Making of Spaces & Values of Sharing

The search for a New Role for the KB in The Hague

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Table of contents

03

01 Abstract & Introduction

16

04 KB's Social Mission

28

07 Conclusion

31

References

05
02 Methodology & Relevance

10
03 The Current KB

18
05 The Making Solution

27
06 The Cross-Over

29
08 Discussion

33
10 Reflection & Design Implications

32
Appendix

01

Abstract

This research explores how the integration of a makerspace from the perspective of the sharing economy could contribute to the introduction of a new identity for the National Library of the Netherlands, one that focusses on public engagement and community involvement. With the repositioning of the archival collections, the left-over space could provide an opportunity to redefine the purpose of the library. The growing trend of makerspaces in libraries offers a hands-on approach to knowledge creation, providing access to technology, tools, and opportunities for collaboration. This study focuses on identifying how the makerspace could foster social value, particularly in The Hague, a city with notable socio-economic divides.

The research utilizes a framework grounded in two key-theories; values (Tarrafa Pereira da Silva and Pereira Roders 2012) and attributes (Veldpaus 2015) to create system of comparison between the KB, analysed grounded in the documentation by Galema (2017), and the analysed case studies, DOK Delft and Makersbase in de Nieuwe Veste in Breda. The structure of the research is divided into four chapters. The first examines the KB's existing values, attributes. Key findings show that while the KB has traditionally been appreciated for its historical, aesthetic, and scientific contributions, its social, political, and ecological roles have remained underrepresented. The second focusses on future goals on social impact. An interview with the Project Leader for the Renovation of Public Spaces (J. Wevers, personal interview, 2 may 2025) shows that the KB is now working to adopt a more socially active role by improving access to knowledge and heritage, addressing low and digital literacy, and encouraging public interaction with its archival content. To support this transformation, the KB is implementing a layered spatial strategy that includes informal public areas and initiatives like the ErasmusClub and the KBAtelier.

In the third chapter, the makerspaces are further explored based on case study visits. The case studies of DOK and the Makersbase reveal two complementary models. Both DOK and the Makersbase support social values through different tangible and intangible attributes. DOK's values focus on individual emotional aspects, with tangible attributes like partition walls and subtle spatial separations, and intangible attributes shaped by structured programming that limits spontaneity and tool access. In contrast, the Makersbase emphasizes both individual and collective social values, featuring personalized, flexible tangible attributes and open, user-driven intangible attributes that foster emotional connection and visibility. In short, DOK is more structured, while the Makersbase encourages spontaneity and personalization.

Lastly the potential of blending these models is explored and resulted in the conclusion that these could help the KB foster creativity, participation, and community connection. The KBAtelier already reflects a making mentality, but its impact is limited by space and lack of freedom, taking form as a permanent space it could potentially re-identify the KB within the context of the Hague. Ultimately, a thoughtfully integrated making program would strengthen the KB's underrepresented social values and help reposition the library as a co-creator of knowledge and cultural meaning in its environment.

Introduction

Books are leaving

The library of the 21st century is grappling with its own significance in a society transformed by digital technology (Lushington et al. 2018). Historically, libraries were mainly repositories for books, often offering a place where individuals could access knowledge and engage in research. The National Library of the Netherlands (NLN or KB) is dealing with exactly this problem, with the relocation of its physical collections, from the existing building next to The Hague's central station to a designated off-site storage facility. This relocation presents an opportunity to rethink the vacated space to incorporate a new program that aligns with the future role and identity of libraries.

Defining the role of contemporary libraries

One response to this shift has been the embrace of the sharing economy (Hernandez-Carrion

and Chu 2019) a socio-economic system that emphasizes access over ownership, and the collaborative consumption of resources often paired with digital platforms. Within this frame libraries are increasingly seen as institutions that provide for a social infrastructure, much like the previously mentioned digital platforms, that enables communities to connect users to resources. Especially since the traditional library system is essentially based on resource sharing (Hernandez-Carrion and Chu 2019).
Varying forms of this sharing system can be seen throughout modern libraries; examples include the Library of Things (Siegler and Corcoran 2021), co-working areas and Makerspaces (Pacchi 2017). The latter, which forms a promising implementation of the concept, has been extensively researched by the TU Delft and the National Library in the Handboek Makerlab (van der Sar, Muñoz Aparici et al. 2023) and the Atlas makerspaces in public libraries in the Netherlands (Caso and Kuijper 2019) poses as a new way of profiling libraries. It focusses not solely on the sharing of resource but creates a base for its visitors to go from consumers to producers. Makerspaces are flexible, hands-on environments that supports learning, creativity and innovation by making the means for production such as digital fabrication tools, workshops and group projects with like-minded people accessible to everyone. This transforms libraries from passive knowledge archives to active knowledge creation spaces. For the National Library introducing such a program could entail a new engagement with its community and a broadened group of users.

The Hague and social cohesion

More broadly, The Hague faces a challenge of socio-economic segregation marked by a geographical divide between lower-income and higher-income neighbourhoods (Porsch, Rabuel et al. 2020). This division dates to the 19th century, when lower-income communities were established on peat-soils, believed to foster disease-carrying mosquitoes, while wealthier populations settled on the sandy seaside grounds (Haags Historisch Museum). The National Library's location sits at the boundary between the peat and sand soils, presenting an opportunity to foster interaction and inclusivity within the city. A reidentified library, grounded in the socio-economic system of the sharing economy and supported by a program like makerspaces, could function as a social condenser.

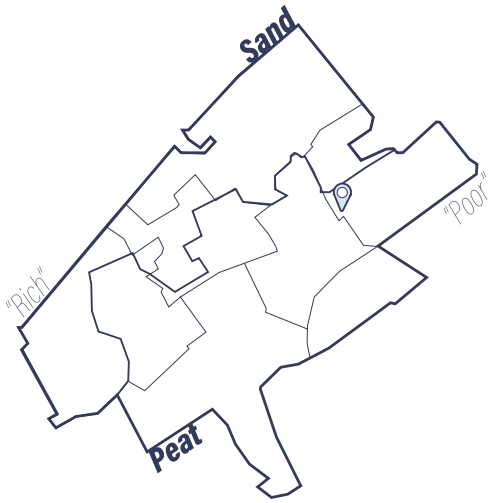

Figure 1: socio-economic division based on Den Haag in Cijfers (2024), own work

KB as a potential solution for social cohesion

Additionally, preliminary design research by the Heritage Studio indicates that the building currently lacks sufficient engagement with its surroundings, both in terms of programming and architectural integration. While the National Library envisions attracting a broad and diverse audience (Koninklijke Bibliotheek) the current architectural configuration is limitational.

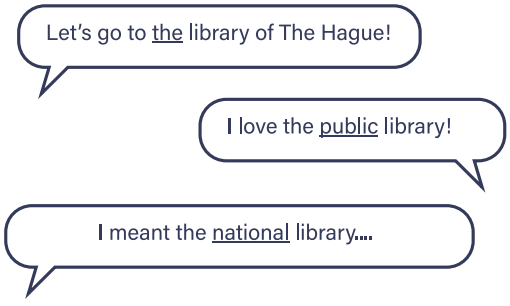

Figure 2: Interpretation of KB's integration within the Hague (own work)

The library has implemented two main programmatic additions to their traditional program of preservation to gain attraction in its environment (Wevers, 2025). In order to gain attraction from broader audiences, the library has implemented; first the ErasmusClub a space used for hosting talks, events, lectures and exhibitions. Second, the KBAtelier, which is focused on translating the collections of the KB into accessible and relatable art-pieces making the library's heritage engaging to a broader audience. The outcome of the program is to reach a broader audience, however, the vision for the space was to be used solely by designated programmers and artists to achieve this goal. In reality the KBAtelier now serves as flex-work area for anyone who enters (Love, 2025). The KBAtelier is a particularly relevant program to examine, as it aligns with the concept of makerspaces mentioned earlier. Where the KBAtelier allows artists and programmers to experiment with its collections, the goal is to reach a broader audience with the collections.

However, after preliminary research, by talking to users and on-site observations, aspects that could be improved upon were found in the KBAtelier. First from a spatial perspective; the space lacks a clear purpose, is under-utilized and is challenging to navigate.

Second, from a programmatic standpoint the current exhibitions and interpretations of the collections are not reaching their full potential in engaging a broader audience due to the location within the building.

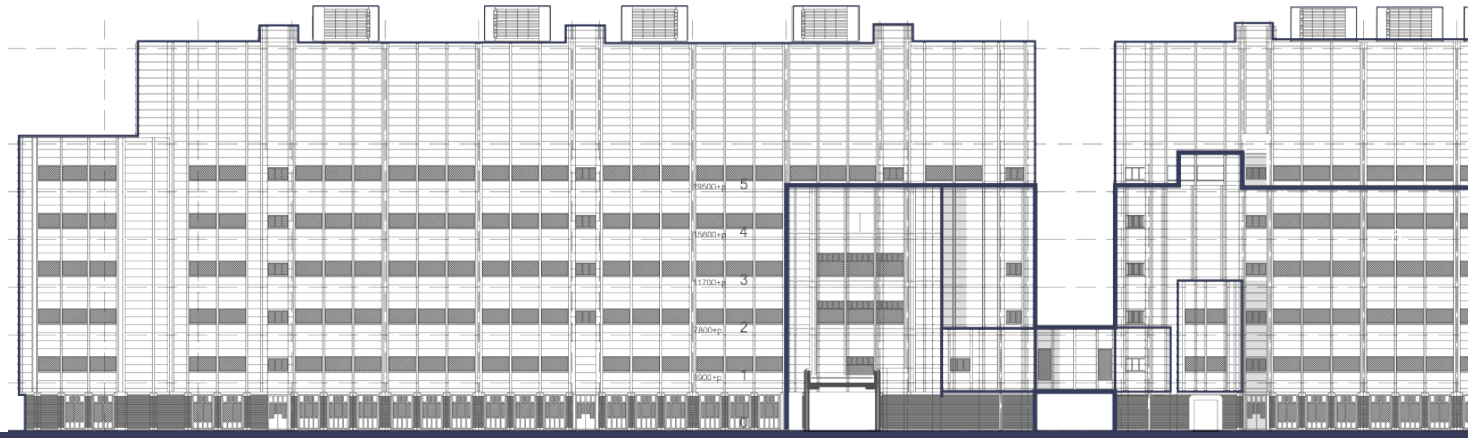

Figure 3; Current facade of the KB, own work

Design hypotheses

As the current space is underutilized, there is potential for the KBAtelier to be adapted and expanded to other spaces within the building to better serve this purpose. Integrating or expanding the atelier into an overarching "making" theme within the library could act as a bridge to local communities, particularly by offering low-barrier points of entry into creative and technological domains.

Adding a maker experiences would offer a more inclusive environment and simultaneously bypass the need for a space solely for translation of the collections. Giving a hands-on opportunity to create own projects in addition to exhibiting projects at the hands of the KB.

Seeing the KB as a library for the creation of not only intangible knowledge but also tangible knowledge is a way to bring inclusiveness to the library. Coming from the concept of the sharing economy, the making mentality is a way to create equity and access for the public into the heritage of the Netherlands. Simultaneously, research by (Taylor, Hurley et al. 2016) shows that in addition to the functional use of these sorts of "making" spaces, they also serve as social spaces, serving the community they are located in and reaching out to excluded groups.

Research shows that makerspaces vary significantly depending on their contexts (Caso and Kuijper 2019). This study aims to explore how these makerspaces, through their spatial design and programming, can enhance social values in their communities and how such implementations might be applied within the National Library to strengthen its role for the community.

Relevance & societal impact

This research contributes to the broader topic of the evolution of the role of contemporary libraries within society in the 21st century. By examining the values of the National Library and re-identifying the core of this institution this case could be used as an exemplary mode for library networks whilst maintaining a fundamentally academic and research based starting point. By emphasizing the social and spatial dimensions of makerspaces this research positions libraries from a passive, to be consumed, repository of knowledge to a hub for participatory environments producing with the knowledge at hand.

Key stakeholders in this research include the National Library and its employees, who benefit from a renewed integration within the urban fabric of The Hague. Simultaneously, residents gain from a nearby centre boosting accessibility for learning, collaboration and social interaction. Creating opportunities for everyone to create. Additionally, public libraries including existing makerspaces could draw inspiration from a integrative approach to this "maker" mentality within the design. Architects and makerspace organizers may also benefit from this new exploration for spatial strategies in fostering social cohesiveness.

02

Methodology

This research adopts a qualitative, comparative case study approach, structured around four perspectives: the Current KB, KB's Social Mission, the Making Solution, and the Crossover. It combines literature review, a theoretical framework, personal interviews, and case study analysis to understand how makerspaces potentially could contribute to the social mission within the redesign of the National Library (Koninklijke Bibliotheek; the KB). The study is based on the value framework of Tarrafa Silva and Pereira Roders (2012) and the taxonomy of attributes developed by Veldpaus (2015), which collectively guide the identification of social values and their tangible or intangible representations, as was analysed in Reshaping the KB (Pottgiessor et al., n.d.) and can be found in appendix 11B (the Current KB, p.12). Furthermore, data is collected through interviews and document analysis for the context of the KB (KB's Social Mission, p. 16), and through comparative case studies of two Dutch libraries with established makerspaces (the Making Solution, p.20). These data sources are then cross-compared to explore potential and added values that a makerspace could bring to the KB (the Crossover, p. 29), with a specific focus on social aspects. A summarizing research table and planning overview supporting this research are provided in Appendix 11A.

Framework

To identify and assess the social values this research employs a framework grounded in two key-theories; the typology of values (Tarrafa Pereira da Silva and Pereira Roders, 2012) (see figure 4) and the taxonomy of attributes (Lin, 2025; Veldpaus, 2015) (see figure 5). In the value framework proposed by Tarafa Silva and Pereira Roders (2012) eight primary values are identified; social, economic, historic, scientific, age and ecological (see figure 4). These expand upon the four cultural values that are acknowledged in UNESCO's World Heritage Convention (2008); the historic, aesthetical/artistic, scientific and social values. The ecological, economic and political values are considered to be interwoven with the social values within this research. Each primary value is further specified through secondary values, offering a nuanced approach to evaluating heritage significance. This framework addresses the "why" of heritage preservation.

In addition to this, Veldpaus' (2015) taxonomy of attributes can be used to classifies the tangible and intangible elements associated with the mentioned values, providing a response to the "what" in relation to the "why." These are divided into six main categories, which are further broken down into eighteen sub-categories (see figure 5), enabling a comprehensive understanding of how

Figure 4: The values framewrok; Adopted from the workshop of Heritage & Design Minor - Architecture and Reuse module, Delft (Pereira Roders., et al., 2020)

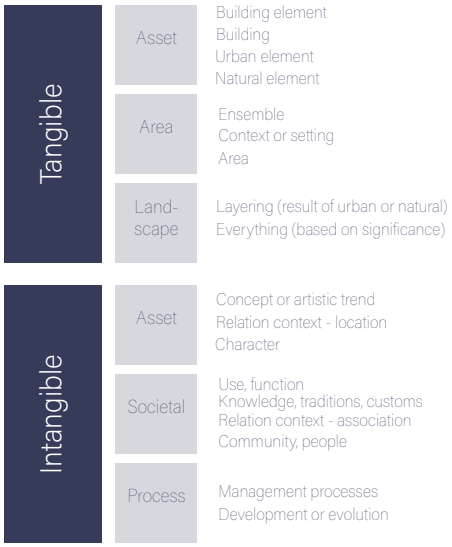

Figure 5: Taxonomy of attributes, Adopted by Lin (2025) from Veldpaus (2015)

values are represented in tangible and intangible terms.
How can Makerspaces contribute to the social mission of the Koninklijke Bibliotheek (KB), the National Library of the Netherlands?

The Current KB

What are the social values and attributes of KB? that might be the specific needs and expectations of the KB? In this section, underutilized or undervalued areas of the National Library are identified based on a group analysis using the values and attributes framework and the base document of Waarderend onderzoek by Wijnand Galema (2017).

The Social Mission

What are the values and attributes hat might be the specific needs and expectations of the KB?
In addition to this, interviews have been conducted with Jessica Wevers (Project Leader for the Renovation of Public Spaces) and Jeff Love (Coordinator users of KBAtelier, an implemented program to enhance engagement with the collection), who provide insight into the desired future of the KB's public domain and its social mission. The interviews explore preferred visions and potential strategies for enhancing the library's social role.

The Making Solution

What are the social values and associated tangible/ intangible attributes of makerspaces? This question is explored through two case studies: the DOK Library in Delft, which integrates a dedicated "making" environment, and Nieuwe Veste in Breda, which similarly employs a maker mentality within a confined area. Analysed with the values and attributes framework; these cases help identify the potential social values and its complementary attributes that makerspaces could bring to the National Library (KB), with particular focus on social, economic, political, and ecological values and attributes.

The Crossover

What added values and potential attributes does KB's social mission gain through the integration of the 'making program'? The goal is to determine whether and how the inclusion of spaces designed for making could reinforce or introduce new values by enriching the building's existing attributes by comparingthe first and second sub-question.

Case study criteria

To answer to the question of spatial needs for a space created for making, the space needs to be defined. Often used as synonyms; Makerspaces, FabLabs and Hackerspaces embody different aspects of making (Mersand, 2020). In this research the definition according to Mersand (2020) is used; a makerspace is defined as an area that provides materials and tools to encourage individuals or groups to make things to create knowledge, or to solve problems.

Within this definition there is also a variety of composition which can be classified according to their use;

1. Open access, free reign, 2. Curriculum based, users participate in activities aligned to a curriculum, 3. Scripted, organised activities in which participants can create designed by a program director and 4 any combination of the mentioned uses above (Mersand, 2020).
In addition to this the spaces can be classified based on their physical location (Mersand, 2020); 1. Stationary, tools and materials always available in the same space, 2 mobile, moving to different spaces, 3. Set-up as temporary centres where tools and materials may change.

Within the Atlas of Makerspaces (Caso and Kuijper, 2019) spatial criteria were also used to categorize the analysed libraries and their makerspaces. In this they were assessed on their size, whether they are in enclosed spaces or open within the library and lastly their type of tools offered (divided into crafts and digital making).

