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COMPLEX PROJECTS Bodies & Building Berlin AR3CP100

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https://www.facebook.com/CP_Complex-Projects-422914291241447 **Bodies & Building Berlin** National library of Germany



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INTRODUCTION









renaissance







Library of Alexandrial (248 BC)

Merton College Library (1373)

British Museum Library (1753)

Bibliothèque du Roi (1799)

enlightenment

Wolfsburg Cultural Cente (1962) Seattle Public Library (2004)

21st century

ancient era















Assignment

The library has been around for a long period of time and can be traced back all the way to the ancient ages. The Library of Alexandria can be considered to be the one to lay the foundation for all libraries that came afterwards. Their aim is to share information and make it accessible to the public, not only through the collection, but also curation of knowledge¹. is to this day a core ambition for libraries.²³

Over time, libraries have developed into various types, such as the public library which has a central position within the city and is accessible to the general public. Academic libraries are often associated with an institution with often a specialised collection. The national library is unique in its kind, for that it is responsible to hold the national imprint, this is often imbedded in the country's law.⁴

The library with a rich history on its own, has undergone some changes. The organisation is in many ways a reflection of its society developments.⁵ The ways how new knowledge is obtained have changed, parallel to new inventions, technologies and types of media. For example, the invention of the printing press made books significantly cheaper and thus easier accessible for the general public. The library shifted from an organisational tool for the collection it holds to a place where the reading room became central.⁶

With the emergence of the internet, the exchange of information has accelerated and in the past twenty years⁷, libraries have undergone big changes in how the building is used. The book no longer became the only means of gaining knowledge and questions occurred regarding the need of a physical library when information can be accessed from anywhere. As well as changes in society will affect the social role a library has.

However, new libraries are being built and no data can back up any declining popularity of the use of public libraries8. This gain in popularity has to do with how public libraries deal with the changing needs of their users and has undergone a transformation in the organisation. The trend for the need of a physical library seems to continue for public libraries, a question that occurred is whether a similar transformation can be done for the national library. The possibility and potential of a new type of national library should be further explored to find ways on how to deal with future developments in collecting knowledge, both by the library itself and the users.



use of the library overtime

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the living room of the city

Problem Statement

National libraries seem to be lacking behind when it comes to keeping up and adjusting to fast-changing digitisation and society9 in comparison to the transformations public libraries have undergone. For public libraries, new models are proposed, and an example for this is the four-space model, dealing with both a digital and physical library and considering the issues that go along with the social development in regard to the library. In this model a vision for the library is made which can be used as a tool for redesigning and (re) arranging public libraries, both the physical space as well as their role in a democratic society thus has a direct connection to the development of library plans and politics.

The national library plays an important role in preserving the cultural heritage,¹⁰ ¹¹ for a long time it is seen as a social institution. The relationship of the library with its society is that it functions both independently as well as interlinked. In the current day and age the national library holds both print and non-print material, with including non-print material comes a dilemma for the organ in the library. In this digital age, we produce the equivalent of new information in two days as we did until 2003.¹² With this large amount of data, the national library is forced to make a selection and has to take a stance on what is considered to be the most important. The question is however how to make this selection.

The fast pace of technological advancement presents challenges to the preservation of digital information. The format in which the data is stored may become outdated within a relatively short period of time, making it inaccessible to future generations. One example of this is the floppy disk, which was once a widely used data storage format but has since become irrelevant. To reduce the risk of data decay,¹³ it is of importance that libraries take measures to ensure the longevity of all information, including digital. This requires an ongoing commitment to monitoring and adapting to changing technologies and ensuring that digital information is stored in formats that are both accessible and sustainable for the long-term. Failure to do so would result in a significant loss of information and cultural heritage, which would have far-reaching consequences for future generations.

The national library, like the public library, faces the challenges of adjusting to technological trends and the process of digitization. While public libraries have already adapted to these changes, national libraries are still searching for ways to keep up with these trends and determining what will remain relevant in the future. It is uncertain how national libraries will position themselves in the upcoming decades, when new directions may emerge in regards to rapidly evolving technologies.



project ambitions

The German National Library, in specific, operates from two locations and faces difficulties with centralizing data, managing a growing collection, and a lack of vision for the future. The existing spaces are no longer suitable for contemporary learning and research, and there is a need to optimize the space to better serve the needs of users. This requires a proactive approach to address the challenges posed by technological developments and ensure that the library remains relevant and can respond to the changing needs of its users.

