge/information is preserved and cultural heritage is protected
4. Libraries as places that stand up for independence and sovereignty
5. Libraries and their network

1. Libraries as places of political education with democratic educational programmes

The Astra Library and the LBUS University Library are organizing this conference together, two independent, publicly accessible and science-supporting institutions. Both make an important contribution to a democratically enlightened coexistence through a wide range of often low-threshold educational services. The German Library Association[3] recently stated: „Bibliotheken haben nicht nur einen Auftrag zur Demokratiebildung, sie sind auch Orte gelebter Demokratie und einer vitalen demokratischen Kultur." [Libraries not only have a mandate to educate people about democracy, they are also places where democracy is lived and a vital democratic culture exists.] David Lankes writes in "The New Librarianship Field Guide" (MIT Press 2016): "Die Bibliothek kann ein Forum sein, in dem Gespräche stattfinden und in dem eine Bürgerbeteiligung stattfindet und erleichtert wird. Die Bibliothek als das Agora der Demokratie." [The library can be a forum in which conversations take place and public participation can develop and be facilitated. The library as the agora of democracy.]

Libraries enable people to take a critical look at the truthfulness of information and, above all, to learn to scrutinise sources carefully. As a "third place", they impart the necessary skills for this. This service is now one of their core missions. In many academic libraries, so-called "Teaching Libraries" have been established, which develop individual training and further education concepts depending on the target audience, such as pupils, students, professionals and senior citizens. In addition to assistance with literature research, this includes dealing with reference management programmes, Open Access publishing and bibliometric analyses. Finally, due to the requirements of research funding organisations, advice on research data management has now been added as well. In addition to regular face-to-face events, video tutorials for self-study have long been established as a format. Online training courses and online information via ZOOM, MS Teams etc. have also become established.

However, the biggest challenge at the moment is artificial intelligence (AI). At the end of November 2023, 18 countries worldwide, including Germany, have signed an agreement to protect against the misuse of artificial intelligence. This contains non-binding recommendations, including recommendations on the monitoring of AI systems and the protection against data misuse[4]. The European Union will also soon introduce new legislation on artificial intelligence: The "EU Artificial Intelligence Act". This legislative act will lay the foundation for the regulation of AI in the EU. On January 21st 2024, the 27 EU member states unanimously approved the final draft. Nevertheless, this is not the end of the AI issue. It continues to present the population with the task of finding a way to deal with technological developments. As educational institutions, libraries are faced with the challenge of integrating artificial intelligence into their work, learning new skills, expanding them and imparting them.

2. Libraries as institutions committed to free access to knowledge/information

The publishing industry is still characterised by strong commercial and oligopolistic structures, especially in the scientific field. Large publishers such as *Wiley, Springer* and *Elsevier* play a decisive role in determining market developments and thus the research landscape. The call for open access to scientific knowledge (cf. "Berlin Declaration 2003"[5], Budapest Open Access Initiative, ECHO Charter and Bethesda Statement on Open Access Publishing) was intended to promote the Internet as an instrument for a worldwide basis of scientific knowledge and human reflection and to support the transition to the "Open Access" paradigm for electronic publications. Diamond Open Access platforms could help to reduce the dependency of research output on publishers. This involves models of Open Access publishing that operate without publication fees for authors, are non-commercial and are geared towards the interests of research and science.

3. https://www.bibliotheksverband.de/ [Acessed: 18.06.2024]
4. https://www.heise.de/news/Secure-by-design-18-Staaten-unterzeichnen-neue-KI-Richtlinien-9540237.html [Accessed: 18.06.2024]
5. http://oa.mpg.de/openaccess-berlin/berlin_declaration.pdf [Accessed: 18.06.2024]

The Council Presidency recommends that EU member states publish research results financed from public funds directly in OA in the future. It emphasizes the promotion of the development of non-profit publication infrastructures (Diamond Open Access) in the European Union. It advises to support the transformation of the *Open Research Europe* platform into a collective, non-profit, large-scale Open Access research publishing service for the public good. Numerous libraries support this endeavor and advise researchers accordingly when selecting their publication organs. They also support the "Action Plan for Diamond Open Access"[6]. It was presented by Science Europe, cOAlition S, OPERAS and the French Agence Nationale de la Recherche with the aim of promoting a sustainable and community-driven Diamond Open Access landscape. Ultimately, however, the initiators and the libraries are dependent on the will to change the publication culture in science. As long as publications in high-impact journals are regarded as an indicator of a researcher's performance, institutional repositories for Diamond Open Access journals will hardly stand a chance.