Criteria in the Atlas of Makerspaces; S,M,L, open vs enclosed, digital vs crafts and new vs existing. Since the goal of this research is to create a making mentality to bring its users together the focus will be on the spaces of significant sizes: L and M. Furthermore the chosen case studies contain digital making tools and craft tools for making.

The following cases have been categorized according to their use, their physical location and the criteria found within the Atlas of Makerspaces (Caso and Kuijper, 2019):

Breda Nieuwe Veste

- L
- Open
- Digital & Crafts
- New
- A combination of 1. Free reign use (with an employee present) and 3. Scripted organized activities
- Stationary materials and tools always present and usable with (always present) employee

DOK Library

- L (or mulitple M)
- Enclosed
- Crafts
- New
- 3. Curriculum based
- 1. Stationairy

Figure 6: OPENDelft, Visual arts studio, DOK Delft [photograph]. OPEN-Delft. Accessed on 15th of may 2025, https://stage.opendelft.info/over-open

Figure 7: Makersbase, Nieuwe Veste Breda, Note: photograph taken by the author.

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Figure 8: van Hoek, B. Koninklijke Bibliotheek Entrance, [photograph digitally edited by author]. Accessed on 20th of may 2025, https://www.architectuur.org/bouwwerk/385/KoninklijkeBibliotheek.html

The Current KB

KB's values and attributes

General information

The Koninklijke Bibliotheek was built in 1982 by the architectural firm; OD205 (Willemsen, van der Meer et al., 1982).. The architect in lead was Arie Hagoort, well known for his design of the Medical Faculty of Rotterdam which displays a similar style. The library is located east of central station in the Hague and is well connected infrastructurally. The building consists of around 75.000 square meters in area of which about 35.000 are currently reserved for the preservation of the Dutch collections, which are moving out of the building to an offsite repository. The library houses multiple guest institutes within the building such as the Childrens Literature Museum and the RKD (Nederlands Instituut voor Kunstgeschiedenis). Creating a cultural function within the Hague. An overview of the identified heritage values and attributes from the Heritage Studio group analysis is presented on the next page in figure 10. The full documentation of the workshop can be found in Appendix 10B.

Social Values and Attributes

The KB reflects social values across all of its aspects; spiritual, emotional (individual and collective), and allegorical, mainly through tangible features (21 attributes).

Intangible: The shift from a closed scientific library to an open public institution, enhanced accessibility, and its symbolic nickname "Ice Palace."
Tangible: Human-scale design (facade and ground floor level), cyclist access, integration in a dense urban area reflecting the Dutch built environment, courtyard views, calm interiors, and the Erasmus statue that is located on the first floor. Past modifications like improved lighting within the voids and acoustic panels increased comfort and value, while inflexible fixtures and residual outdoor spaces negatively impact its social value.

Economic Values and Attributes

The economic values are mainly expressed through the use and non-use aspects (9 attributes). The entertainment and allegorical aspects are not well represented within this analysis.

Intangible: The flexible programmatic design, its symbolic role in the knowledge economy, strategic location with public squares and boulevards, and open integration of institutions
Tangible: One key feature is identified that occupies a large amount of spaces; a uniform floor load capacity.

Political Values and Attributes

The political values are represented through all of the aspects in support of this value; educational, management, entertainment and symbolic mainly within the intangible attributes of the building. (13 attributes).

Intangible: Part of a broader post-war urban strategy including central government institutions also including the national archives and the Ministry of Foreign Affairs. This area played a strategic role in addressing these needs with the reorganization of the budget by the ECS. Other identified intangible aspects are the promotion of knowledge development of the Dutch and the need for a new building and its appearance which is dependent on political, cultural and climatic circumstances.
Tangible: Features include two required public passages, housing of cultural institutes like the Literary Museum, and alignment with national urban planning ambitions to position the Netherlands within the global knowledge economy. Lastly the Grotiusplaats is also seen as part of this politically driven urban planning process.

Historical Values and Attributes

The historical values are represented through almost all of its aspects; educational, historic-artistic, historic-conceptual and symbolic, only the archaeological seems to be missing. Evenly distributed in intangible and tangible elements. (30 attributes).

Intangible: Home to the nation's most culturally and historically significant collections. Representing one of the most important works by Arie Hagoort influenced by French designer Jean Pouvre with whom Hagoort collaborated on the Medical Faculty in Rotterdam, again affirming its place within the global knowledge economy. The KB reflects 1980s architectural and institutional trends, and connects to the post-WWII rebuilding of Bezuidenhout. The building dates back to 1816 when it was established by King Willem I and later received a royal status under Napoleon. The library also reflects the historical growth of its collection, from 5,500 titles preserved at the Binnenhof, to 700,000 in 1948, to the current collection.
Tangible: The angled building placement breaking from its environment. In addition to this, the architect; Dudok saw the Spuikwartier as part of the reconstruction plan for Bezuidenhout. This district was largely destroyed by an Allied bombing on 3 March 1945. It was originally a nineteenth-century residential area that was cut off from the Hague city centre by the central station and the railway yard. In 1946 the government laid claim to the parts of the Bezuidenhout. Following the resistance to large anonymous office complexes; the KB is based on human scale characteristics. Following the typological developments if scientific libraries. The use of aluminium, which was of great impact in the 1950's, and surviving elements like chairs, lighting, and lampposts, and the original urban context by OD205.

Aesthetic Values and Attributes

Aesthetic values are well represented across artistic, conceptual, and evidential aspects (74 attributes, selected for brevity).

Intangible: Varying voids, black aluminium-clad offices, transitional interior zones . with interior walls set perpendicular to the façade, and sculptural ceiling-light elements. Columns painted to match the original concrete.
Tangible: The sculptural "raincoat" façade, white panelled public spaces, three tall skylit voids, artworks near the stairs and the auditorium, and high-quality interior finishes. The building's sculptural, stepped construction, the gold lettering on the book warehouse, views into the Ministry of Foreign Affairs' inner garden, flexibly floor plans and representative entrances. The Aesthetic values

mainly lie in the materiality and integrated form.

Scientific Values and Attributes

Scientific values spans workmanship, technology, and conceptual innovation (33 attributes).

Intangible: Functional flexibility, the connection between the new depot and the original structure at an angle, the lightweight entrance construction, the added livelihood of the plinth through conservatory seating, the technical renovation of elements as the reading room lighting, the prefabricated aluminium assembly, ties to typological library trends, and post-war reconstruction efforts and the architectural relationship with its surroundings through the brick substructure in the facade (also found in the Ministry of Foreign Affairs).
Tangible: Structural clarity, equal height floors, uniform floor loads, shed roofs and trusses and its dynamic arrangement, stability by rigid cores and stairwells, the rectangular columns with rounded columns, white aluminium cladding, integrated systems, and minimal thermal bridging all reflect the KB's technical precision and logic.

Age Values and Attributes

The age values are found within all aspects; workmanship, existential and maturity and are mainly represented through the intangible attributes. (7 attributes).

Intangible: Retained finishes like ochre ceiling strips and stone flooring, and innovations like 1950s aluminium use and 1970s custom panels, neutral wall and ceiling colours, interior facades remaining in their traditional finish, new and altered entrances.
Tangible: originally designed outdoor space by OD205, and parts of the original interior layout, such as a few retaining walls and lampposts, which are still present

Ecological Values and Attributes

Ecological values are expressed through spiritual, essential, and existential dimensions (24 attributes).

Intangible: Positive aspects include walking routes, visual axes toward the Koekamp area, integrated permanent artworks in the interior and exterior, and views of green space, the matching brickwork color with the Ministry of Foreign Affairs relating to the surroundings, Negative aspects include limited daylight, height restrictions, and unopenable windows for ventilation due to nearby roads.
Tangible: White cladding (reflecting light) and aluminium support sustainability. Integrated shading and skylights improve performance, three large voids to improve interior illumination, white boxes to conceal heating systems, and extra fittings for light in the voids. Negatively impacting the values are; the unevenly sized plots resulting in a necessity for internal routes through the building, residual spaces between the buildings instead of designed public space, busy roads preventing openable windows.

On the right (see figure 10), the previously identified values and attributes are visualized. Attributes that occur more frequently are grouped into clusters to indicate areas with higher concentrations of these values and attributes.

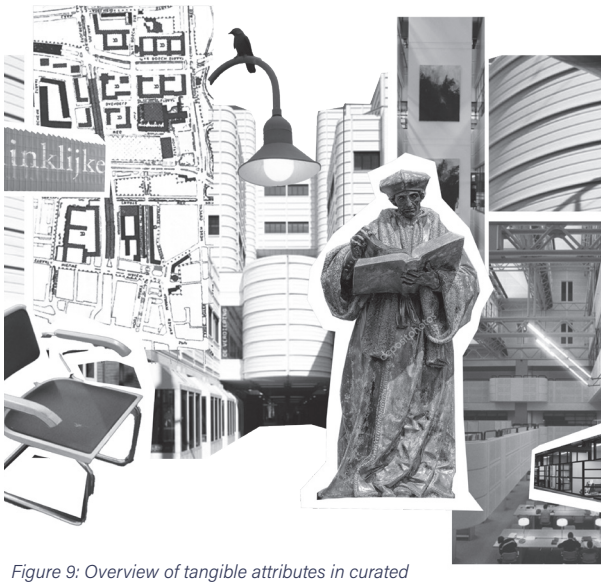


Figure 9: Overview of tangible attributes in curated collage
Note: created by author

Figure 10: Group analysis of values and attributes of the KB.
Note: Table created by the author based on discussions during a group workshop held on May 14th, 2025.

04

KB's social mission

Since this research is focused on improving the public functions within the KB in fostering social values an interview with the Project leader public space renewal, Public function quartermaster and Project leader KB relocation, Jessica Wevers, has been conducted.
Evolving public role of the KB (J. Wevers, personal interview, 2 may 2025).

General vision on public programming

When asked the question on the vision, or rather the renewed vision on public programming of the KB, the answer lies within an explanation of the KB and its ambitions over time. The building stems from 1982, in which its main goal was to protect national heritage. Resulting in a building equally reflecting this need to keep the public out. She even says, the architect went as far as to forget the entrance which was later added in the form of a pedestrian bridge coming from outside to the first floor. In addition to this barrier the ground floor was and is inhabited by the RKD (Dutch Art Institute) which creates an even bigger barrier for possible visitors.
However, the formerly known as "Koninklijke Bibliotheek" translated to the Royal Library has already taken steps to re-position itself in society as more accessible by renaming to; "KB, de Nationale Bibliotheek" which translates to the KB, the National Library. Which not only connects to a broader audience but also is a better reflection/ representation of the actual functions embodied by the library which is the heritage preservation.
She mentioned that the consensus is that the societal function should be growing and that the current building is not fit for this purpose.

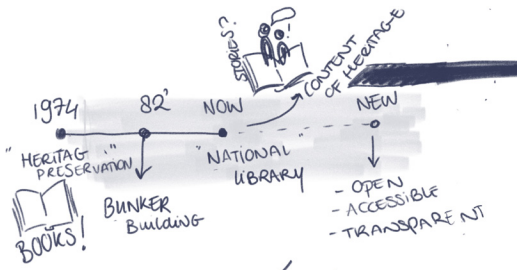


Figure 11: Representation of the main goals of the KB
Note. Drawing created by the author.

downsize of the reading hall, and simultaniously the leaving of the collection she names that the building will be shrinking in size. A fear to do with this is to become invisible to the public eye, while this visibility is of great importance in the goals of the library, especially being the National Library.

In the vision for the future the concept of a three-layer system is included to support the new public oriented functions, including important societal responsibilities, such as combating low literacy and supporting digital skills. The KB aims to be actively visible as a research institution and to fulfill a public role as the national library.

The three layers are made up of;
1. The collection zone, a place where the collections can be safely stored and accessed,
2. The knowledge quarter, with a focus on digital collections, knowledge sharing and information skills and lastly
3. The public/free accessible zone in which there is a low threshold and is focused on interaction and attraction of visitors.

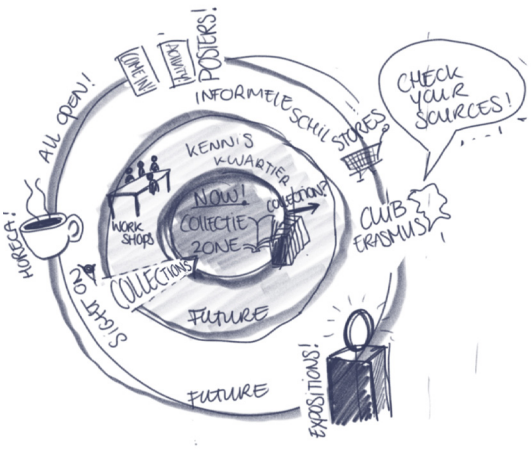


Figure 12: Strategic layering of public spaces in the KB
Note. Drawing created by the author.

She mentioned that the library currently focuses primarily on serving individuals between the ages of 20 and 45. The objective is to bridge the gap to higher-educated visitors who struggle with research skills. Which is in complement to public libraries; focussing more on lower-educated

audiences.

The KBAtelier & ErasmusClub

The KBAtelier was established in 2018 with the aim of serving as a public hub for collaboration and presentation. The Atelier collaborates with a variety of partners, including the TU Delft, art academies (involving students) but also (inter)national institutions involving programmers and established artists. The goal, initially, was to make these collaborations visible and actively involve the public with the objects that are the result of the atelier. However, she recognizes that the organisation of the space was based on this vision and not necessarily from the needs of its users. It quickly proved that the users were more inclined to use a space in which they could leave their belongings unattended. As of now the space is located within a publicly accessible area of the building. She explains that the use of the area is now mainly for expositions and flexible, short stay work or seating area. The exposition of products made by the students/programmers/artists of the space was meant for the "square" at the entrance, however little interaction was seen with the visitors, so it was decided to move it to the atelier itself, supported by the glass facade adjacent to it to boost visibility. The follow-up question was whether the KBAtelier will be included in the new program of requirements for the KB. She explains that she wouldn't include it in its current form in the new building. It needs to be seen more as a kind of glass house that could be placed in the public space, something secured, able to be closed off, but still visible, where you could also potentially display collections, which, for example, is not allowed in the atelier right now. Something of a semi-public space. Accessible with an employee of the KB and maybe even rentable for outside parties.

Like ErasmusClub, opened in 2024, which is a space a space used for hosting talks, events, lectures and exhibitions. The space is also used by partners of the KB such as, the National Archive next door, the CBG and the Culture Museum. Mostly they hire the space to organize workshops, even though this was unintended. Overall, the use of this space was redeemed as positive and effective for its goals (and even workshops which was not included in the initial goals).

Figure 13: Possible solution for a renewed KBAtelier
Note. Drawing created by the author.

Wevers also briefly mentioned the Colloquium in the reading hall as a public/exposition space. The space as of now is only meant for 15 people but she refers to future plans in which it would be able to house 30 people. She mentions that in contrary to the KBatelier where there is a translation between collection and user, in this space the visitor comes in direct contact with the heritage. In addition, she sees ClubErasmus as an opportunity to achieve this as well, if the location changes within the building (for security reasons).

Figure 14: ClubErasmus and a bigger Colloquium
Note. Drawing created by the author.

Other making activities

Following the question on whether the restauration of the collection could be more publicly opened up; she answers with the reference to Naturalis in Leiden. With a transparent lab in which employees can work freely with visitors able to see. In addressing possible discomfort of having to perform activities with an audience she answers that a simple schedule would suffice in which the worthwhile activities can be moved to the transparent area.

Later also the KB-Datalab is mentioned as a possible "making" environment. In this space researchers can get access to big data, collected from the digitized collections. Due to copyright, a contract needs to be signed beforehand prohibiting the researcher from publishing the data found outside of research purposes. In the current situation this lab is used by for example researchers trying to find out when an organism has gone extinct by researching when it was last mentioned in Dutch publications or researchers that created their own algorithm to go through the available data.
Addressing the Makerspaces in public libraries
When asked about the strictly defined "makerspace" the answer is this might not be what the library is looking for as they exist in public libraries. These spaces are mainly aimed at children, which is not the target group of the National Library. In addition to this she emphasized that this making mentality should really reflect the heritage of the national library. In addition to this the danger of taking over tasks of the public libraries is mentioned, there should still be a distinction between the national library and the national library.

KBAtelier

With the current status of the KBAtelier being under-utilized it is important to collect feedback on the space from the users. For this, tutor at the TU Delft's Industrial Design; Jeff Love has been involved (J. Love, personal interview, 19 may 2025)

He mentioned that the main problem of this particular space is the lack of creative license and temporality of the space. There is, like Ms. Wevers mentioned, a need for a space to secure tools and equipment.
Another problem he signals within the program of the KBAtelier is the maintenance of these products and installations. Especially since mr. Love works with students on short-term projects; the products end up under maintained and end their life cycle earlier than necessary. Another problem identified is the lacj of space for exhibition, especially the façade is completely in-accessible for exhibits. Furthermore, he mentioned improvements like the availability of equipment in the short hand, in the form of perhaps a toolkit to support digital art installations.

Figure 15: Targetgroups mentioned
Note. Drawing created by the author.

Conclusion

When inspecting the analysis on the existing values and attributes of the Koninklijke Bibliotheek, the values considered social such as the social, the economic, the political and the ecological values are underrepresented within this framework. The library, in its current form is prominently valued upon its historical, aesthetic and scientific values.

However, underrepresented values do not necessarily result in a need for a growth in value in this specific area. For this the social mission of the KB is further investigated. The social mission of the KB, the National Library of the Netherlands, is evolving to reflect a broader and more active societal role beyond its function of heritage preservation. Based on the interview with Jessica Wevers and the developments she describes; starting with the democratization of access to knowledge and heritage; the KB aims to be more accessible and visible to the public. Then supporting societal challenges in particular: combating low literacy, enhancing digital literacy and skills and providing access to reliable information and knowledge-sharing tools. Lastly, facilitating public interaction with heritage and knowledge. Thus the library envisions to expand on its social values and is utilizing a specific strategy to improve upon its public areas.

The strategy involves a layered system for the public areas. At its core the collection related functions, then the semi-layer involving work and study areas, one step away from the collections and lastly the public informal layer involving functions such as shops, restaurants and exhibitions.

In this interview, two relatively new programs are discussed that have been recently added; ErasmusClub, a space for workshops, lectures and exhibitions and KBAtelier which is focused on translating the collections of the KB which is focused on turning the collection into accessible and relatable art-pieces making the library's heritage engaging to a broader audience.

