

P5 REFLECTION

TU Delft
Faculty of Architecture and the Built Environment
Architecture
AR3AH115 Graduation Studio Revitalising Heritage

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P5 Reflection | Archive Avenue

Introduction

The library as a typology is undergoing drastic transformations due to digitalization's influence on its architecture and public services. For a long time, the most significant concern for library design was the preservation of an endlessly growing book collection (Wandelt & Schmidt-Lux, 2022). This changed during the past few decades when physical books became less essential for information seeking due to many collections being digitally available.

This trend towards a digital library is also noticeable in KB's annual numbers and preservation strategy. Since 2019, the KB has prioritized digital collections over physical ones, resulting in a decrease in physical collection usage and a growing reliance on digital services (*figure 1*) (Boersma, Martens, Ankersmit, & Stappers, 2022). This advancement is also evident in the numbers presented in KB's annual report for 2024: the user group of KB's digital services has grown visibly compared to 2023, while the number of people loaning physical books or using the reading room has decreased (KB, 2025). Indisputably, COVID has influenced this physical accessibility, but the number of physically loaned books in 2024 is not even half of what it was in 2018 (*figure 2*).

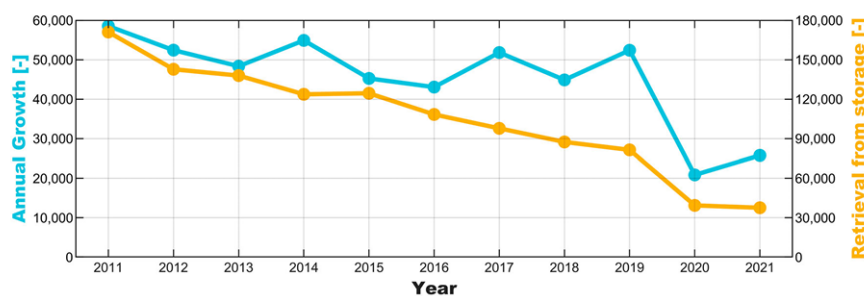


Figure 1: observable decrease in annual growth of physical materials (Boersma, Martens, Ankersmit, & Stappers, 2022)

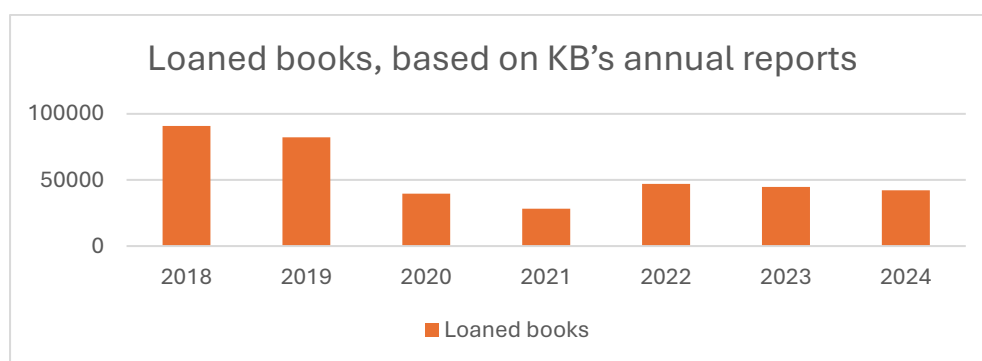


Figure 2: Number of physically loaned books based on KB's annual reports

As a national library, the KB must not only preserve Dutch heritage materials but also has the duty to encourage awareness of this (Lushington, Rudolf, & Wong, 2016). While the KB actively promotes its collections digitally on social media platforms and in other locations through collaborations, on-site spontaneous accessibility is lacking. This gap will be even more significant in the upcoming future, as the KB will relocate all its physical collections to an off-site repository.

This lack of spontaneity and a general unawareness of KB's services raise concerns about the accessibility of physical materials and social cohesion between KB and individuals. The Dutch governmental Social and Cultural Planning Office warns about this loss of social cohesion among individuals and institutions due to digitalization (Sociaal en Cultureel Planbureau, 2025).

This project aims to utilize the empty spaces following the relocation of KB's collections to promote the content of KB's cultural materials. This will be done by offering exhibitions and workshops based on four different levels of authenticity (Chhabra, 2005). This variety of functions should appeal to different user groups, making the new addition to the KB a social condenser shaped by Dutch culture (figure 3).