To address the challenges faced by the national library, the central research question is: How can the national library best accommodate the collection and curation of knowledge to encourage learning in an age of digitalization?

Research question INTRODUCTION

This overarching research question is divided into several sub-questions, encompassing five main categories: vision, archive, curation, learning, and context. These categories serve to define the client, program, and site and will be further explained in the following sections of the research.

The investigation into these various categories aims to provide a comprehensive understanding of the national library's role in the digital age and how it can best serve the needs of its users. By exploring these various aspects of the library's functions, the research will be the starting point for practical solutions and results in the design brief for the national library.

The ongoing challenges of the national library to determine the role it will take in the upcoming decades requires an examination of various aspects, including the accommodation of the continuous growth of the collection, the preservation of both physical and digital media, and the creation of a welcoming environment for all users. In addition, the national library must address the issue of space, both in terms of its current activities and its flexibility for future use. The research seeks to address questions related to the discoverability of the digital collection to users. This requires considering the role of the physical spaces in supporting the use of the digital collection and obtaining knowledge, as well as the relationship between the building and the surrounding urban context and the ways in which the building can enhance neighborhood interaction.

HOW CAN THE NATIONAL LIBRARY BEST ACCOMMODATE THE COLLECTION AND CURATION OF KNOWLEDGE TO ENCOURAGE LEARNING IN AN AGE OF DIGITALIZATION? Ultimately to create a space that not only accommodates the collection and curation of knowledge, but also supports learning and engagement with the surrounding context. The research is divided into subquestions relating to five categories: vision, archive, curation, learning and context. Through this, the client, program, and site are defined.

Methodology

Literature research

Literature research provides an understanding of the history, theories and current trends of libraries and their design. The literature will help to answer the research questions and support the findings from the fieldwork and case studies. The research will be conducted using academic journals, books, and online sources, and will provide a thorough understanding of the theoretical framework for the design and role of the national library.

Case Studies

Case studies are a part of this academic architecture research as they provide insights into existing libraries and their functions, spatial qualities, and ways of storing and organizing collections. The case studies will be conducted through an interpretive analysis of various materials such as plans, sections, and elevations. This will help to distinguish key elements and gain a general understanding of the spatial organization of libraries. Furthermore, the case studies will help to identify best practices in the design and organization of libraries, which can be applied to the design of the national library.

Fieldwork

By providing empirical data to support the findings from the literature research, fieldwork will be performed in Berlin to find a suitable location for the national library. The approach will be of qualitative nature, basing the collection of data on observations, documenting, and mapping with photographs and/or illustrations. The findings from the fieldwork will help to validate the research findings and support the interpretation of the collected data. In addition, the fieldwork may help to understand the social context and the broader context of the city, which will be taken into consideration when choosing a site.



research will result in client, program and site

CLIENT



Ambitions

The primary goal of the national library is to understand its own ambitions and envision itself for the future. This will involve considering trends and accommodating new media types, as well as considering the needs of its target audience. Three main ambitions are identified.

Safeguarding the Collection for Future Generations

The primary goal of the national library is to safeguard its collection for future generations. This involves ensuring that the collection is preserved and protected, both physically and digitally. The library must take steps to maintain the integrity of its collection, ensuring that it remains accessible and usable for future researchers, scholars and members of the public.

Facilitating Accessible Building

The national library also has a responsibility to ensure that its building is accessible to all users. The library must take steps to ensure that its spaces are designed in such a way that they are usable by all, regardless of age or physical ability and can adapt accordingly to trends and needs changing over time.

Designing an Appealing and Functioning Building

Finally, the client wants a design that is both appealing and functional. The building should be visually appealing and reflect the values of the library and its role in society. It must also be functional, providing users with spaces that are well suited to the activities they are engaged in, such as research, curation and study. The library must ensure that its spaces are designed in such a way that they are usable by all, regardless of age or physical ability, while also reflecting the library's commitment to preserving and safeguarding its collections for future generations.

Government

The federal ministry, prioritizes the collection of material as it is embedded in the law.¹⁴ The collection of materials is viewed as a crucial aspect of the library's function and therefore, the government is invested in ensuring that the new library is designed to meet this requirement effectively.