This KBAtelier is an example of a making mentality within the building which aligns with the evolution of public libraries implementing makerspaces within the buildings. The space is already in use but remains underutilized due to the lack of creative license, temporality of the space and the need for a space to secure tools and equipment.

05

The Making Solution

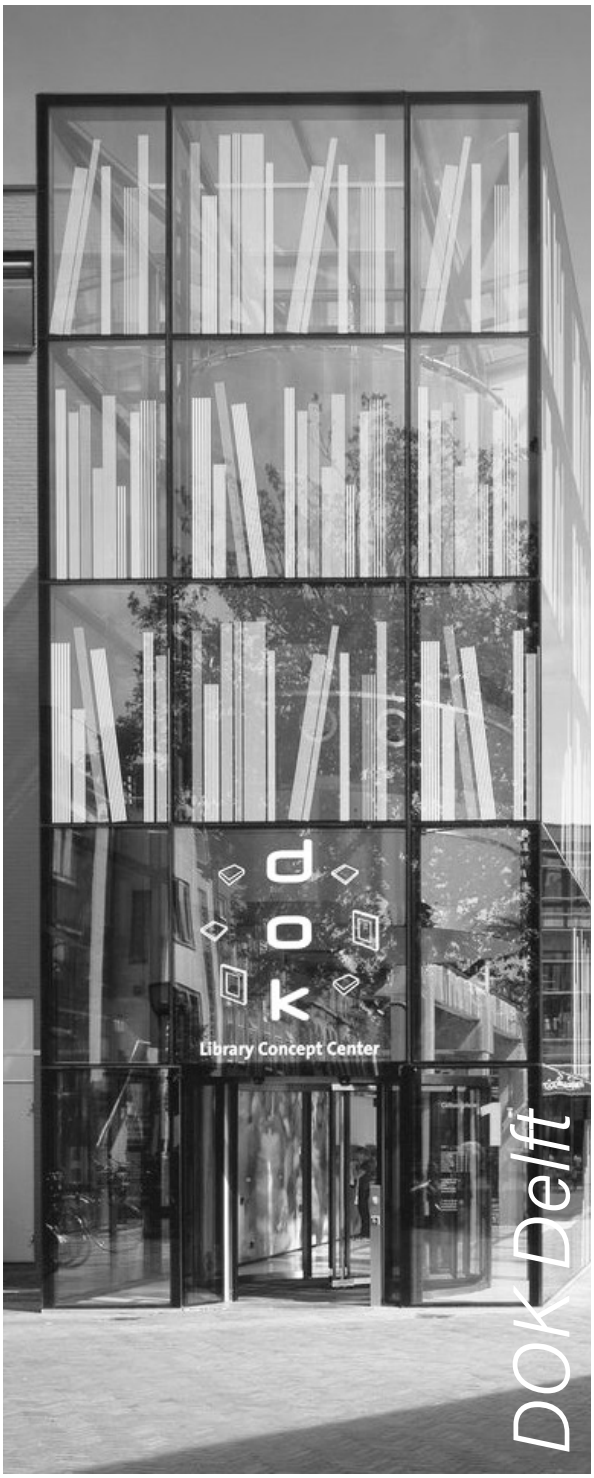


Figure 16: Schmitz, A., Media library, Delft – Entrance, [photograph]. Accessed on 10th of June 2025, https://dokarchitecten.nl/en/project/media-library-delft

Visited 23/04/2025

General information

Located at the Vesteplein in the centre of Delft, Dok Delft is a modern library, established in 2007 through the transformation of a former office building. The library is frequently cited in research as a leading example of how integrating diverse functions can help redefine the role of the contemporary library (Nicholson, 2014). The library consists of three levels. The areas designated for "making" are spread out through the first and second floor. Where the first floor the spaces are adjacent to the working/library area, the second floor there are solely spaces for creating.
With a general focus on crafts there is a division between the spaces for visual arts, music and dance. The visual arts studio's are mainly on the second floor (and one on the first floor). Whilst the music studios are found on the ground floor and first floor. The dance studios are only on the first floor. Interesting is that these spaces are all enclosed and spread throughout the entirety of the library even though in 2007 this making mentality has not been integrated into the conceptualisation of the building.

According to Atlas:

- Either M (x multiple areas) or L (all added up)
- Enclosed
- Mainly Crafts
- Added

Defining the makerspace

- 3. Curriculum based
- 1. Stationairy

Changes over time

DOK (the library) teamed up with the VAK, the academy for art and culture, in 2018. With this addition to the program the spaces for "making" were added. Together they organized OPEN, an overarching organization for all the events and programmatic implementations of the VAK and DOK together.

Social value

In figure 18 the full analysis of the Making activities in DOK can be found within the social values and attributes framework, while a summarizing table

is presented on the right page of figure 17. As can be seen, mainly the economic value is represented within the use aspect of this value. The political value is mainly represented through educational elements and the social value is represented only within the individual emotional aspect.

Social attributes

The attributes complementary to these values are mainly found within the tangible aspects. The materials, fixtures and fittings, structure and location are represented within the tangible attributes, while the intangible are recognized within the management and use and function.

Important tangible attributes are the exhibited art objects found within the library space of the area. These seem to be rotating different sorts of pieces and different makers products. Another important element is the glass partitioning wall between the library space and the makers activities, just as the partitioning hallway between the studios. Even though the Making activities take place within the library space they are subtly divided from the reading area through small spatial interventions. Intangible elements that are notable is the housing of the VAK as a program, causing interdisciplinary programming for the making activities. With this a negative aspect is that the space is not open at all times and needs to be reserved because of the planned activities taking place and having priority.

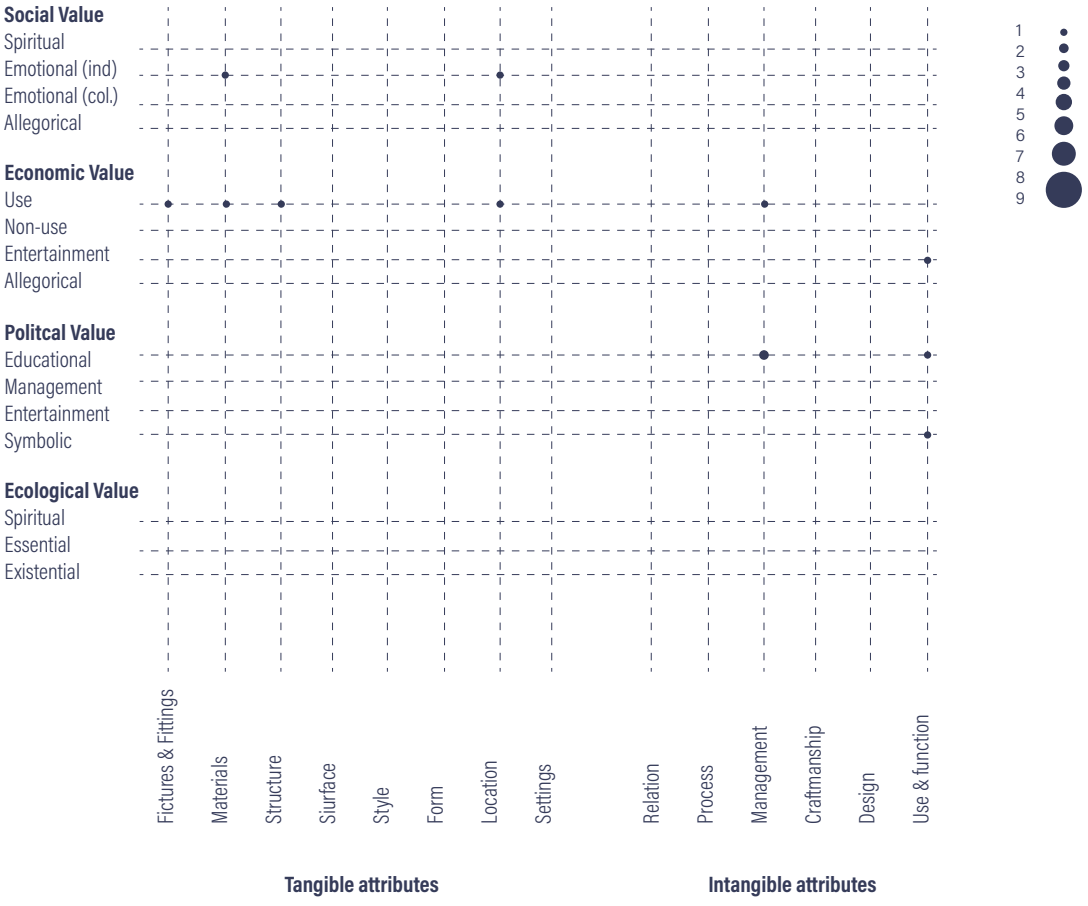


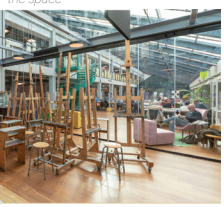
Figure 17: Summary of the identified social values and attributes for DOK library Note: authors own table

Figure 18: The identified social values and attributes for DOK library
Note: authors own table

Exhibiting works that are made in the art studio's to a broader public in the reading room

A program with workshops for different age groups.

ce takes up quite a lot
a within the library
ing the significance of
the space



r-open

Evening the playing field for start-ups by creating accessible tool- & workstations

The library houses the VAK, a center for visual arts, offering a wide range of courses and workshops

Active advertisement for the making activities within the library

Cross-disciplinary courses, incorporating literature in making activities

By priorizing the producing over the consuming

Location
Settings
Relation
Process
Management
Craftmanship
Design
Use & function

Intangible attributes

The Making Solution

Figure 19: BredaStudentApp, Breda Nieuwe Veste Entrance, [photograph]. Accessed on 10th of June 2025, https://www.bredastudentapp.com/locaties/nieuwe-veste-571fbb152a5ab06729dd1df8

Visited 06/05/2025

General information

The Makersbase of the Library in Breda is based in the Nieuwe Veste, Molenstraat 6 in the centre of Breda. Designed by Herman Hertzberger in 1993 the Nieuwe Veste serves as a place where art, music and the library come together. The building contains of an open floor space with its collection spread throughout the different functions and one designated library space. Within this interdisciplinary space the Makersbase is located on the ground floor, which is a level lower than the entrance level. Directly adjacent to the café and studying/work area amongst the open book shelves. The Makersbase is divided into two aspects: the crafts and the tech area, much like the division made by Caso and Kuijper (2019). In conversation with the team employee it became apparent that the organized activities follow a similar division. There is different appointed hours for the "tech community" the "Craft community" and two options for smaller children "kidsclub Makersbazen (9-12 yrs) and the open walk-in (9+)

Atlas information

- L
- Open
- Digital & Crafts
- Added

Defining the makerspace

- A combination of 1. Free reign use (with an employee present) and 3. Scripted organized activities
- Stationary materials and tools always present and usable with (always present) employee

Changes over time

The makerspace has shifted its location since the Atlas has been published in 2019. It is not located adjacent to the glass façade and the outside square anymore. In addition to this the space is not entirely open as it used to be when first introduced. The space has been lined with half-height bookcases all around with one clear entrance in the middle.

Social values

In figure 21, the full analysis of the Makersbase can be found within the social values and attributes framework, while a summarizing table is presented on the right page of figure 20. As shown, the

economic, social, and to some extent, political values are most prominently represented. Within the social value, individual and collective emotional aspects are highly valued, while allegorical and spiritual values are underrepresented. Regarding economic value, the primary focus is on the space's usage, with non-use and allegorical aspects lacking representation. Political values are reflected in educational, management, and symbolic aspects, but the entertainment value is not well represented. Lastly, no attributes related to ecological values were found.

Social attributes

The majority of attributes are found within the tangible elements of the space. Commonly reoccurring elements are the fixtures and fittings, the surface, the style, the form, and the setting of the space. Among the intangible elements, particular emphasis is placed on aspects of the management as well as the use & function of the space. Important tangible attributes found are the signage of the space, the area has a distinctive name and is considerably recognizable within the library area. The area itself is quite large comparing to its surroundings signifying it as an important space within the library. Furthermore, hints of the usage of the space are found throughout the library area by using objects made within the Makersbase, creating an environment fit for "making". In addition, interestingly, this area within the library has a strong personal character, involving stickers, moveable items, posters and objects made by its users, resulting in a flexible space.
In terms of intangible attributes mostly programmatic aspects have been recognized. The space is open at all times with varying workshop areas for differing themes. The space is meant for everyone, the availability and accessibility of equipment and space is assumed to be of great value to its users.

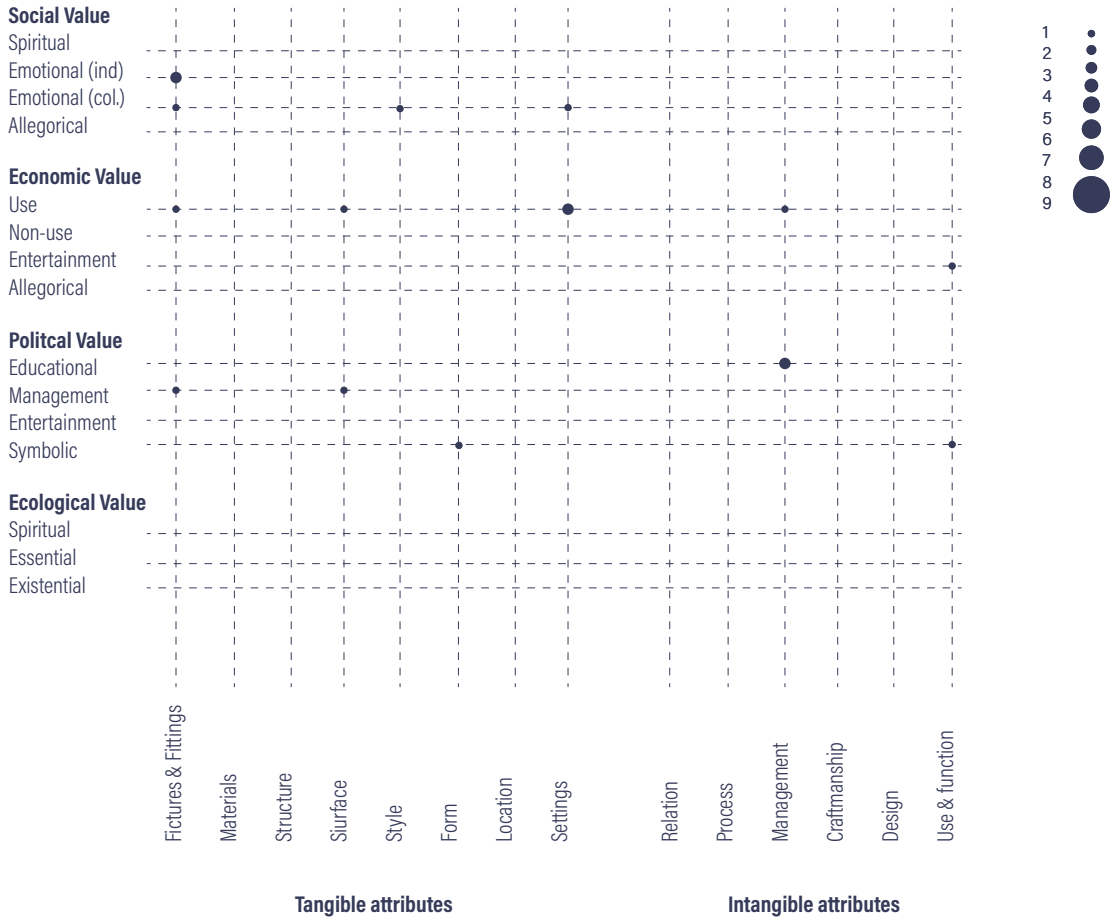


Figure 20 Summary of the identified social values and attributes for the Makersbase Note: authors own table

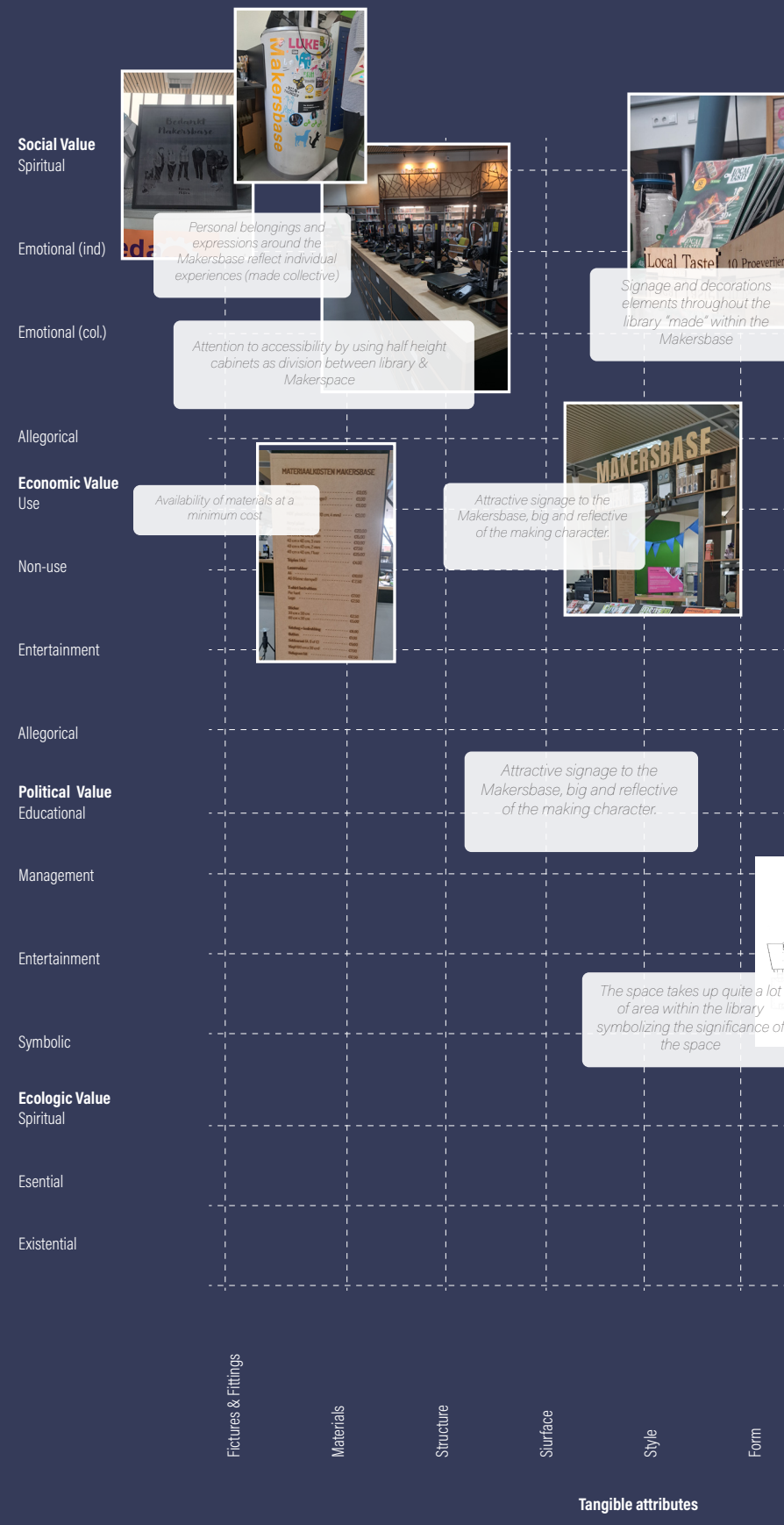
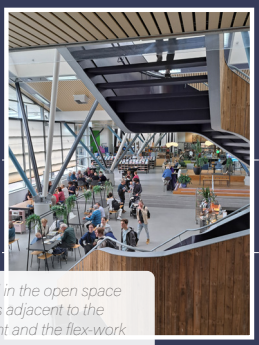


Figure 21: The identified social values and attributes for the Makersbase
Note: authors own table



Located in the open space that is adjacent to the restaurant and the flex-work area

Open hours and crafts/tech communities at differing hours. Everyday accessible.