3. Libraries as places where knowledge/information is preserved and cultural heritage is protected

In his article "Zukunft braucht Herkunft" [Future needs origin], Odo Marquard asked how something new can be humanly possible and his answer is: "Nicht ohne das Alte" [Not without the old][7]. Horst Köhler, former German Federal President, referred to Marquard and added: "Zur Identität gehört ganz wesentlich das Bewusstsein von der eigenen Geschichte" [Awareness of one's own history is an essential part of identity][8]. Preserving the knowledge of humanity and thus ensuring its existence and dissemination has always been a recognised and undisputed task of libraries. Libraries, often referred to as the "treasure troves of knowledge", have been entrusted with this responsibility since ancient times – a challenge they still face today and whose significance is growing in this digital age, maybe more than ever. However, it is no longer just about the "mere" storage of media. In view of the ever shorter half-life of information, libraries must also provide the information entrusted to them reliably and sustainably. There has never been a greater variety of media than today, all of which require different preservation strategies. Irrespective of this, the constantly changing digital file formats of the last few decades have presented libraries with unprecedented technical and structural challenges. They must continually develop new concepts in order to fulfill their social role as memory institutions.

The question seemed to have been answered: For online publications with a digital object identifier, or DOI for short, access would be secured for eternity. However, a study by British scientist Martin Eve was published in the journal *Nature* at the end of January 2024 proving the contrary[9]. He checked access in a sample of more than seven million articles and found that in a good two million cases the articles could not be found. "Many people have the blind assumption that if you have a DOI, it's there forever, but that doesn't mean that the link will always work," stated publication expert Mikael Laakso from the Hanken School of Economics in Helsinki, explaining the significance of the study[10].

This is not the only reason why the digital long-term availability (LTA) of scientifically relevant information is becoming increasingly important to researchers and research institutions. The demand for solutions for the long-term preservation of research data and results, electronic publications and digital scientific and cultural assets is growing in line with this. Therefore, it is the duty of libraries to create a future-oriented infrastructure that enables the efficient and sustainable preservation of digital holdings and through this ensure a basis for innovative science.

With the so-called "digital long-term availability in the Bavarian Library Network", the State of Bavaria has started a corresponding project in which Bayreuth University Library is also involved[11]. Three object classes were processed: digital image files (scans), contributions to OA journals and research data. Those classes were analysed with regard to their requirements for long-term provision and procedures.

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6. https://www.scienceeurope.org/media/t3jgyo3u/202203-diamond-oa-action-plan.pdf [Accessed: 18.06.2024]
7. Odo Marquard, *Zukunft braucht Herkunft: Philosophische Essays* (Stuttgart: Reihe Reclam, 2003)
8. https://www.bundespraesident.de/SharedDocs/Reden/DE/Horst-Koehler/Reden/2008/04/20080413_Rede_Anlage.pdf?__blob=publicationFile [Accessed: 18.06.2024]
9. Martin Eve, "Digital Scholarly Journals Are Poorly Preserved: A Study of 7 Million Articles", *Journal of Librarianship and Scholarly Communication*, vol. 12, issue 1 (2024). https://www.iastatedigitalpress.com/jlsc/article/id/16288/ [Accessed: 18.06.2024].
10. https://www.nature.com/articles/d41586-024-00616-5 [Accessed: 18.06.2024]
11. https://www.lzv-bayern.de [Accessed: 18.06.2024]

In the meantime, cooperation has been agreed upon with other initiatives in this field, such as LaVaH[12] from Hesse and Nestor[13]. The international standard is ensured by the recognition of the ISO "Open Archival Information System (OASI)". In principle, however, the following applies: Considerations regarding a sustainable strategy for the long-term availability of electronic media are currently of the greatest relevance, as many related questions are still far from being answered in all details.

4. Libraries as an institution committed to independence and sovereignty

"In der Öffentlichen Verwaltung bestehen hohe Abhängigkeiten zu einzelnen Technologieanbietern. Dies birgt die Gefahr, die Kontrolle über die eigene IT zu verlieren und u. a. Informations- und Datenschutz gemäß nationalen und EU-weit gültigen Vorgaben nicht mehr gewährleisten zu können." [Public administration is highly dependent on individual technology providers. This entails the risk of losing control over their own IT and no longer being able to guarantee information and data protection in accordance with national and EU-wide regulations], wrote the Federal Government Commissioner for Information Technology[14]. Petra Gehring, Chair of the Council for Information Infrastructures in Germany (RfII), explained: "Große Player greifen absichtsvoll die Integrität des wissenschaftlichen Austauschs an. Sie betrachten den gesamten intellektuellen Zyklus staatlich getragener und damit freier Forschung als ihr künftiges Produkt." [Big players are deliberately attacking the integrity of scientific exchange. They regard the entire intellectual cycle of state-supported and therefore free research as their future product.] She calls this a "Lebendfalle für Forschende" [life trap for researchers][15].