The project consists of:

1. A literature review, arguing the need to add social aspects to the development of the off-site repository
2. Two case studies of museums. One is an accessible repository (Boijmans van Beuningen Depot, Rotterdam), and the other is a literature museum that also exhibits facsimiles and artistic impressions (Huis van het Boek, The Hague).
3. Literature exploration regarding architectural porosity and security (Jan Gehl and Oscar Newman)
4. Heritage value assessment, used to formulate a design brief and matching principles.
5. Contextual analysis of the KB building and its surroundings.



Figure 3: Impression of the public space of the new addition to the KB.

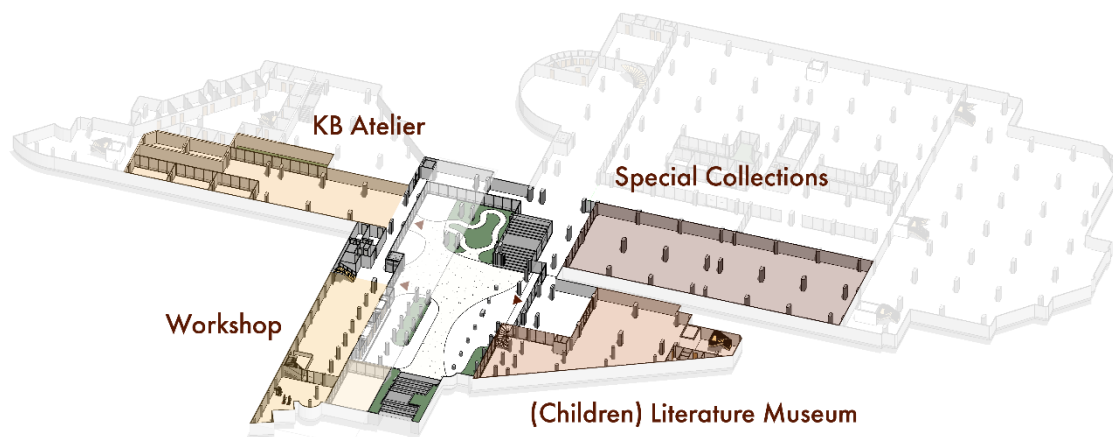


Figure 4: Various exhibition types around the recessed urban space.

Relation between the project topic, the master track, and the master program

The studio emphasizes the themes of 'social and cultural aspects', '(social) sustainability', 'accessibility', and 'user perspectives' related to heritage. My project examines how the development of the off-site repository, chosen for its environmental and economic sustainability benefits, can also be enhanced to improve social sustainability on-site.

The heritage value assessment, a group effort, serves as the basis for the design brief, taking into account the needs of KB's visitors, staff, partners, and social media presence. The results of these assessments primarily highlighted needs related to the KB's services and the building's layout and interior climate. I tried to take all the needs and attributes into account, but this made for a messy process and narrative because not everything was related to the goal and concept of my project. It took me a while to find where I should put the focus and what aspects are less important to fully develop.

An additional value assessment, provided by the KB, has been used to determine the aesthetic values. The fixed attributes, such as staircases, art installations, and atriums, have been considered during the design process (figure 5). The flexible attributes, such as facade elements and movable art pieces, will be reused or repurposed to retain the building's identity.

The project's topic is based on the studio's topic, and the design process is based on value assessments linked to heritage.



Figure 5: Example of how fixed attributes are considered during the design process. The wall painting (left) is existing and spans from the ground floor to the basement. This is preserved and used to guide people to the reading room downstairs. The structure of the atriums is also preserved and opened up to emphasize this. Also, the aluminium interior cladding is brought back.

Research to design

The case studies formulated preservation measures for each exhibition type, which mainly inform the design requirements on a small scale, such as showcases and lighting. It took me a while to find a strategy to relate the design to the bigger, urban scale. This was eventually achieved by investigating how to balance security and porosity within the architecture to create an inviting and secure urban space that relates to the exhibition type behind the facade. The more valuable the exhibited artifacts, the more secure the facade is. The functions with less valuable artifacts (KB Atelier and workshops) have a more porous and transparent facade that connects with the urban space on two levels.

Threshold spaces are the most essential element that I used from my research. They are used for social functions, security, and simultaneously as a buffer zone to keep the temperature stable (BT). I found this strategy in the literature, but I also looked for some reference projects. The design distinguished the threshold spaces based on the attached function (exhibition type). However, this could have been done more thoroughly and profoundly if I had focused on this aspect earlier.