Being in the middle of an open space the utilities can not be used the whole day due to sound disturbance

The chattering and buzz of the restaurants sounds carries a comfortable environment to the Makersbase

Evening the playing field for start-ups by creating accessible tool- & workstations

Workshops on technology and crafting techniques for creating

By priorizing the producing over the consuming

Location
Settings
Relation
Process
Management
Craftmanship
Design
Use & function

Intangible attributes

Conclusion

Both the Making activities in DOK and the Makersbase support social values through tangible and intangible elements, but they do so in different ways.

In DOK, social values are primarily expressed through individual emotional aspects, with tangible attributes like partition walls and rotating art objects. DOK incorporates the makerspaces in the middle of their library space, separating the makerspace with subtle spatial interventions such as glass walls and open hallways. Intangible aspects are shaped by a structured programming through de VAK, which create interdisciplinary making activities but limits spontaneous use and accessibility of tools.

In contrast, the Makersbase in Breda seems to shows a strong social presence, emphasizing both individual and collective emotional values. Its tangible environment is more personalized, flexible, and visibly integrated, incorporating user-made objects, signage, and adaptable layouts. In its intangible attributes it supports a more user-driven, open-access system, creating emotional connection and daily visibility within the library.

In short, DOK is more structured and subtly integrated within the library, while the Makersbase in Breda is mainly valued for spontaneity and personalization.

06

The Crossover

Traditionally, the KB has predominantly been valued for its historical, aesthetic, and scientific contributions, yet values such as the social, economic, political, and ecological have remained underrepresented. With the library's mission increasingly oriented toward democratizing access to heritage, addressing societal challenges such as low literacy and digital skills, and creating interaction between the public and knowledge, a making program could align with these ambitions and increase the social values of the KB. The integration of a 'making program' into the Koninklijke Bibliotheek (KB) offers an opportunity to play into its social mission.

From the case studies of DOK and the Makersbase in Breda, the added value becomes evident through both the tangible and intangible attributes. Tangibly, spaces like the Makersbase are characterized by their flexibility, visibility, and user-made content, such as exhibited art-pieces and personalized signage, all of which create an emotional connection with its visitors/users. In contrast, DOK integrated its makerspace into the centre of the library through subtle spatial interventions like glass partitions and hallways, maintaining a sense of transparency while preserving an individual functionality. Both approaches suggest that a makerspace within the KB could become a physical embodiment of accessibility, visibility, and participation. On an intangible level, the contrast between the structured programming of DOK, through its partnership with de VAK, and the more spontaneous, user culture of Makersbase, highlights two different approaches to social engagement with the spaces. DOK offers organized interdisciplinary activities, limiting spontaneous access to tools, while Makersbase encourages free creation, individual ownership, and a community presence.

Translating this to the KB context, the opportunity could lie in a balance: offering a structured engagement with KB's scholarly heritage while allowing for creative freedom and direct public interaction with its heritage collections.The KBAtelier reflects the beginnings of a making mentality, translating collections into accessible items; such as art installations. However, as noted in the interview with Jessica Wevers (Wevers, 2025). and after exploring the building, the space remains underutilized due to its temporary nature, lack of secure facilities, and limited creative freedom. Reimagining this existing space, for example as a visible, glass-enclosed "atelier" in the public or inbetween the public and semi zone of the KB's layered spatial strategy, could bring the making program to life in a way that is consistent with the KB's identity as a national heritage institution while expanding its role as a platform for public engagement.

Conclusion

Integrating a making program into the KB would enhance its social values by encouraging public engagement with heritage in creative and accessible ways which complement the current social mission of the KB. Inspired by examples like DOK and Makersbase, the program could balance structured, scholarly activities with open-ended, user-driven creation, fostering both emotional connection and community involvement. Reimagining existing underused spaces like the KBAtelier into visible, flexible makerspaces would align with the KB's mission to democratize access to knowledge and position the library as an active platform.

07

Conclusion

This study aimed to explore how integrating a making program could support the evolving social mission of the KB, the National Library of the Netherlands through the investigation of the values and attributes of the KB, the social mission of the KB, the social values and attributes of makerspaces and lastly the synthesis between the elements of the KB and the Makerspaces.

What are the social values and attributes of KB that might be the specific needs and expectations of the KB?

The Koninklijke Bibliotheek (KB) has mainly been valued for its historical, aesthetic, and scientific contributions, while social, economic, political, and ecological values are currently underrepresented. However, with its evolving social mission, the KB is aiming to take a more active role within society. As explained by Jessica Wevers, this includes increasing public accessibility to knowledge and heritage, addressing challenges like low and digital literacy, and fostering interaction with heritage. To support this social mission, the KB is implementing a layered spatial strategy from core collection zones to public informal areas with program like shops and exhibitions. New initiatives such as the ErasmusClub and the KBAtelier are the beginning of reflecting this mission. The KBAtelier, in particular, introduces a making mentality by transforming heritage into relatable outputs.

What are the social values and associated tangible/ intangible attributes of makerspaces?

The making activities at DOK and the Makersbase both support social values but in different ways. DOK is structured in its organisation, with makerspaces integrated into the library using subtle partitions and programming led by de VAK, fascilitating interdisciplinary activities but also limiting spontaneity. In contrast, the Makersbase consists of a more open, flexible, and user-driven environment with personalized, visible elements and easy access, encouraging both individual and collective engagement. In essence, DOK is more organized, while the Makersbase in Breda emphasizes spontaneity.

What added values and potential attributes does KB's social mission gain through the integration of the 'making program'?

Case studies of DOK and the Makersbase show two complementary approaches: DOK's structured, interdisciplinary programming contrasts with Makersbase's open, user-led system that boosts emotional connection and community presence. A hybrid of these approaches could benefit the KB. The existing KBAtelier already reflects, a sort of, making mentality but remains underutilized due to limitations in space and creative freedom. Reimagining it as a permanent, semi-public space could activate its full potential.

In summary, a making program would increase the KB's underrepresented social values and help reposition the library as a co-creator of knowledge and meaning in society.

08

Discussion

First, this research employs the values and attributes framework as was used in the research by Tarrafa Pereira da Silva and Pereira Roders (2012). In their research the values framework for heritage impact assessment is applied across three stages to evaluate the cases. In the first stage, documentary sources are analyzed to identify primary values associated with the case. The second stage builds upon this by including stakeholder interviews, comparing policy documents to practice to understand the implementations of the heritage values. The third stage involves both documentary and physical analysis, focusing on attributes and comparing them across various sources.

The analysis of the KB has been done based on documentation of the building; Waarderend onderzoek by Wijnand Galema (2017) grounded in the expertise of an architectural historian. Introducing a professional bias instead of a personal one. A user-review based analysis might have produced different conclusions, similar to using a different document could conclude in a different outcome.

Furthermore in the present research, the case studies are based on visiting the cases, allowing for the physical identification of attributes. This approach results in a greater emphasis on tangible attributes, whereas intangible values are primarily observed within the programmatic aspects of the makerspaces

Consequently, a significant limitation of this research becomes evident within the first two subquestions; the absence of a variety of data sources confirming the values and attributes found. This research is based on personal findings, rendering them inherently subjective to a personal view.

However, since these spaces are not recognized as heritage and a relatively new program that is implemented, there is a notable lack of existing documentation wherein values and attributes could be derived from. Given this gap and the necessity of comparing the findings to the KB's values and attributes, continuing with the same methodological structure was deemed the most feasible option.

Nonetheless, research into social values, within a spatial context, inevitably involves a degree of subjectivity, as it concerns personal experiences and perceptions.
To build upon this research, a variety of different users could fill out a similar framework to expand on the values found.

Future research could also focus on developing methods to measure the social values and attributes introduced through the implementation of a making program. This might include conducting interviews within a similar framework, aimed at evaluating whether the redesigned space attracts new user groups in addition to serving existing ones.

Moreover, the KB's already valued architectural attributes, such as its white aluminum façade, could be strategically leveraged to add social values onto. Rather than limiting the investigation to attributes found within makerspaces, additional research could explore how existing features might be activated or reinterpreted to create social engagement, thereby maximizing the features already present within the library.

Another additional look can be made at public buildings in general and identifying and labelling the "making" activities here. In order to let go of traditional labels for these spaces and create new definitions to implement within the National Library.

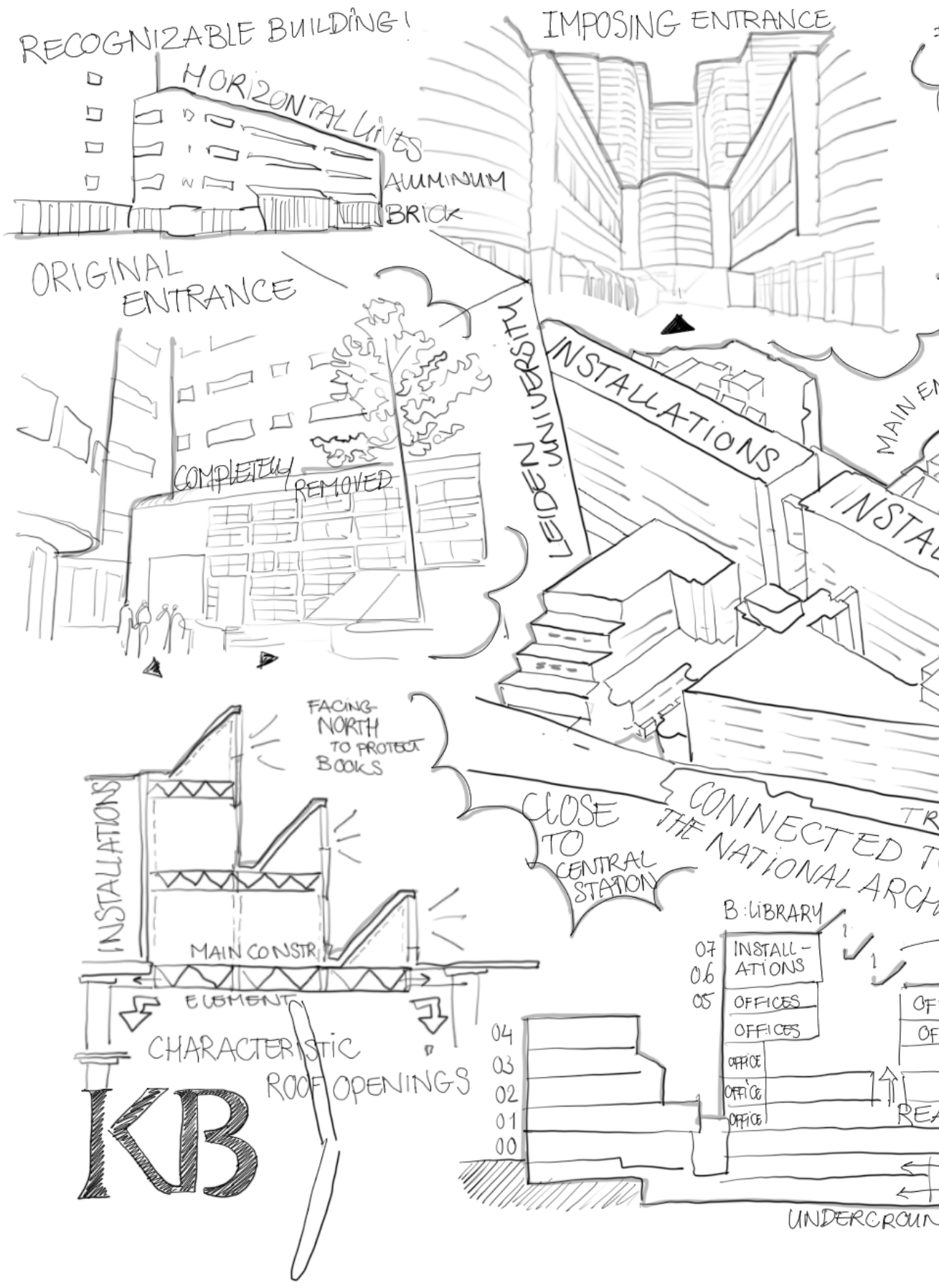
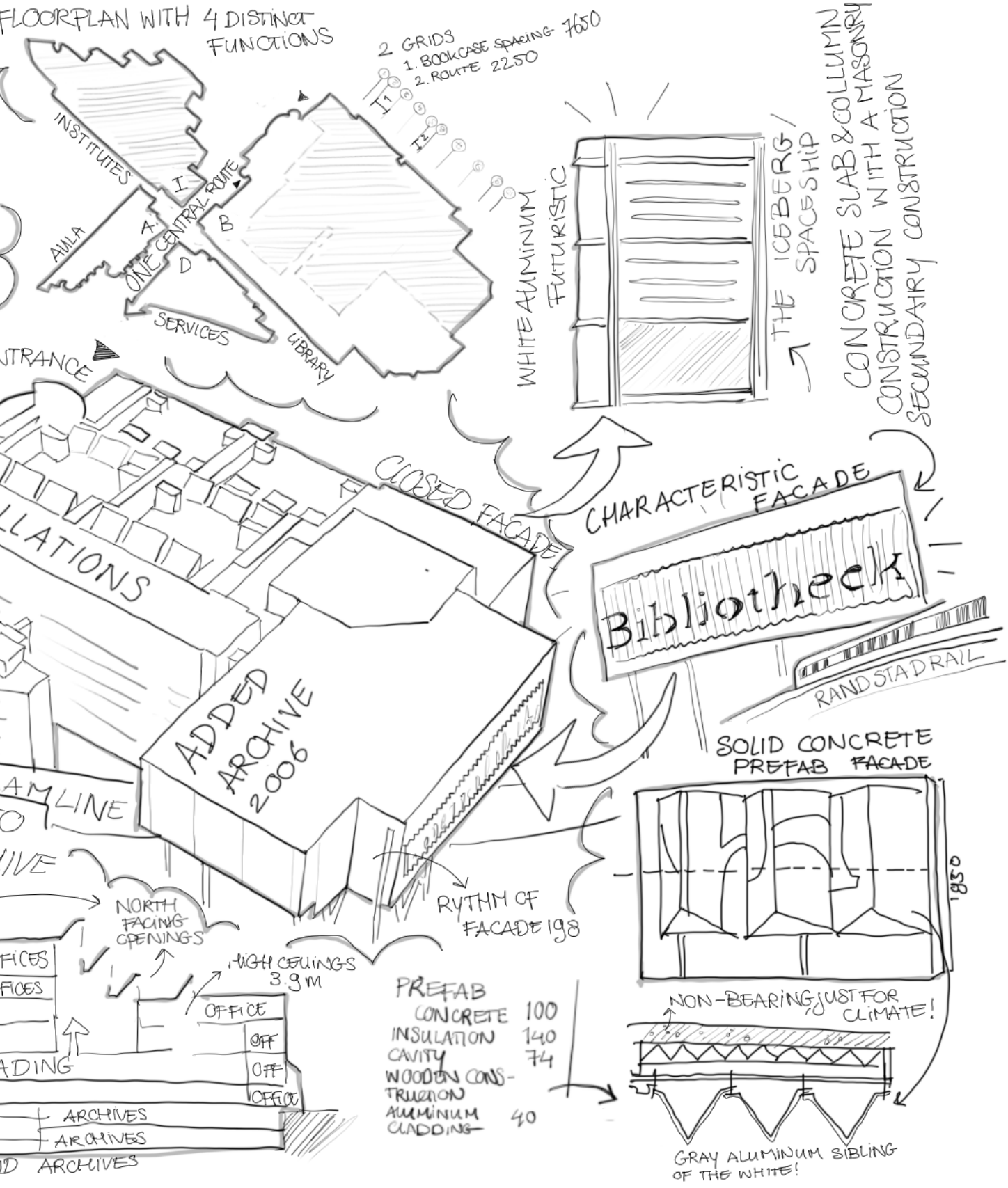


Figure 21: Highlighted elements of heritage, own work


FLOORPLAN WITH 4 DISTINCT FUNCTIONS
INSTITUTES
AULA
ONE CENTRAL ROUTE
SERVICES
LIBRARY
A
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D
I
2 GRIDS
1. BOOKCASE SPACING 750
2. ROUTE 2250
I1
I2
WHITE ALUMINUM FUTURISTIC
THE ICEBERG / SPACESHIP
CONCRETE SLAB & COLLUMN CONSTRUCTION WITH A MASONRY SECUNDAIRY CONSTRUCTION
CHARACTERISTIC FACADE
Bibliotheek
RANDSTADRAIL
CLOSED FACADE
ADDED ARCHIVE 2006
SOLID CONCRETE PREFAB FACADE
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RYTHM OF FACADE 198
NORTH FACING OPENINGS
HIGH CEILINGS 3.9m
OFFICE
OFF
OFF
OFFICE
ARCHIVES
ARCHIVES
ARCHIVES
PREFAB
CONCRETE 100
INSULATION 140
CAVITY 74
WOODEN CONSTRUCTION
ALUMINUM CLADDING 40
NON-BEARING, JUST FOR CLIMATE!
GRAY ALUMINUM SIBLING OF THE WHITE!