Library management software is increasingly becoming part of such ecosystems. Commercial products in particular are highly interesting objects from a data analytics perspective. Individualised personal data of all users, combined with their media usage behaviour and the library's funding streams based on this offer interesting insights. Accordingly, all major providers have developed library analytics models and converted their systems to cloud operation, so that users can no longer have a complete structural overview of the data flows[16]. When the question of replacing a library management IT system that had been outdated for many years arose, the majority of the libraries represented in the Bavarian Library Network opted for an open source solution for technical and strategic reasons. The software FOLIO particularly takes into account the desire for independent scope for design and innovation through the concept of micro services in the software architecture[17].

In FOLIO, all data and functions are available via open and documented interfaces. A key feature, however, is that data sovereignty remains with the Bavarian Library Network (BVB) and the participating libraries[18]. The data is physically stored at the Leibniz Supercomputing Centre, a publicly funded facility in Bavaria[19]. This also guarantees digital sovereignty for the university libraries within the BVB and significantly reduces dependence on database providers, including a possible vendor lock-in. However, the FOLIO library management system is just one example of open source applications that contribute to digital sovereignty. Software for setting up research data repositories, such as DSPACE[20], or for the presentation and workflow management of digitised material , such as KITODO[21], are further examples.

5. Libraries and their network

Buzzwords such as "Era of Collaboration" (2003)[22] and "Network Society" (1996)[23] point to the importance of network formation and structures at an early stage. From a technical point of view,

12. https://www.lavah.de/ [Accessed: 18.06.2024]
13. https://www.langzeitarchivierung.de/Webs/nestor/DE/Home/home_node.html [Accessed: 18.06.2024]
14. https://www.cio.bund.de/Webs/CIO/DE/startseite/startseite-node.html;jsessionid=617AAF0AD409547E4527BF10535B0D8A.live872 [Accessed: 18.06.2024]
15. Petra Gehring, "Das Schicksal von Open Science steht auf dem Spiel", *Forschung & Lehre* (02.08.2021). https://www.forschung-und-lehre.de/politik/das-schicksal-von-open-science-steht-auf-dem-spiel-3902
16. Renke Siems, "Das Lesen der Anderen. Erschienen", *O-Bib*, vol. 9, issue 1 (2022). https://doi.org/10.5282/o-bib/5797.
17. https://www.folio-bib.org/ [Accessed: 18.06.2024]
18. https://www.bib-bvb.de/home [Accessed: 18.06.2024]
19. https://www.lrz.de/ [Accessed: 18.06.2024]
20. https://dspace.lyrasis.org/ [Accessed: 18.06.2024]
21. https://www.kitodo.org/ [Accessed: 18.06.2024]
22. R. Agranoff and M. McGuire, *Collaborative public management: New strategies for local governments* (Washington, DC: Georgetown University Press, 2003).
23. Manuel Castells, *The Rise of the Network Society* (Wiley-Blackwell, 2009)

libraries in Germany are predominantly organised in networks, known as library networks, which have arisen from the realisation that providing information would hardly be possible without the provision of jointly developed reference tools. This ultimately resulted in numerous local, regional and supra-regional services, such as the cooperative indexing of print holdings up to large e-book packages, as well as the distribution of media via interlibrary loan. In addition, there are research-supporting library initiatives, such as the establishment of research data repositories, the development of presentation and workflow management tools for the provision of digitised material and the development of search interfaces (VU-Find)[24]. Finally, FOLIO, the library management system already mentioned, is an interesting example here: technical development is user-oriented and cooperative at a regional, national and international level.

In addition to the technical networks, public and academic libraries are also politically involved in the German Library Association (Deutscher Bibliotheksverband e.V., dbv). More than 9,000 libraries with around 25,000 employees are represented there. The central concern of the dbv is to strengthen libraries to ensure free access to media and information for all citizens. The Romanian equivalent is represented by two large associations: The National Association of Librarians and Public Libraries in Romania (ANBPR) - with more than 3000 members, mainly from public libraries, and the Romanian Library Association (ABR) - with around 1800 members from different types of libraries, such as university, school and specialised libraries.

Within their networks, libraries learn from each other. They make joint decisions and organise themselves, but this does not have to exclude central structures for coordination. In this way, they not only stabilise their identities, but also create resilience against inadequate influence and autocratic encroachment.

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In my remarks, I have described the options available to libraries in times of political change. This requires their attention and a clear political stance in order to advocate for open and independent access to knowledge and to preserve this knowledge. Organising themselves in networks should help them resist social attacks.

Let me close with a comment that surprised me very much: During a job interview for an apprenticeship as an assistant for libraries in Bayreuth in February 2024 a young student replied to the question about her motivation to become a librarian with the following: "I want to do something meaningful for society with my work, something that fulfills me." I think this is true for many of us, but we should always be aware of this as well.

I wish the *Annual International Conference Libraries Knowledge and Information* a great and lasting success and wish for you all to receive many good suggestions at this conference and thank you for your attention.

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