Looking back to the design process, I already used a lot of elements that came up through the research, but I could not always communicate this. The whole shape of the new public space is intentionally designed as a threshold space, but only later could I fit it into the narrative. If I had narrowed down the narrative at an earlier stage, some elements of both the research and the design could have been more meaningful.

I had put a lot of time researching off-site repositories for libraries, while the conclusion of this was straightforward: library building can now focus more on social functions and have to worry less about preservation. However, especially the risks of having the collection forgotten over time, and the lack of spontaneous browsing form the basis of my project. Although the effect of the off-site repository on the building's architecture can be straightforward (from a closed facade to an open facade), the importance of on-site collections in preserving and promoting cultural knowledge became clear to me.

Approach and used methods

It was useful to consider museums as reference projects rather than sticking only to libraries, as I did at the start. This opened up many opportunities and inspiration for how the future KB can promote its collections on-site. The history of public museums gave me insight into why different strategies are used and why this would or would not work for the KB.

Looking at different exhibition methods, a distinction is made between the entrance being a border or a boundary. Museums with authentic and valuable artifacts often have a closed facade, clearly indicating the preservation measures in place. More informal exhibitions, including e.g. local artists or activities, are less focused on preservation, but security still needs to be considered. Here, the entrance is an open boundary rather than a closed border. This approach is used for the design of the facade and the placement of the exhibitions. To relate this to an urban scale, strategies towards secure and inviting architecture have been compared to each other to find shared elements that are both secure and inviting. This led to the use of threshold spaces, natural surveillance, sightlines, and materiality.

The need for preservation and security measures across different exhibition types is based on case studies and reference projects. The Boijmans van Beuningen Depot suited the theme of original authenticity very well, as this is a perfect example of balancing preservation and accessibility within a large public building.

The 'Huis van het Boek' museum was helpful to visit as its exhibitions included various types of artifacts. It also showed a different kind of surveillance, namely the use of cameras alone. The building was initially designed as the housing of a baron, which is why the layout does not consider sightlines or threshold spaces for security. While architectural elements have not been found here, it did show a variety of preservation measures regarding the collections themselves.

I could have visited more projects, but most of the information I was interested in could be found in books and reference drawings.

Applying the concept of exhibiting to the urban context of the KB quickly gave me the base for the design and the location of the Avenue where interaction should be stimulated. While I might have put too much focus on this location, I disregarded other options too quickly. I still consider this as a good location for the Avenue due to the integration into the urban fabric, sun path, and the minimal amount of square meters this takes away from the existing building (the building height of the volume that is demolished is here at its lowest, meaning the least amount of square meters is taken away compared to the urban space that is won). However, this meant that the process from research to design was sometimes reversed. I was sold on a concept before I considered all the aspects, making me look for arguments that the concept works. Luckily I found ways to argue the location and the excavation of the site, but this could have led me to a dead end.



Figure 6: This is a quick impression of the concept that I showed during the P1 presentation already.

The facade itself could not be fully preserved everywhere due to the lack of insulation. I attempted to create a layout that preserves the original facade, minimizing the need to dismantle it to add insulation. However, this resulted in a building with empty plinths, with storage and circulation spaces located at the edges as thermal buffering zones. This would be an interesting approach if the goal were not to make an inviting public building.

The new approach was to use the existing characteristics to design a facade with the same composition and elements, while preserving the original facade where possible. Figure 7 shows the new facade design, which can be compared to the



Figure 7: The new facade at the location of the existing extensions.

figure above, including the existing extensions. The aluminium cladding on the higher floors are still intact together with its construction because those facades have been transformed into balconies. This means no insulation is needed behind the cladding, so the original facade does not need to be dismantled. This has also been done for the other facades.

This approach relates to heritage, but more on a personal level of how I perceive heritage. I looked at what I think is important, in this case the facade characteristics. The building is generally perceived as unattractive and I think it is interesting to use the existing 'unattractive' elements to create attractive architecture, closely similar to the old facade. Of course, the design of the facade is also based on the functions behind it and the context (openness, sun shading, etc...), but the concept relating to heritage is more personal. Maybe for the P5 I can relate this more closely to the research.

Societal and academic value

Digitalization has fundamentally changed how the public interacts with KB's collections. Since 2019, physical visits and book loans have sharply declined, a trend partly set by COVID. While KB's digital services have increased in popularity, this has led to a loss of spontaneous, on-site encounters with heritage materials, essential for fostering social cohesion and cultural awareness. By reimagining the KB as an open, accessible avenue integrated into the city, this project aims to restore a physical interaction between the public, including tourists and passersby, and Dutch heritage, thereby enhancing social inclusion and cultural participation. This project is showing that digital access should not be the only way to share information and culture.