09

Design Implications

This research was grounded in the multi-facetted challenge presented by the KB's evolving role: the departure from its function as solely a repository for the Dutch collection, and its shifting social mission. The main goal became to explore new ways to integrate the library into the contemporary social landscape, while developing a renewed identity that respects and builds upon the building's existing core values.
Initially, at the start of P1, the focus was broad, identifying potential new programs to revitalize the KB. Over time, the research narrowed to test the potential for one specific, socially promising program: the implementation of a making program. The current conceptual design proposal reflects many of the research findings and directions. Notably, the spatial strategy draws directly from the layered structure discussed in the interview with Ms. Wevers became the main conceptual design idea. This strategic layering has been embedded into the proposed "makers' addition," creating a curated sequence of spaces that transition from collection-based activities to more public engagement zones.

Starting with the collection layer, existing making-related activities already present on the periphery of the K, such as bookbinding and restoration, have been identified as integral parts of the inner layer, in close relation to the collections.

In the semi-public layer, partnerships play an important role. Inspired by both the KBAtelier and like the case study of DOK, the proposal introduces potential external partnerships such as Netwerk Digitaal Erfgoed and Ambacht Nederland. Netwerk Digitaal Erfgoed fits in with KBAtelier's mission but could provide a more stable presence within the building, its organizational structure, offering continuity beyond the temporary, project-based nature of current KBAtelier users. Ambacht Nederland, provides for a new approach to the makerspaces, by introducing a programmatic element that focuses on preserving heritage through active practice. By embedding traditional crafts and techniques into the space, this initiative would ensure that heritage is passed

Figure 22: Layers of makers program, own work

on not only through documentation within the preserved collection but also through embodied, intergenerational learning.

The outer layer hosts the more traditional definition of a makerspace, a freeform environment for spontaneous and user-led creation, making use of the values and practices documented in this research. Across all layers, creative freedom and shared management of space emerge as essential attributes.

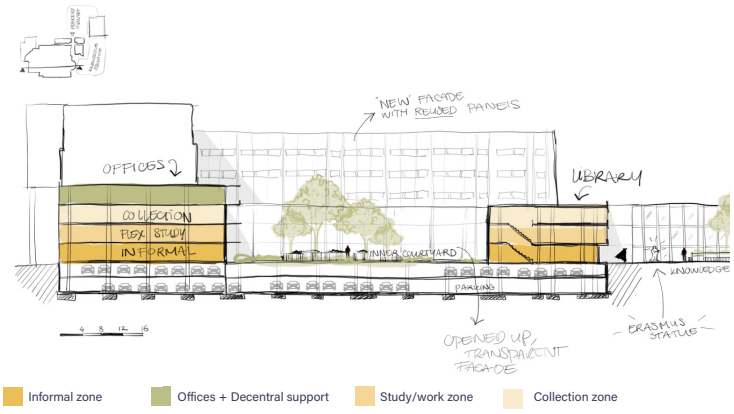

Figure 23: Section through public layering and knowledge square.

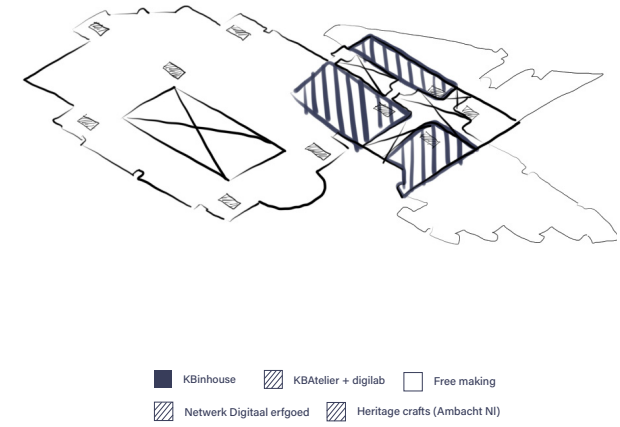

Figure 24: Conceptual floorplan, first and second floor.

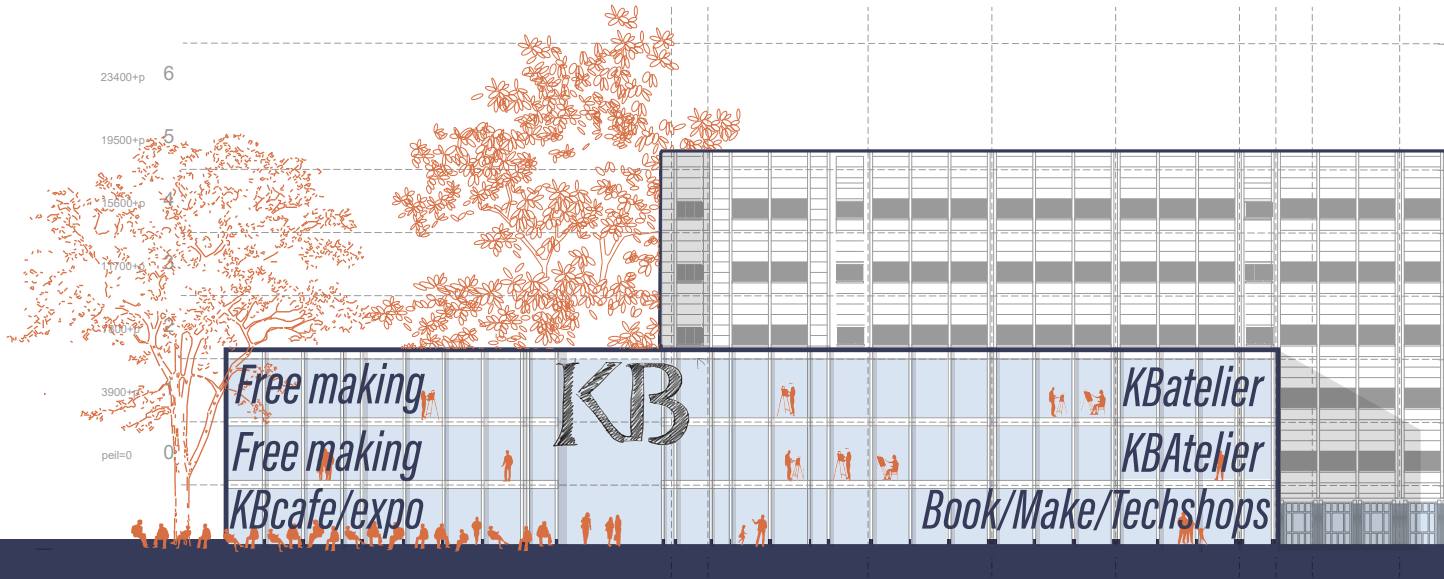

Figure 25: Proposed facade, own work

The transparency, as is proposed in the concept, also features prominently in the design. During interviews, the idea of reintroducing the KBAtelier as a visible "glass house" was proposed. The current architectural intervention expands on this concept: the new addition is entirely transparent, functioning as a scaled-up version of this "glass house," making the making activities visible and inviting.

Finally, the proposal reflects an analysis of the KB's existing social values and their spatial manifestations. Key socially valued elements such as the Erasmus statue on the redesigned "Knowledge Square," the original façade, and the archive's golden lettering, have been preserved and integrated into the design. These decisions aim to maintain continuity with the KB's heritage while expanding its role as a socially engaged institution.

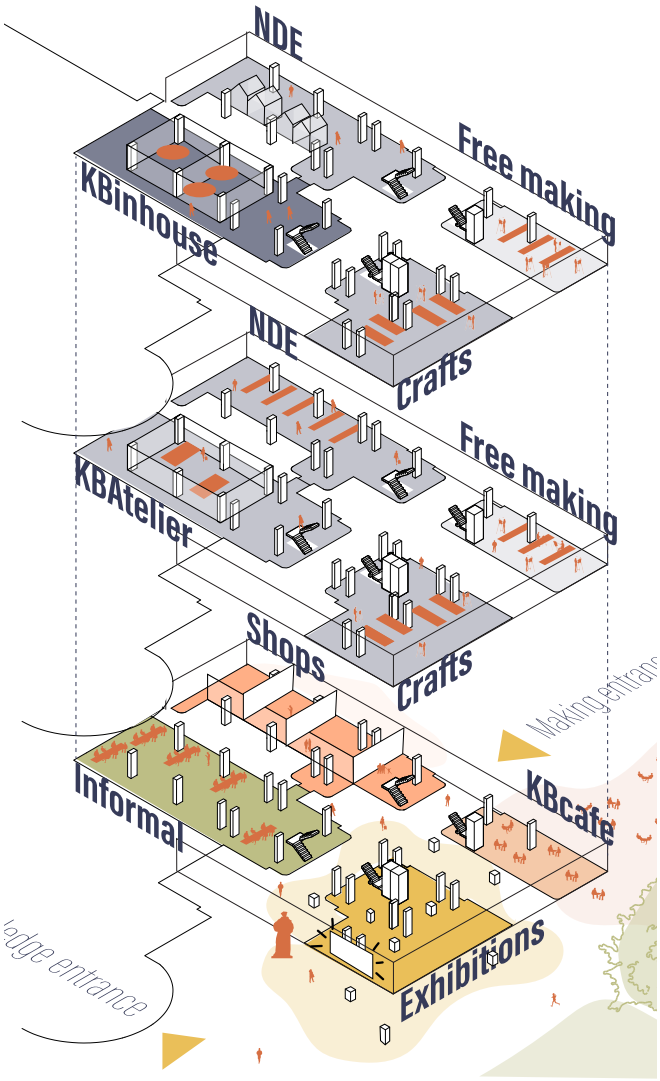

Figure 26: Layers of makers program, own work

10

BredaStudentApp Breda Nieuwe Veste Entrance.

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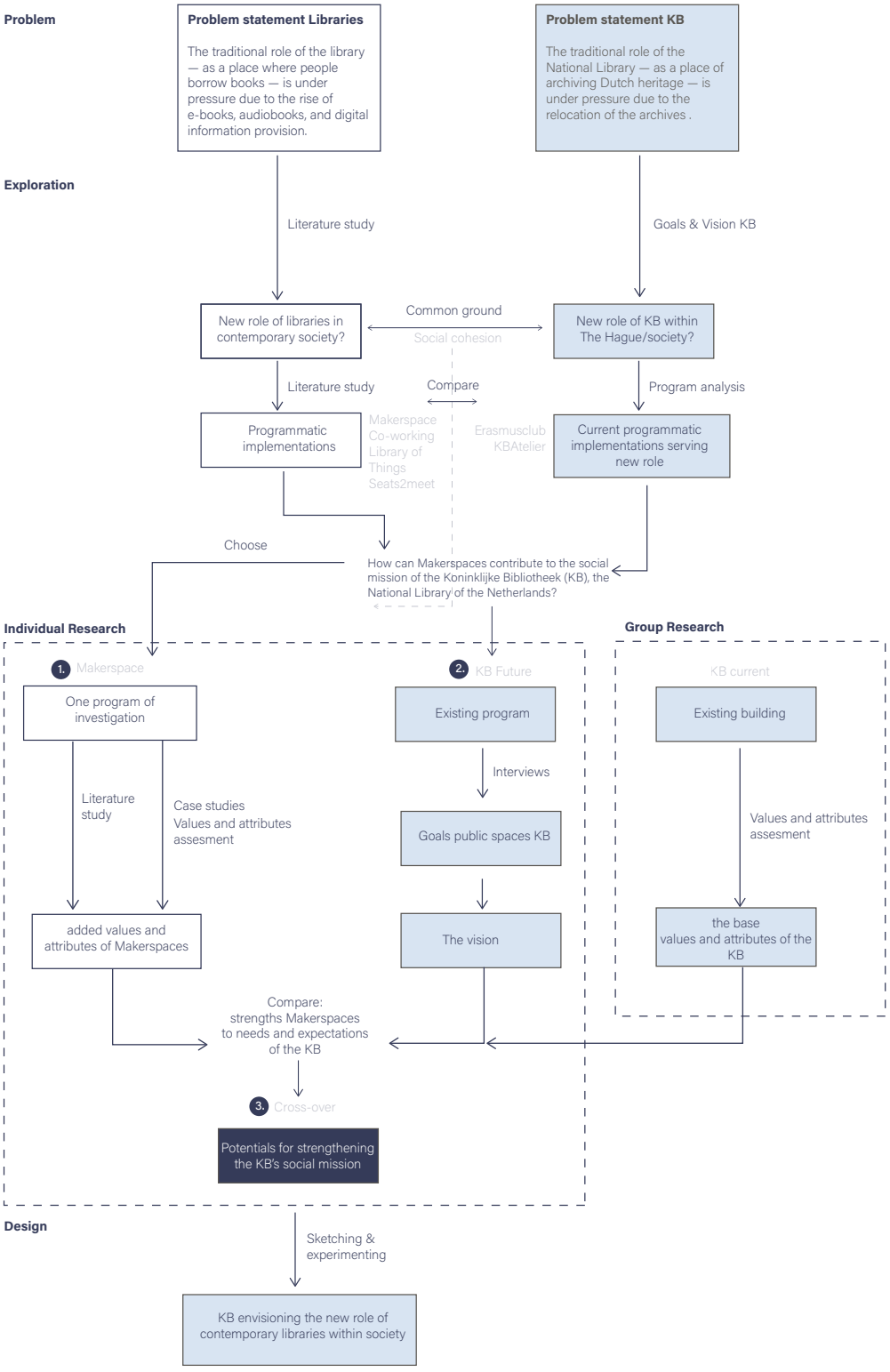
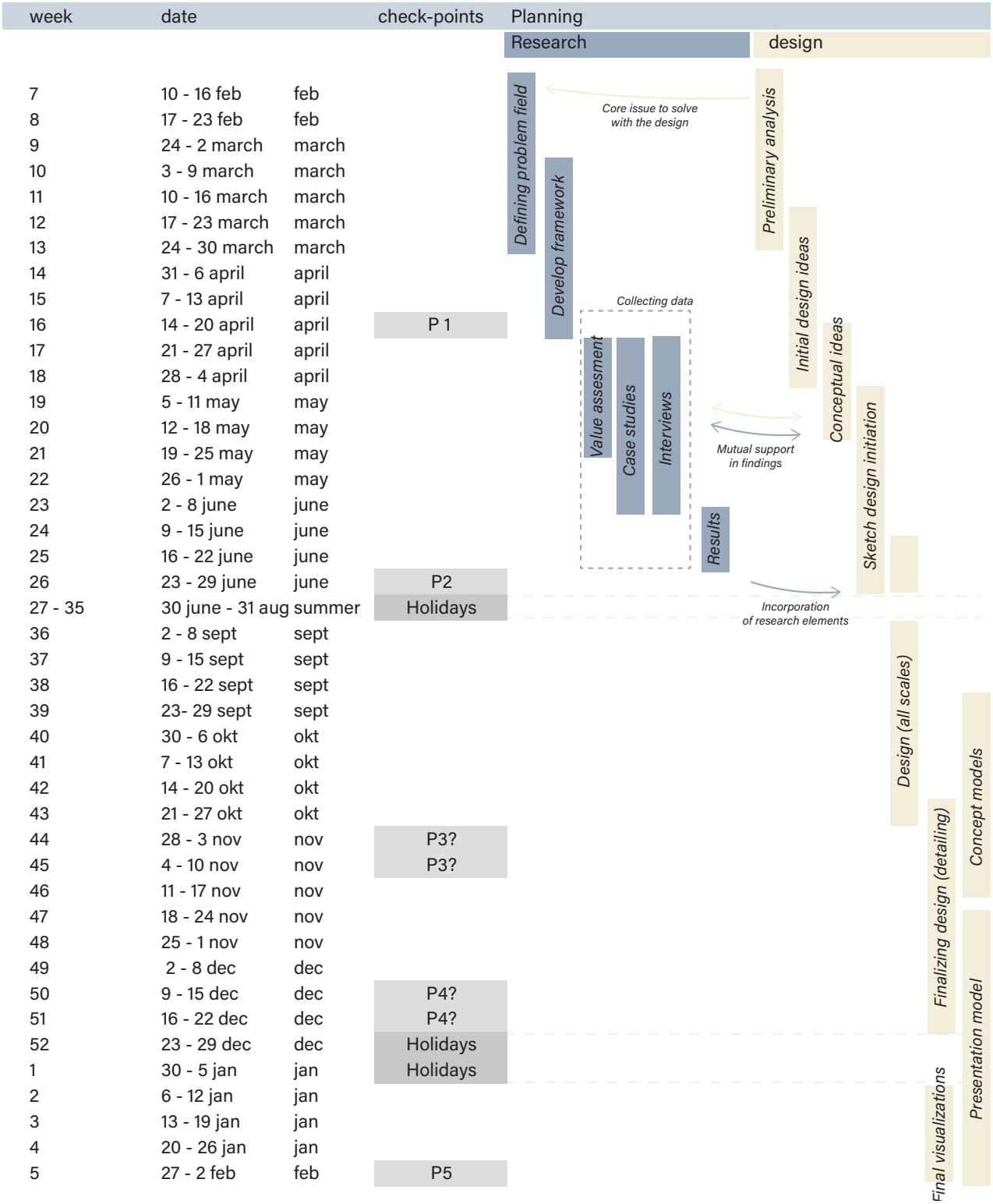
11A