"The German National Library's collection



Federal Ministry of Education and Research



BERLIN X CENL

stakeholders of national library



City of Berlin is an important stakeholder

mandate is anchored in the Law Regarding the German National Library (DNBG) enacted on 22 June 2006. The Legal Deposit Regulation (PfIAV), which is an integral part of the DNBG, contains supplementary regulations on applying the law." (Deutsche Nationale Bibliothek, "Our Collection Mendate.")¹⁵

National library Germany

As mentioned before the primary goal of the national library is to enable access to the public. This is evident in the organization's focus on providing access to information and resources to all members of society. As such, the Deutsche National Bibliothek will likely play a key role in determining the design and functionality of a new national library in Berlin, ensuring that it meets its goals of providing accessible information and resources to the public.¹⁶

City of berlin

The city of Berlin plays a crucial role in positioning the library building, as the municipality is responsible for the strategic development and planning of the city. The city's interest in the new national library reflects its broader goal to create a dynamic and vibrant environment for its residents and visitors. By integrating the new library into the cityscape, the municipality aims to create a new landmark and cultural centre for the community, further positioning Berlin as a thriving city with a rich cultural heritage.

CENL

The Conference of European National Librarians (CENL) prioritizes unity among countries and influenced indirectly the new national library in Berlin. The CENL represents the shared interests of European national libraries and serves as a platform for collaboration and the exchange of ideas and experiences.¹⁷ The German National Library aims to align its goals with those of the CENL and to play a leading role in the development of European librarianship.¹⁸ The role of the national library in a European context is important, as it contributes to the cultural, scientific, and social cohesion of the continent.

Users

Users play a role in the development of a national library program. The type of activities that can take place in the building vary according to the users' interests, but all of them share a common focus on acquiring knowledge and providing access to resources.

For the general public, the library should provide reliable and accurate information, offer opportunities for acquiring new skills, and provide entertainment and leisure activities. Learners, on the other hand, need access to educational resources and materials, as well as opportunities to expand their knowledge and skills. Researchers require access to a wide variety of specialized resources and the ability to conduct research and advance their field of study. Cultural visitors seek access to resources that reflect the diversity of cultures, as well as opportunities to engage and communicate with others to learn about different perspectives. Finally, the staff's priority is to provide excellent service to patrons and stay up-to-date with new technologies and trends

To maintain a relationship between a national library and its users plays a crucial role in the success and relevance of the institution. The needs and interests of the general public, learners, researchers, cultural visitors, and staff must be taken into consideration when developing the program of the national library. By meeting the needs and expectations of its users, a national library can ensure its continued success and the dissemination of



The national library is mainly used by researchers

Conclusion

In conclusion, the national library of Germany faces several challenges in order to fulfill its primary goal of safeguarding the collection for future generations and providing accessible and appealing facilities to its various stakeholders; the Conference of European National Librarians (CENL), the government of Germany, the city of Berlin, and the Deutsche National Bibliothek. There must be a balance of the needs of its target audience; the general public, learners, researchers, cultural visitors, and staff, with its own ambitions while adapting to changing trends and the use of media.



Vison based on client

PROGRAM



Ambitions

To gain a general understanding of how libraries are currently organized, multiple existing projects were used for benchmarking. These projects include other European national libraries. The floorplans, spatial organization, and programs were analyzed. With the ambition for the library program, aim to provide a range of opportunities for acquiring knowledge the library must enable various ways of acquiring knowledge and engage its users through the provision of additional public and social programs,¹⁹ as well as the expansion of various meeting spaces to provide a more prominent role within the building. In addition to these functional requirements, the library must also ensure the optimal preservation of its collection providing expandable and climatecontrolled space. It is essential that the library is designed with longevity and flexibility in mind, with the possibility to expand the building to accommodate future changes in its function.



Relation scheme

Traditionally, the library program was organized in a centralized manner, with a limited number of public spaces and exclusive reading rooms for patrons, and staff offices located in a separate area of the building. A small portion of the stacks was accessible, with the majority of the collection housed in climate-controlled storage.

To address the shortage of storage space and align with the library's core function of collecting and preserving books, either physical or digital, it is proposed that 50% of the building be designated for this purpose. The shift towards remote work suggests that the staff's office space requirement will decrease, allowing for a greater portion of the building to be dedicated to public functions²⁰. The reading room should be re-envisioned as a learning space, encompassing not only physical book access but also the utilization of digital tools and software.