This project aims to balance between preservation and public access. Often, off-site repositories are solely used for preservation, resulting in a loss of engagement with cultural materials. It investigates how various cultural programs, based on different levels of authenticity, can be made publicly accessible.

Transferability

While the project relates to the context of the KB, the KB is not the only institution that is changing due to digitalization. Other libraries and cultural institutions, such as museums, face similar dilemmas in balancing preservation and accessibility, as well as digital and physical availability. This project should serve as an example of how to design for these themes. The design principles of this project should become a qualitative design brief for future projects. The matrix at the end of my research can guide towards a secure urban design, while considering social needs.

The KB, as the National Library of the Netherlands, should show an example of how important the social aspects of cultural materials are.

Personal discussion

Overall, I really like this project because what I learn is very specific to libraries and museums, making it a specialization. The difficult aspect of this project was the building's massive size. For me, it is the first time designing a project this big, so I think a quick introductory lecture at the beginning of the project would have been helpful to address this and possible strategies. It was not always clear to me what level of detail is expected for spaces that are not related to the concept. Because of this, I often tried to solve minor issues on a small scale for spaces that are eventually not even relevant. This project felt almost like a combination of the Heritage studio and the Complex studio, making it challenging to focus fully on the heritage aspect. Maybe it would have been helpful if reference projects had been shared at the beginning of the studio, showing the detail level and quality expected at the building scale.

My tutor sessions were not always used efficiently because I sometimes had trouble communicating my progress. My overall process was quite chaotic, making it challenging to clearly update others on what I have been doing. I thought it was a good idea to start working digitally from an early stage because I could easily see where the existing structure is and see more detailed about which elements I could preserve. However, this made it more challenging to communicate my process, as an unfinished drawing would have been much clearer than an unfinished digital model.

As I mentioned before, it took me a long time to understand which parts are essential to my narrative. I have found it eventually and can use the design now to strengthen the narrative. I am looking forward to going into more detail after the P4.

Extra reflection questions

When is an artifact 'original' or 'authentic'?

When visiting Huis van het Boek in The Hague, the exhibitions featured not only works from their own collection, which is mostly ancient books and artifacts, but also works by local artists. One example is a series of small paintings, inspired by miraculous events in medieval manuscripts. These paintings were uncovered, while most similar objects were behind a glass case. The paintings can be seen as a reinterpretation of the historic manuscripts, but the manuscripts can also be seen as just an inspiration for the artist to express herself. This makes the paintings an authentic artifact, worthy of preserving.

This might change if the artist makes the interpretation for the sole purpose of a temporary museum exhibition, or if the materials used allow preservation without being covered. If this is not the case, it would seem unfair not to use the same preservation methods as for older artifacts, as a new artifact eventually becomes ancient as well.

In my project, I make a distinction between original artifacts and artistic reinterpretations. The original artifacts are behind a closed facade, while the space for artistic exhibitions opens to the public urban space. Natural surveillance and threshold space should ensure the security of the artifacts, but preservation measures are seen as less essential. This is something that can be reconsidered, depending on the artifacts.

Is making KB's original collections publicly accessible on a larger scale worth the preservation risks and the extra energy usage by HVAC systems?

(A larger scale implies daily visitors rather than just a researcher now and then)

When opening up the collection to a broader public, more climate control systems need to be used to keep the repository at a constant temperature, and there will be a higher risk of the collections being damaged; not only by the climate but also due to damage by visitors.

Not only does this contradict the goal of preservation, but it is also less environmentally and economically sustainable (economically is debatable, as ticket sales might make up for the extra use of HVAC systems. However, the space needs to be much bigger when accounting for visitors, as high-density automatic robotic systems cannot be used to store the collections.

My goal in making the collections accessible was to foster social sustainability rather than focusing solely on environmental and economic values. If this is the only way it can be achieved, I would say it is worth the extra effort, because otherwise the collections will be hidden in an off-site repository and will not be accessible; culture will be forgotten. However, can this social sustainability not be achieved simply by replicating KB's collections and activities related to this? This is also what I am doing with my project, but it may eliminate the need for the collections to remain on-site, making their preservation more sustainable and secure.

However, for researchers and scholars, there is added value in keeping the special collections on-site, as physical browsing is now possible.

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