Research design



Graduation plan



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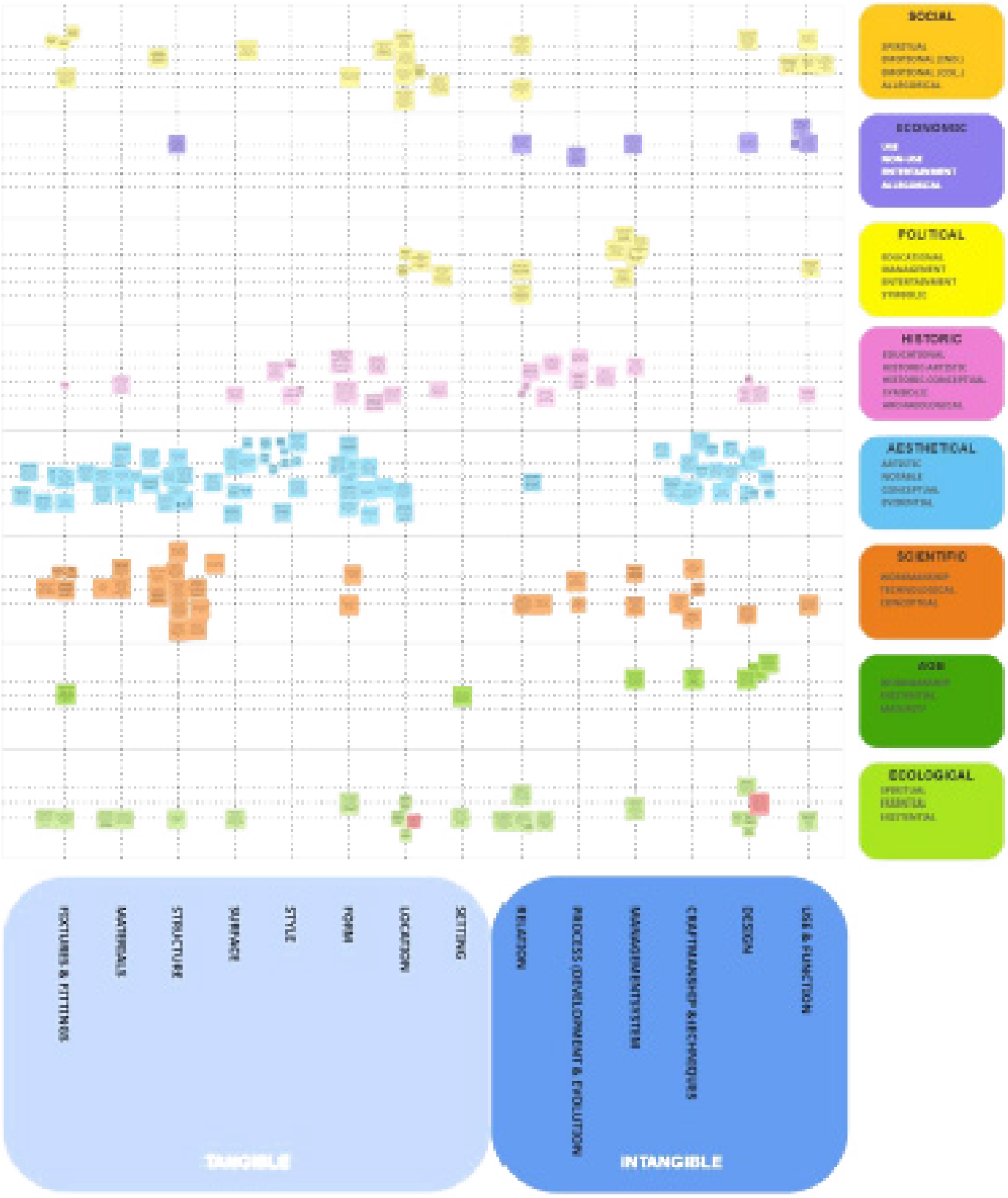
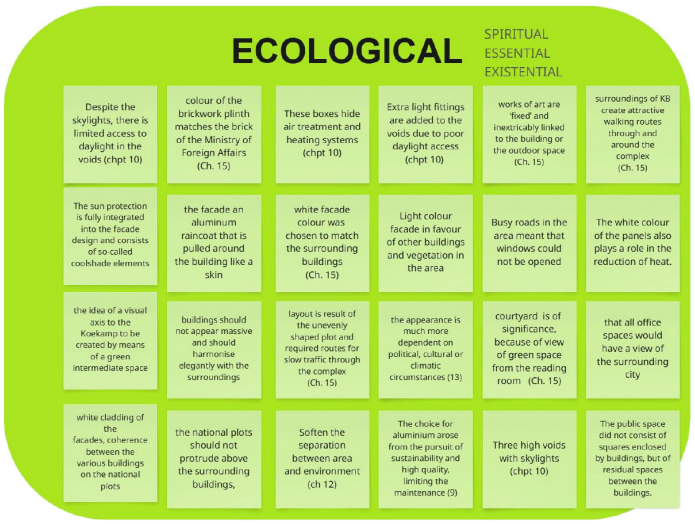
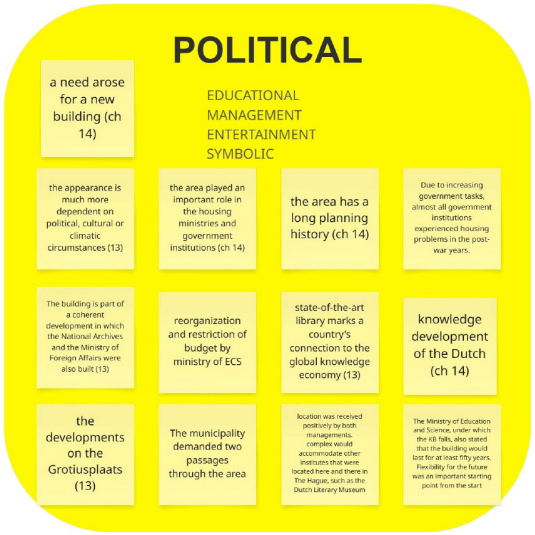
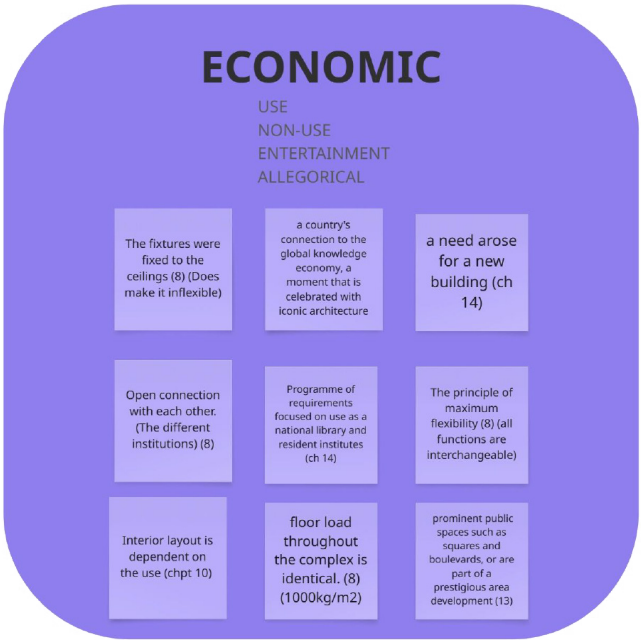
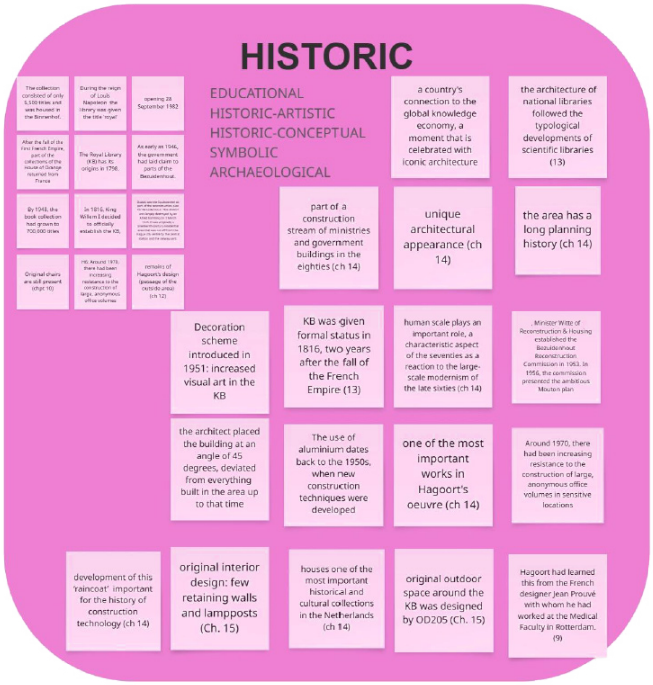

SOCIAL
ECONOMIC
POLITICAL
HISTORIC
AESTHETICAL
SCIENTIFIC
AGE
ECOLOGICAL
FIXTURES & FITTINGS
MATERIALS
STRUCTURE
SPACE
STYLE
MASS
LOCATION
SETTING
TANGIBLE
BELIEFS
PROCESS (DEVELOPMENT & EVOLUTION)
MANAGEMENT SYSTEM
CRAFTSMANSHIP & TECHNIQUES
DESIGN
USE & FUNCTION
INTANGIBLE

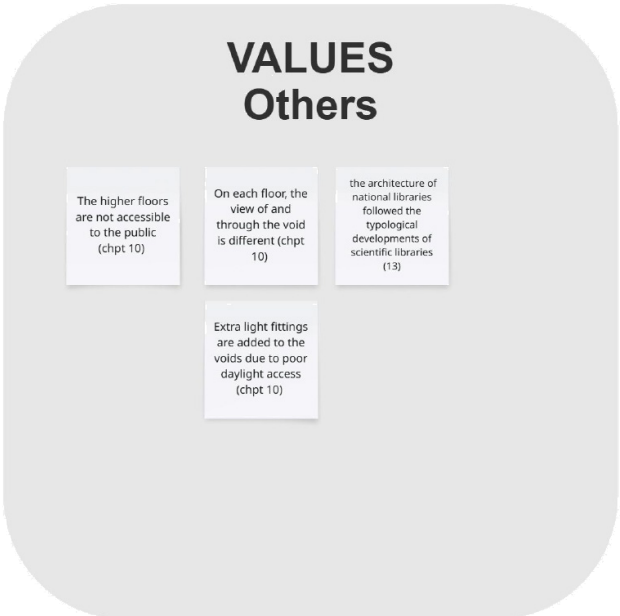

ECOLOGICAL
SPIRITUAL
ESSENTIAL
EXISTENTIAL
Despite the skylights, there is limited access to daylight in the voids (chpt 10)
colour of the brickwork plinth matches the brick of the Ministry of Foreign Affairs (Ch. 15)
These boxes hide air treatment and heating systems (chpt 10)
Extra light fittings are added to the voids due to poor daylight access (chpt 10)
works of art are 'fixed' and inextricably linked to the building or the outdoor space (Ch. 15)
surroundings of KB create attractive walking routes through and around the complex (Ch. 15)
The sun protection is fully integrated into the facade design and consists of so-called coolshade elements
the facade an aluminum raincoat that is pulled around the building like a skin
white facade colour was chosen to match the surrounding buildings (Ch. 15)
Light colour facade in favour of other buildings and vegetation in the area
Busy roads in the area meant that windows could not be opened
The white colour of the panels also plays a role in the reduction of heat.
the idea of a visual axis to the Koekamp to be created by means of a green intermediate space
buildings should not appear massive and should harmonise elegantly with the surroundings
layout is result of the unevenly shaped plot and required routes for slow traffic through the complex (Ch. 15)
the appearance is much more dependent on political, cultural or climatic circumstances (13)
courtyard is of significance, because of view of green space from the reading room (Ch. 15)
that all office spaces would have a view of the surrounding city
white cladding of the facades, coherence between the various buildings on the national plots
the national plots should not protrude above the surrounding buildings,
Soften the separation between area and environment (ch 12)
The choice for aluminium arose from the pursuit of sustainability and high quality, limiting the maintenance (9)
Three high voids with skylights (chpt 10)
The public space did not consist of squares enclosed by buildings, but of residual spaces between the buildings.


POLITICAL
EDUCATIONAL
MANAGEMENT
ENTERTAINMENT
SYMBOLIC
a need arose for a new building (ch 14)
the appearance is much more dependent on political, cultural or climatic circumstances (13)
the area played an important role in the housing ministries and government institutions (ch 14)
the area has a long planning history (ch 14)
Due to increasing government tasks, almost all government institutions experienced housing problems in the post-war years.
The building is part of a coherent development in which the National Archives and the Ministry of Foreign Affairs were also built (13)
reorganization and restriction of budget by ministry of ECS
state-of-the-art library marks a country's connection to the global knowledge economy (13)
knowledge development of the Dutch (ch 14)
the developments on the Grotiusplaats (13)
The municipality demanded two passages through the area
location was received positively by both managements. complex would accommodate other institutes that were located here and there in The Hague, such as the Dutch Literary Museum
The Ministry of Education and Science, under which the KB falls, also stated that the building would last for at least fifty years. Flexibility for the future was an important starting point from the start

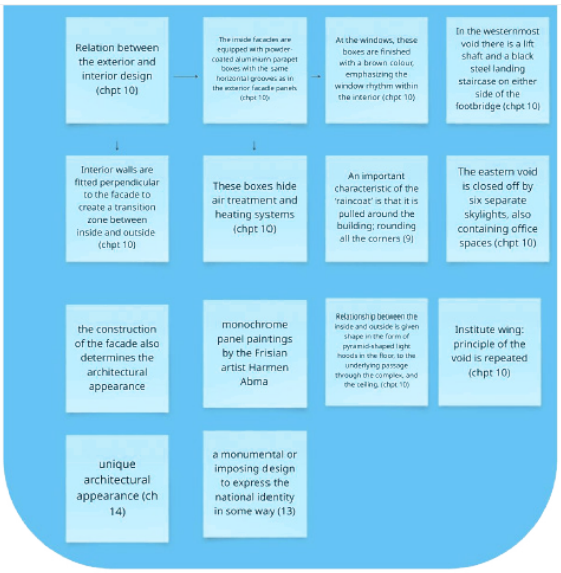

SOCIAL
SPIRITUAL
EMOTIONAL (IND.)
EMOTIONAL (COL.)
ALLEGORICAL
The edges of the balustrades around the void are covered with white panels with a striped pattern and horizontal slots to improve acoustics (chpt 16)
the building was also called the ice palace by some (9)
Extra light fittings are added to the voids due to poor daylight access (chpt 10)
The fixtures were fixed to the ceilings (8) (Does make it inflexible)
Public space in the entrance hall and first floor (chpt 10)
the statue of Erasmus in the distribution hall
the idea of a visual axis to the Koekamp to be created by means of a green intermediate space
The public space did not consist of squares enclosed by buildings, but of residual spaces between the buildings.
courtyard is of significance, because of view of green space from the reading room (Ch. 15)
accessible to everyone
the role of the KB change from a closed scientific institution from open social institution
The KB is integrated into a compact urban fabric that fits the intensive use of space in the Netherlands
digitisation of information coordinating role
Cyclists can move through the area undisturbed. (8)
East-West connection (8) (Central station to Theresiastraat)
Attention to the human scale through relief in facade (Ch. 15)
interior has calm and neutral atmosphere (Ch. 15)
collections increasingly accessible (ch 14)
more lively design possible that better matches the human scale and experience at ground level
redesign goal: increasing accessibility and public friendliness (ch 14)
windowframes that correspond to most important public spaces and reading rooms

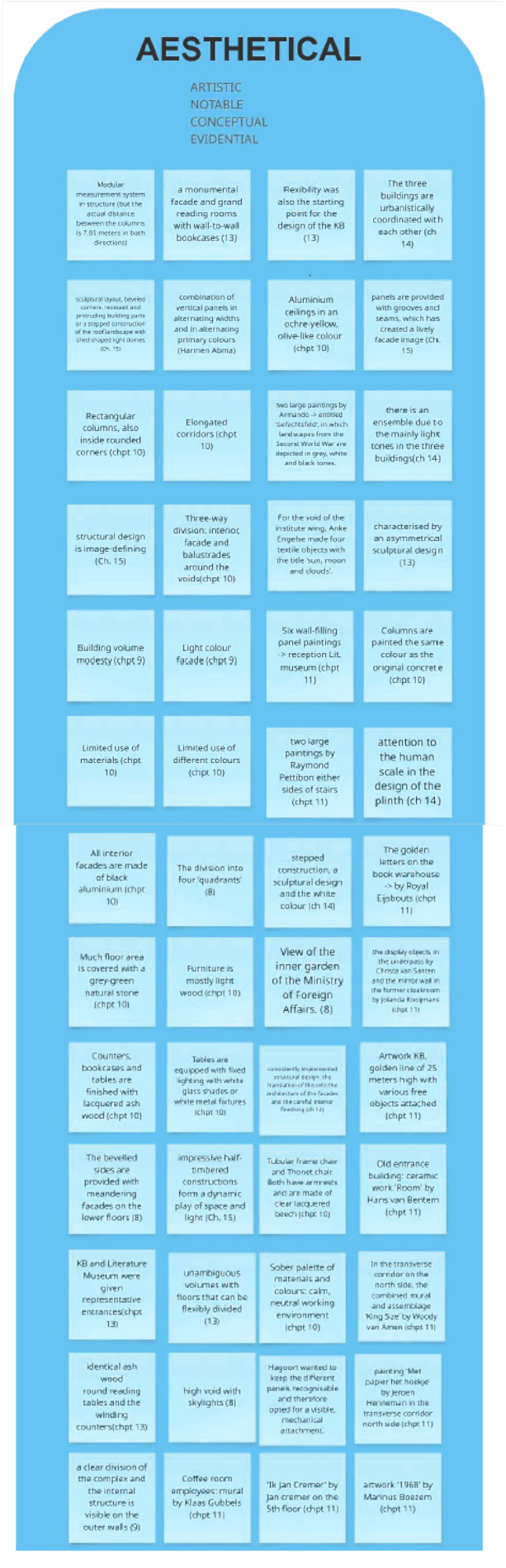

ECONOMIC
USE
NON-USE
ENTERTAINMENT
ALLEGORICAL
The fixtures were fixed to the ceilings (8) (Does make it inflexible)
a country's connection to the global knowledge economy, a moment that is celebrated with iconic architecture
a need arose for a new building (ch 14)
Open connection with each other. (The different institutions) (8)
Programme of requirements focused on use as a national library and resident institutes (ch 14)
The principle of maximum flexibility (8) (all functions are interchangeable)
Interior layout is dependent on the use (chpt 10)
floor load throughout the complex is identical. (8) (1000kg/m2)
prominent public spaces such as squares and boulevards, or are part of a prestigious area development (13)