The library building has three primary spaces: the reading room, stacks, and office area. An analysis revealed that a third of the building is allocated for staff use, another third for storage, and only a limited portion is available for public access. The new library program is aimed at optimizing space usage, considering the growth of the collection and the changing needs of staff and patrons. A balance between storage, offices, and public functions is recommended, with a shift towards more flexible and interactive learning spaces.²¹ The reading room will be transformed into a learning space, incorporating digital tools, with a focus on enabling knowledge acquisition and engagement for users. This new program aligns with the changing demands of the library and promotes its role as a place for knowledge and learning.













25

Copenhagen



Stacks





Other

Location Year	Copenhagen, Denmark 1999
Architect	SHL
Footprint	9 600 m2
Total area	30 000 m2
Volume	140 000 m3
Collection	6M books + 24M prints, etc





The Hague



Stacks





Other

Location Year	The Hague, The Netherlands 1982
Architect	OD205
Footprint	8 000 m2
Total area	55 000 m2
Volume	193 000 m3
Collection	7M books+prints







Leipzig













62 000 m2

Frankfurt







Location Year Architect Footprint Total area Volume Collection

Frankfurt, Germany 1997 (extension) Arat-Kaiser-Kaiser 23 600 m2 56 000 m2 63 000 m3 20M volumes







Program bar and relation diagram



Conclusion





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LOCATION

Ambitions

The initial selection of potential locations for the national library in Berlin was based on three key requirements centred around the theme of 'future.' These requirements were co-created with stakeholders with similar large public projects to identify areas where a significant building could contribute to the urban fabric, either by enriching established areas, catalysing new developments, or intensifying the city, to ensure that the building is both functional and in line with the city's vision for its future development.

Berlin has ten areas that are part of the Urban Development Concept Berlin 2030, it is possible to locate it within one of these areas so that it contributes to the city's overall development goals.

Locating a large public building in a post-1990 built neighbourhood can help to create a sense of continuity and coherence in the city's built environment. The ideal area for a large public building should have a builtup area density between 0.1 and 0.4, and a population density of 250 people per hectare. This ensures that the building is located in an area where there is enough population to support it, while also allowing for sufficient space for the building and its surrounding areas.

When choosing a site for a building with a depot of museum typology, three key considerations are logistics, plot, and safety. Logistics necessitate the building be adjacent to a primary road capable of accommodating 19m trucks, as this ensures efficient and effective access to the site for the delivery and storage of artworks and artifacts. The plot must have a building coverage ratio below 0.6, this not only helps to preserve green spaces, but it also provides the necessary space for other public functions. Safety is a top priority, with the site required to be within a 10-minute drive from both a fire station and a police department, in the event of an emergency so the necessary teams are within close proximity

Additionally, specificity for the national library, accessibility, the possibility for expansion, and visibility are also crucial factors. Firstly,



the location should be within 30 minutes of Berlin Bhf, and preferably next to a bus stop, to ensure that users can easily access the library. Secondly, it is important to consider the potential for expansion, either by adding plot space or building upwards. This will ensure that the library can accommodate future growth and changing needs. Finally, the site should be visible from a distance and ideally, be part of a sightline or waterfront. This will ensure that the library is prominently visible and recognizable, promoting its status as a key institution in the city.

In total, nine requirements were used to evaluate the three potential locations for the library. The diagram presented illustrates whether each location met these requirements, ultimately resulting in the Lohmüleinsel being selected as the best option.



All site requirements

History

Lohmühleinsel in Berlin has undergone a series of transformations throughout its history, reflecting the changing socio-economic landscape of the city. The area was initially used as a bark mill site in 1845, before being incorporated into the Görlitz train station and rail network.

During the Cold War, the site was located on the border between East and West Berlin, and remnants of the Berlin Wall can still be seen along the Spree River. In the post-Wall period, the area developed into an alternative techno rave neighbourhood, but city authorities wanted to redevelop the site for commercial purposes, leading to the creation of the MediaSpree development.

This new development caused opposition from citizens and community groups who wanted to maintain the Spree River waterfront as a public space for all. The protest movement "MediaSpree versenken! MediaSpree für alle!" aimed to preserve the area as a public space.



Location in regards to city centre

The site offers accessibility by foot, bike, and public transportation and the topography is an island-like plot, offering the opportunity for unique views, as well as potential to make a building stand out and visually present.

Site Analysis

LOCATION

Mobility

Regarding logistics, it is located near several major bus and train lines, making it easily reachable from all parts of the city. Also, the site is within a 30-minute radius of the main train station, which makes it easily accessible for visitors outside the city. And can be reached by police and fire departments within 10 minutes.

Police and fire department

approach to site

Site Analysis

When analysing the direct surroundings, the site is near several buildings, streets, and public spaces, such as cultural areas and creative industries, offering potential for collaborations and partnerships. However, it is important to consider the exterior design and integration with the surrounding urban landscape, as previous commercial developments by the government were not well received by the public.

Furthermore, the site's location at a deadend street offers a high level visibility from along the Spree, and seclusion from its direct surroundings, which could be beneficial for the specific program, but at the same time makes direct access to the site is harder.

The development of a national library site in Berlin should take into account its historic context and the preservation of its cultural heritage. The location should represent the function of the building as a representative site for the collection of cultural heritage. Furthermore, it is important to establish a functional relationship between the building and its surroundings, including a visual connection with the river to reinforce the site's significance and context. In response to these demands, the current development plan for Lohmühleinsel seeks to revitalise the vacant fallow lands along the river and find a balance between economic development and public access. This process reflects the ongoing struggle to reconcile the needs of the city, its citizens, and its history in Berlin's rapidly evolving urban landscape.

Various functions in area

Volume studies

Based on the site analysis, various volume studies are conducted, each one considers one of the positions regarding the site, the program needs or client ambitions.

The client's options range from a landmark that has high visibility from the Spree to a building that is integrated into the context and landscape. The program options vary, from a separated program to an integrated program in a bar, with optimised storage in a tower.

The site options range from a minimum footprint to a maximum footprint that results in the lowest volume and a compact cube volume. Each option has the potential to either positively or negatively impact the surroundings and context of Lohmühleninsel. For instance, a landmark building may have high visibility, but a building that is integrated into the landscape will keep the waterfront more open and accessible to the public.

combining volume studies

scenarios based on various needs

PROGRAM

SITE

LOCATION

CONCLUSION

05

Design ambitions

The three main ambitions are to preserve the collection, integrate and enable the use of other media and thirdly, use the building to increase interaction with users. The library's location at the Spree river offers unique visibility and great access, having a positive impact on the surrounding neighbourhood.

Various stakeholders are part of the project development; the Conference of European National Librarians (CENL), the government of Germany, the city of Berlin, and the Deutsche National Bibliothek. As wel as that here must be a balance of the needs of its target audience.

The program is aimed at optimising storage space, as well as a balance of storage, offices, and public functions is needed, with a shift towards more flexible and interactive learning spaces. The reading room will be transformed into a learning space, with a focus on enabling knowledge acquisition and engagement for users.

Conclusion

The National Library of Germany (Deutsche Nationalbibliothek) needs to undergo changes to better serve the needs of the society. In order to preserve and provide access to the collection, the building must be updated to accommodate digital media and to create an environment for active learning. The library is no longer just a passive space for acquiring knowledge, but should also enhance the experience for users by offering a variety of resources and opportunities for interaction. In order to achieve this, the design of the building must take into account the growing digital collection and the need for secure storage and preservation. Furthermore, the building should provide a central location for users to access both physical and digital materials and be equipped to accommodate the growth of the collection in the future. To ensure the long-term preservation of the collection, the building must be designed with durability in mind, while also providing the flexibility to adapt to changing technologies and user needs.

Next steps

The design of the new national library must consider the ambitions of the client, program needs, and site constraints in order to create a space that encourages knowledge sharing and interaction between users. The massing of the building serves as the starting point for the design, with further development needed to consider accessibility, program organisation, and building technology. The durability of the building is crucial, as it must withstand a long period and use, thus must be flexible enough to accommodate changes in storage, use of space, and technology, while still protecting the collection.

An inviting ground floor can engage users and attract passing by visitors, with a balance between publicly accessible spaces and tranquil areas achieved through the use of contrasting materials and textures, such as warm woods versus cool stones or textiles versus screens, to indicate the "publicness" of the building.

CONCLUSION

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