HISTORIC
EDUCATIONAL
HISTORIC-ARTISTIC
HISTORIC-CONCEPTUAL
SYMBOLIC
ARCHAEOLOGICAL
a country's connection to the global knowledge economy, a moment that is celebrated with iconic architecture
the architecture of national libraries followed the typological developments of scientific libraries (13)
part of a construction stream of ministries and government buildings in the eighties (ch 14)
unique architectural appearance (ch 14)
the area has a long planning history (ch 14)
Decoration scheme introduced in 1951: increased visual art in the KB
KB was given formal status in 1816, two years after the fall of the French Empire (13)
human scale plays an important role, a characteristic aspect of the seventies as a reaction to the large-scale modernism of the late sixties (ch 14)
the architect placed the building at an angle of 45 degrees, deviated from everything built in the area up to that time
The use of aluminium dates back to the 1950s, when new construction techniques were developed
one of the most important works in Hagoort's oeuvre (ch 14)
development of this 'raincoat' important for the history of construction technology (ch 14)
original interior design: few retaining walls and lampposts (Ch. 15)
houses one of the most important historical and cultural collections in the Netherlands (ch 14)
original outdoor space around the KB was designed by OD205 (Ch. 15)
Hagoort had learned this from the French designer Jean Prouvé with whom he had worked at the Medical Faculty in Rotterdam. (9)


VALUES
Others
The higher floors are not accessible to the public (chpt 10)
On each floor, the view of and through the void is different (chpt 10)
the architecture of national libraries followed the typological developments of scientific libraries (13)
Extra light fittings are added to the voids due to poor daylight access (chpt 10)


SCIENTIFIC
WORKMANSHIP
TECHNOLOGICAL
CONCEPTUAL
The edges of the balustrades around the void are covered with white panels with a striped pattern and horizontal slots to improve acoustics (chpt 10)
the architecture of national libraries followed the typological developments of scientific libraries (13)
similarity between the KB and the ministry are the brickwork facades of the substructure
Implementation of the measurement system (chpt 10)
Structuring of the interior (chpt 10)
part of the reconstruction of the Bezuidenhout (ch 14)
unambiguous volumes with floors that can be flexibly divided (13)
large-scale interventions
aluminium facade of the floors was specially developed for the KB
ingenious measurement system based on the depth measurements and distances of the bookcases (Ch. 15)
Degree of unity and clear structure
- spatial lay-out
- technical installations
- consistent dimensioning
- Facades
technology and installations have been integrated into the design (Ch. 15)
structural system of measurements (ch 14)
Original enterance: Light construction (ch 12)
White colour to connect with national archives
- white aluminium cladding
functions are interchangeable and the layout is flexible (Ch. 15)
Conservatory seating to increase liveliness to plinth
prefabricated aluminium panels that were assembled on the construction site (ch 14)
The structural design of the complex can be read in the layout of the facade panels
technical renovation such as lighting of reading room (ch 13)
Rectangular columns, also inside rounded corners (chpt 10)
All building layers being the same height (8)
Dynamic play of shed roofs and trusses (chpt 10)
Stability is achieved by the rigid cores of the stairwells and lift shafts (8)
new depots connects the old depot, precisely on the diagonal facade wall (ch 13)
Height and visual force of the construction (chpt 10)
The panels of the KB are powder-coated, whereby polyester powder is applied electrostatically and 'poly merised' in an oven
Only at the fastening points of the aluminium facade do thermal bridges occur, but because the number remains limited in relation to the facade surface, they hardly cause any problems.
floor load throughout the complex is identical. (8) (1000kg/m2)
The panels of the KB are powder-coated, whereby polyester powder is applied electrostatically and 'polymerised' in an oven


Relation between the exterior and interior design (chpt 10)
The inside facades are equipped with powder-coated aluminium parapet boxes with the same horizontal grooves as in the exterior facade panels (chpt 10)
At the windows, these boxes are finished with a brown colour, emphasizing the window rhythm within the interior (chpt 10)
In the westernmost void there is a lift shaft and a black steel landing staircase on either side of the footbridge (chpt 10)
Interior walls are fitted perpendicular to the facade to create a transition zone between inside and outside (chpt 10)
These boxes hide air treatment and heating systems (chpt 10)
An important characteristic of the 'raincoat' is that it is pulled around the building; rounding all the corners (9)
The eastern void is closed off by six separate skylights, also containing office spaces (chpt 10)
the construction of the facade also determines the architectural appearance
monochrome panel paintings by the Frisian artist Harmen Abma
Relationship between the inside and outside is given shape in the form of pyramid-shaped light hoods in the floor, to the underlying passage through the complex, and the ceiling. (chpt 10)
Institute wing: principle of the void is repeated (chpt 10)
unique architectural appearance (ch 14)
a monumental or imposing design to express the national identity in some way (13)


AESTHETICAL
ARTISTIC
NOTABLE
CONCEPTUAL
EVIDENTIAL
Modular measurement system in structure (but the actual distance between the columns is 7.05 meters in both directions)
a monumental facade and grand reading rooms with wall-to-wall bookcases (13)
Flexibility was also the starting point for the design of the KB (13)
The three buildings are urbanistically coordinated with each other (ch 14)
sculptural layout, beveled corners, recessed and protruding building parts or a stepped construction of the roof landscape with shed-shaped light domes (Ch. 15)
combination of vertical panels in alternating widths and in alternating primary colours (Harmen Abma)
Aluminium ceilings in an ochre-yellow, olive-like colour (chpt 10)
panels are provided with grooves and seams, which has created a lively facade image (Ch. 15)
Rectangular columns, also inside rounded corners (chpt 10)
Elongated corridors (chpt 10)
two large paintings by Armando -> entitled 'Gefechtsfeld', in which landscapes from the Second World War are depicted in grey, white and black tones.
there is an ensemble due to the mainly light tones in the three buildings(ch 14)
structural design is image-defining (Ch. 15)
Three-way division: interior, facade and balustrades around the voids(chpt 10)
For the void of the institute wing, Anke Engebe made four textile objects with the title 'Sun, moon and clouds'.
characterised by an asymmetrical sculptural design (13)
Building volume modesty (chpt 9)
Light colour facade (chpt 9)
Six wall-filling panel paintings -> reception Lit. museum (chpt 11)
Columns are painted the same colour as the original concrete (chpt 10)
Limited use of materials (chpt 10)
Limited use of different colours (chpt 10)
two large paintings by Raymond Pettibon either sides of stairs (chpt 11)
attention to the human scale in the design of the plinth (ch 14)
All interior facades are made of black aluminium (chpt 10)
The division into four 'quadrants' (8)
stepped construction, a sculptural design and the white colour (ch 14)
The golden letters on the book warehouse -> by Royal Eijsbouts (chpt 11)
Much floor area is covered with a grey-green natural stone (chpt 10)
Furniture is mostly light wood (chpt 10)
View of the inner garden of the Ministry of Foreign Affairs. (8)
the display objects in the underpass by Christa van Santen and the mirror wall in the former cloakroom by Jolanda Kooijmans (chpt 11)
Counters, bookcases and tables are finished with lacquered ash wood (chpt 10)
Tables are equipped with fixed lighting with white glass shades or white metal fixtures (chpt 10)
consistently implemented structural design, the translation of this into the architecture of the facades and the careful interior finishing (ch 14)
Artwork KB, golden line of 25 meters high with various free objects attached (chpt 11)
The bevelled sides are provided with meandering facades on the lower floors (8)
impressive half-timbered constructions form a dynamic play of space and light (Ch. 15)
Tubular frame chair and Thonet chair. Both have armrests and are made of clear lacquered beech (chpt 10)
Old entrance building: ceramic work 'Room' by Hans van Bentem (chpt 11)
KB and Literature Museum were given representative entrances(chpt 13)
unambiguous volumes with floors that can be flexibly divided (13)
Sober palette of materials and colours: calm, neutral working environment (chpt 10)
In the transverse corridor on the north side, the combined mural and assemblage 'King Size' by Woody van Amen (chpt 11)
identical ash wood round reading tables and the winding counters(chpt 13)
high void with skylights (8)
Hagoort wanted to keep the different panels recognisable and therefore opted for a visible, mechanical attachment.
painting 'Met papier het hoekje' by Jeroen Henneman in the transverse corridor north side (chpt 11)
a clear division of the complex and the internal structure is visible on the outer walls (9)
Coffee room employees: mural by Klaas Gubbels (chpt 11)
'Ik Jan Cremer' by Jan cremer on the 5th floor (chpt 11)
artwork '1968' by Marinus Boezem (chpt 11)

Reflection

Ava de Haan
5097665
Revitalizing Heritage
Mentors: Uta Pottgiesser , Emeline Lin & Paddy Tomesen

Introduction

The brief for the Spring 2025 graduation studio of Heritage & Architecture focuses on the redesign of the Koninklijke Bibliotheek (KB), the National Library of the Netherlands, located in The Hague. The current KB building, as we know it, was designed by architect Hagoort of OD205 and completed in 1982. It is notable for its distinctive architectural features, including the extensive use of aluminum cladding and rooflights, and spans an impressive 75,000 m2. However, the building is not officially listed as a heritage site. Besides the KB itself, the building also houses several other institutions, such as the Children's Library, the RKD (Netherlands Institute for Art History), and public spaces like cafés.

Originally designed to preserve the library's collection, the building's archives have become outdated. A new archive is being built off-site, offering a more compact, sustainable, and efficient solution. As a result, the physical collections are being moved, freeing up about one-third of the building's total floor area.

This significant vacancy has prompted a reconsideration of the KB's spatial and functional identity. Additionally, several other institutions previously housed in the building saw this redesign as an opportunity and have announced plans to relocate, further increasing the amount of unused space. This context presents the central design challenge for the studio: how to reimagine and adapt a purpose-built library to meet contemporary and future needs.

To inform the redesign, the group has conducted an in-depth analysis of the building, using a framework of values and attributes to explore its architectural, historical, and cultural significance. Alongside this, each student has pursued an individual research focus, developing specialized knowledge to support the overall understanding and future potential of the KB.

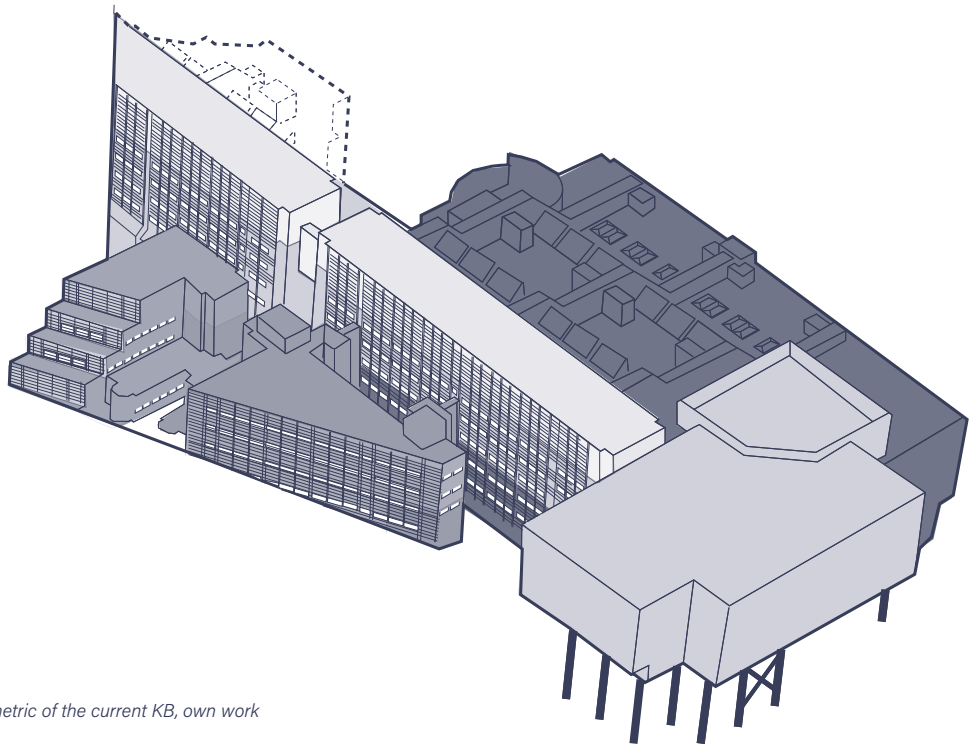


Figure 1: axonometric of the current KB, own work

Research summary
Like many libraries in the 21st century, the KB is redefining its role in a digitally-driven society where access to information is not tied to physical collections. With its archives being relocated to an off-site repository, a significant amount of space within the building has become available, prompting the question of reimagination the functions to be beyond the traditional book storage of national libraries or significantly decreasing the size of the building.

One response from libraries to this shift in programmatic definition has been the embrace of the sharing economy (Hernandez-Carrion and Chu 2019) a socio-economic system that emphasizes access over ownership, and the collaborative consumption of resources. Within this frame libraries are increasingly seen as institutions that provide for a social infrastructure, much like the previously mentioned digital platforms, that enables communities to connect users to resources. Especially since the traditional library system is essentially based on resource sharing (Hernandez-Carrion and Chu 2019). One of the forms in which this socio-economic could be expressed is in the form of makerspaces. Makerspaces are flexible, environments that support learning, creativity and innovation by making the means of production such as digital fabrication tools, workshops and group projects with like-minded people accessible to everyone.
This movement transforms libraries from passive knowledge archives to active knowledge creation spaces. For the National Library introducing such a program could mean a new engagement with its community and a broadened group of users.

The research explores how the integration of a makerspace, grounded in the principles of the sharing economy, could redefine the identity of the National Library of the Netherlands (KB) in response to a growing institutional challenge. The study evaluates how makerspaces can create social value, particularly in The Hague, a city with a history in socio-economic divides.
The main question within the research was;
How can Makerspaces contribute to the social mission of the Koninklijke Bibliotheek (KB), the National Library of the Netherlands? To answer this question, the research adopts a qualitative, comparative case study approach, structured around four perspectives: the current KB, the vision, the making, and the crossover. It combines literature review, a theoretical framework, personal interviews, and case study analysis to understand how makerspaces potentially could contribute to the social mission within the redesign of the National Library (Koninklijke Bibliotheek; the KB). The study is based on the value framework of Tarrafa Silva and Pereira Roders (2012) and the taxonomy of attributes by Veldpaus (2015), which collectively guide the identification of social values and their tangible or intangible representations. Furthermore, data was collected through interviews and document analysis for the context of the KB (the vision), and through comparative case studies of two Dutch libraries with established makerspaces (the making). These data sources are then cross-compared to explore potential and added values and potential attributes that a makerspace could bring to the KB (the crossover), with a specific focus on social aspects. A summarizing research design supporting this analysis are provided in figure x.
The outcome of the research presents a strong argument for how such a function could enhance the KB's role and relevance within both The Hague and the broader context of the Netherlands. Additionally, multiple attributes have been identified to support the development of a meaningful and functional expansion of the library's existing program.
This research used the values and attributes framework from Tarrafa Pereira da Silva and Pereira Roders (2012) to assess the KB and case study makerspaces. The KB analysis relies on expert documentation (Galema, 2017), introducing a professional bias, while site visits to makerspaces highlight tangible attributes and program-based intangible values and a personal bias.
A key limitation is the lack of diverse data sources, making findings largely subjective. However, due to the newness of makerspaces and limited documentation, this method was the most feasible. The study acknowledges the inherent subjectivity in assessing social values and suggests future research include broader user input to expand and validate the findings.

Relation to graduation studio

The research focusses on the vision of the KB in combination with its current values, showcasing where possible improvements could be made. The suggestion and hypothesis is that an active programmatic addition could re-activate the use of the KB and commit its relevance to its surrounding. The research is a direct result of a search as to what program would strengthen the current status of the KB and expand its horizons.

The Method

The strength of this research method lies in its analysis of the KB as it is. By examining the existing situation, it became possible to make a more accurate assessment of future design implications while considering the desired outcomes by the KB. As noted earlier, the identification of spatial attributes is influenced by personal experience and perspective, making the research subject to subjective interpretations. However, within design research, this subjectivity can be productive, as embracing open-ended insights often leads to more nuanced outcomes.

Overall, I believe the research accurately reflects my thinking process. When beginning this studio, I had not anticipated working with such a substantial amount of square meters. The research served as a starting point for defining what the building could accommodate and how these functions might relate to the library. Only later did it become clear that the scale of the building exceeds what can be defined within the parameters of this studio, ultimately leading to a third design strategy: the flexible floorplan, capable of housing a wide range of functions over time.

Transferability of the method

The research is tailored to the KB which makes it limited in its transferability. Useful conclusions are made within the identified attributes in the social values of the Makerspaces which make a tool for future implementations with the specific goal of improving social relevance of a specific space. In the field substantial research on the physical attributes of Makerspaces is still lacking to which this research could be an addition. The method used, to compare the values, the vision and the hypothesized solution with the values and attributes framework could be implemented for different typologies and a variety of goals and could open a new way of exploring possible programmatic changes in existing buildings.

Research to design

As shown in figure 3, the design process began from two points: the KB and its shifting program, resulting in a loss of spatial identity, a trend seen in many public and national libraries due mainly to digitalization and the broader societal challenges in The Hague. Bringing these issues together led to the initial design hypothesis that makerspaces could have a meaningful role in addressing both. The research therefore cross-examined the KB and makerspaces to assess their compatibility. Just before P2, this exploration began to translate into design. The KB's social mission, combined with its layered system for public functions, was expanded into a layered approach for integrating maker-oriented activities. Makerspaces became a central element of the early design proposal.

Reflecting on the process, the research initially grew from the need to expand the program. I had assumed the redesign would focus solely on the

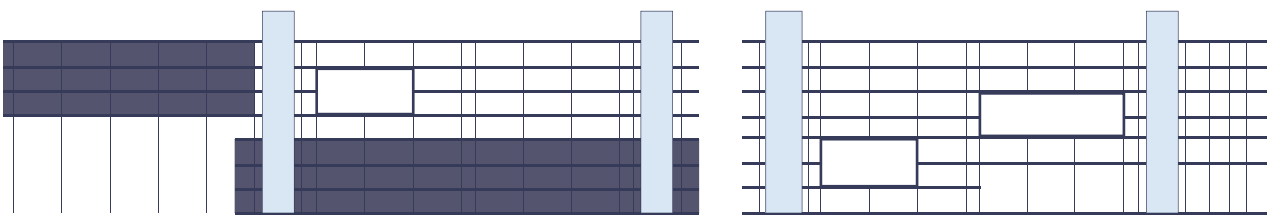


Figure 2: Design concept diagram, own work

library, but the assignment turned out to involve far more square meters than the library alone could occupy. This required identifying additional, related functions and eventually led to the development of three complementary strategies as can be seen in appendix A: the renewed library, a workshop zone centered on making and learning, and a flexible area capable of hosting future, yet-undefined uses.

This final strategy aims to prepare the building for long-term use, ensuring it can evolve without repeating the problem of an oversized, underdefined program. As a result, the layered system first proposed in the KB's public spaces is now carried through the entire building: beginning with the library, extending into the makers' zone, and transitioning into a flexible layer where the plan becomes progressively less fixed and more open to change.approaches of usage.

Scope & value

Because this is a heritage studio, the outcomes of the research and the design are inevitably specific to the context of the KB's redesign. However, as noted earlier, the method developed for renewing the program has the potential to be applied to a wide range of projects involving existing buildings. The research simultaneously highlights broader trends within contemporary library architecture and introduces a different mindset—one that uses principles from the sharing economy as a starting point for making programmatic decisions.
From a design perspective, the project reflects several societal values. By creating spaces that serve the surrounding community not only for academic and educational purposes but also for making and creative activities, the design attracts a new audience to the KB. In doing so, it may help form a bridge between different groups of inhabitants in The Hague, as mentioned in the introduction. The flexible layer further demonstrates potential by enabling the reuse of otherwise highly specific spatial configurations, offering a framework that supports long-term adaptability within the existing building shell.

Personal take away

What are the key takeaways from this project?
One of the most valuable lessons I have learned from this assignment is the importance of letting go of some design ideas and "all" of the implications I initially imagined. Normally, during a design process, I tend to dive into every detail and work out as much as possible. Working on a project of this scale forced me to confront the reality that not every concept, detail, or personal favorite can survive this particular process. This experience has been both challenging and enlightening, teaching me that prioritization and strategic thinking are essential when dealing with complex, bigger-scale

Figure 3: Research to design diagram, own work

design problems.
Through this project, I learned to approach design not just as a process of creating forms or spaces, but as a layered strategy that responds to multiple, sometimes conflicting, programmatic needs. I realized that tackling the bigger, overarching problems first, such as how to activate a massive sbuilding, balance flexible and fixed solutions, and connect different user groups provides for a stronger foundation for the more detailed design work. This way, smaller design decisions are no longer isolated but informed by an overarching approach to the entire buildings needs.
Reflecting on my process, I also recognize how this project challenged my assumptions about control and certainty in design. I had to accept ambiguity, adapt when unexpected constraints appeared, and be willing to pivot my strategies based on new insights from research or feedback. In doing so, I tried to develop a more flexible mindset.

How has this project reshaped my understanding of what it means to work with heritage?
This project has taught me to think about heritage in a different way. Initially, I approached the studio with the fear that heritage design meant being restricted, that changing too much of the existing structure would undermine its value. However, as the project unfolded, I realized two things: first, this building already faces criticism, so thoughtful transformation is not only acceptable but welcome; and second, that "dreaming big" is precisely what a heritage building like this needs in order to be preserved, whether in part or through its character.

One of the major lessons I take from this experience is that heritage design can take many forms. Sometimes it involves careful preservation, but in other cases it requires a kind of architectural imagination; perhaps even a bold, speculative approach to safeguard places that are currently underappreciated. This project also taught me that every building holds value, even if that value resides primarily in its structure or spatial potential.

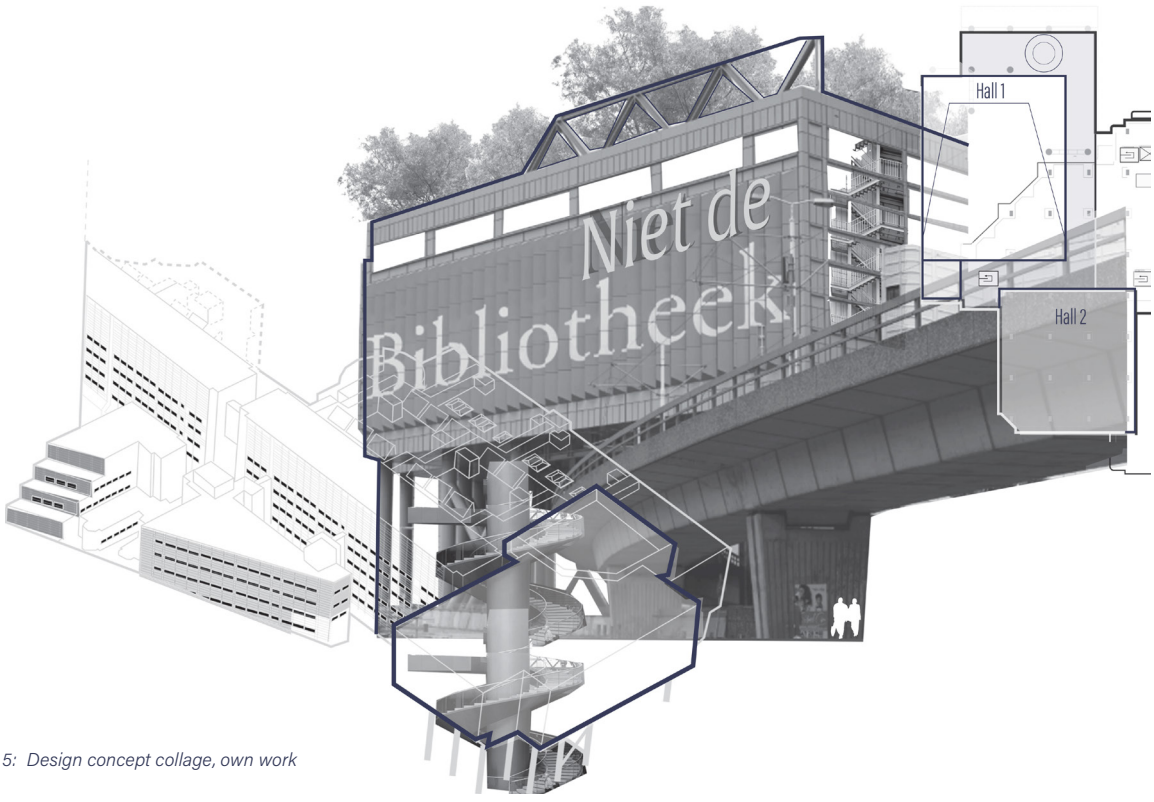


Figure 5: Design concept collage, own work

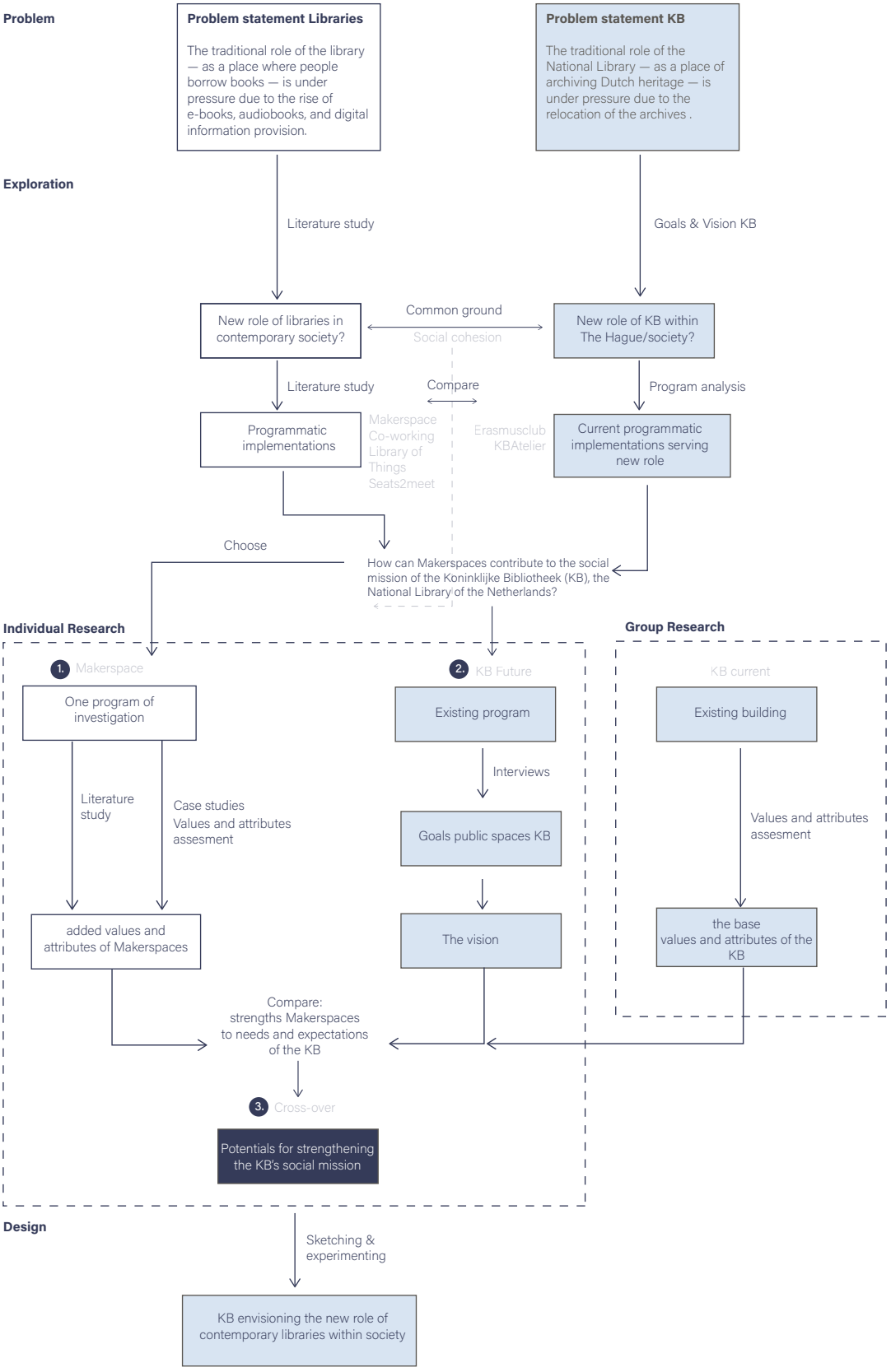
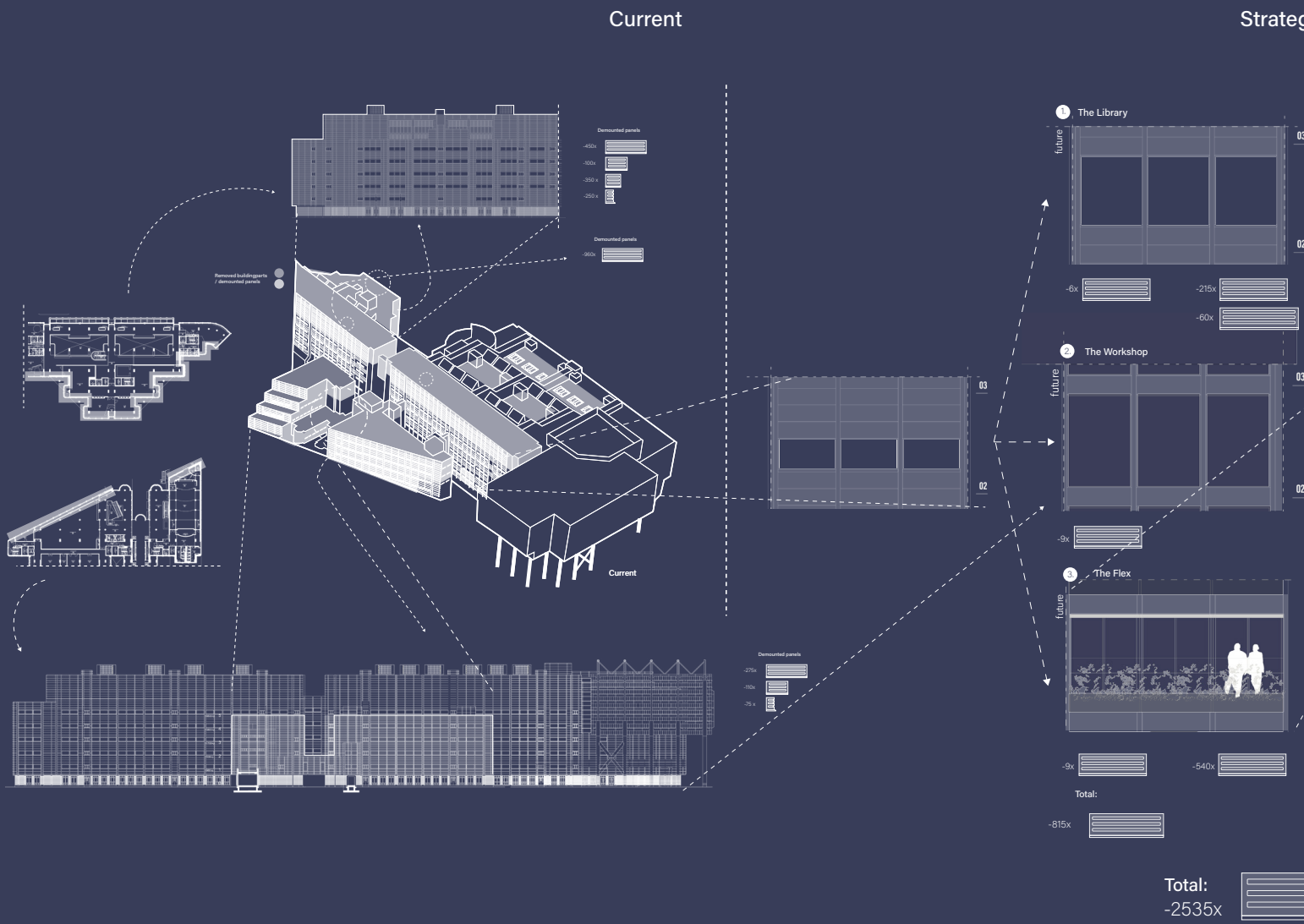


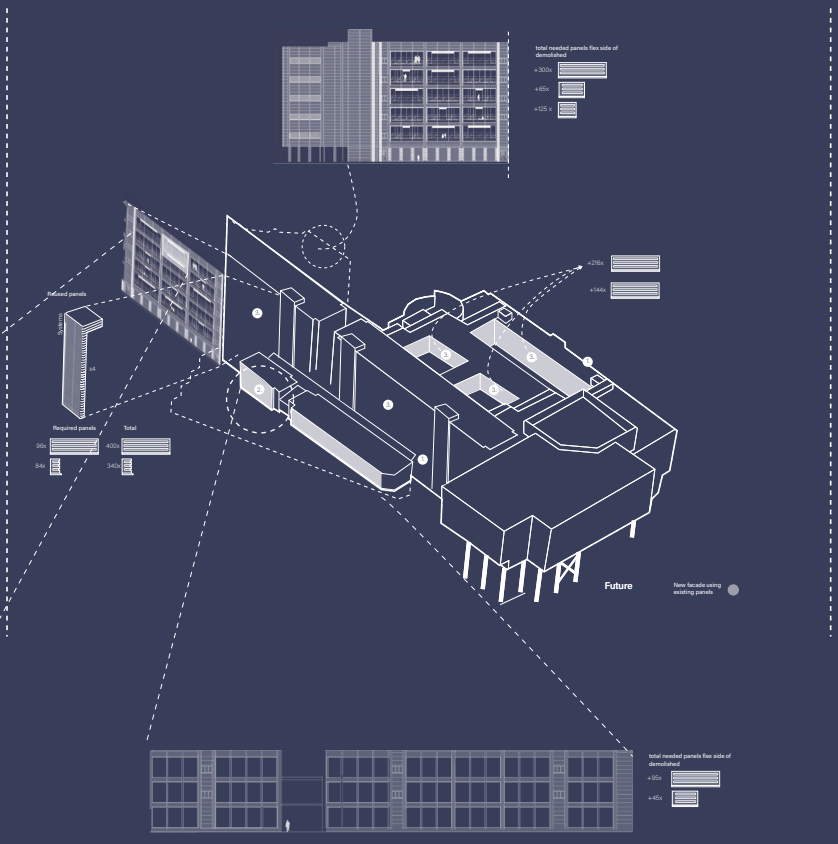
Figure 6: Research design, own work

Appendix A


Current
Strateg
Demounted panels
-450x
-100x
-350 x
-250 x
Demounted panels
-960x
Removed buildingparts
/ demounted panels
Current
03
02
Demounted panels
-275x
-110x
-75 x
1 The Library
future
-6x
-215x
-60x
2 The Workshop
future
-9x
3 The Flex
future
-9x
-540x
Total:
-815x
Total:
-2535x

gies

Future



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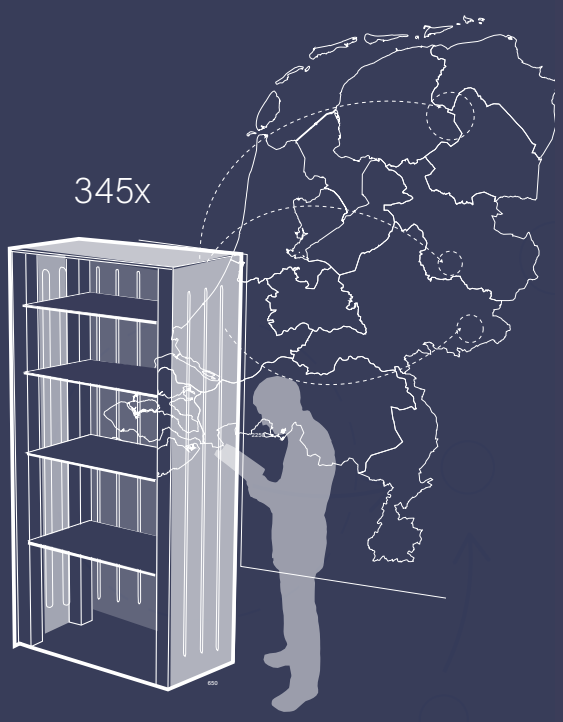

Total:
3 a 4x

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