Protection of cultural heritage 22 (2024)
10.35784/odk.2965

PROTECTION OF CULTURAL HERITAGE

# BUILT HERITAGE MEETS INCLUSIVE DESIGN IDENTIFYING CHALLENGES AND STRATEGIES THROUGH A MULTIPLE CASE STUDY ENQUIRY

VAN DE BEMDT Lene [1] HEYLIGHEN Ann [2] EISAZADEH Negin [3]

[1] Lene Van de Bemdt, DG | architecten
[2] Ann Heylighen, KU Leuven, Department of Architecture, Research[x]Design
https://orcid.org/0000-0001-6811-3464
[3] Negin Eisazadeh, Université de Liège, Faculté d'Architecture, Art, Archaeology and Heritage Research Unit (UR-AAP); DIVA

**ABSTRACT:** Inclusive design aims to accommodate as many people as possible by considering the diversity of human abilities and conditions during design. This raises challenges in relation to built heritage: proposals to make a building more inclusive may encounter objections from conservation authorities. Our research aims to (1) explore these tensions between the conservation of built heritage and the ambition to make the built environment more inclusive and (2) identify strategies that allow addressing them.

Based on existing research, we first examined how the domains of inclusive design and built heritage conservation are related, where they conflict and strengthen each other, as well as how researchers with different backgrounds suggest to address them.

Second, we studied six building projects where built heritage and inclusive design meet, all located in Flanders. Due to the coronavirus pandemic, we relied mainly on desk research. We identified challenges, tensions and issues that came forward in the development of these projects as well as strategies adopted to address them.

Two case studies illustrate how built heritage can be an asset to provide high-quality care. The four remaining cases illustrate how KU Leuven university deals with the challenge of rendering its rich historic building patrimony more inclusive.

Confronting the six cases makes clear that built heritage can be made more inclusive, and might even contribute to inclusive design, and that this involves a time consuming process with transdisciplinary input.

**KEY WORDS:** Built heritage, conservation, inclusive design

## 1. Introduction

Human abilities considerably differ, both across the population and within the course of one person's life. You can acquire a permanent or temporary injury from an accident like breaking an arm or leg; you could suffer from permanent or temporary hearing loss after a concert; carrying a baby means you can only use one arm; growing older may come with various ailments, limited mobility and/or a declining health status… So, whether or not you have an impairment, your mental and physical abilities will likely change over the course of your life. Inclusive design can be described as a design approach that aims to accommodate as many people as possible by being mindful of this human diversity[1].

Understanding disability as a consequence of mismatched interactions between a person and the surrounding environment rather than a personal attribute, makes clear that such design approach raises challenges in relation to the built environment. If the built environment is to reflect and contribute to an inclusive society, a major challenge lies in adjusting existing buildings to make them more inclusive. A considerable part of them have indeed been designed and built long before inclusive design approaches started gaining interest[2].

Additional challenges arise in relation to built heritage. Historic buildings may have heritage values that are important to protect and preserve for future generations. In practice, interventions in the historic fabric aiming to make a historic building or site more inclusive often bump into objections from heritage authorities. This may frustrate, discourage and confuse owners and managers of heritage sites and/or designers who are willing to contribute to a more inclusive built environment.

Thus, a tension seems to exist between the conservation of built heritage and the ambition to make the built environment more inclusive. The research we report on focuses on this tension and how it is addressed.

For instance, architects as spatial mediators have gathered experience in negotiating with different stakeholders and experts and mediating their different needs and advice in the design process. Examples of such stakeholders include clients with certain ambitions and a design brief, future users, local governments and their urban planning services, building contractors, safety advisors, civil engineers, accessibility advisors… When built heritage is concerned, heritage authorities are typically one of all those stakeholders with whom architects negotiate. In doing so, they might have developed strategies in order to overcome tensions between built heritage conservation and other stakeholders' interest. Besides architects/designers, other parties may have gathered experience and developed strategies in dealing with such tensions on their own account as well.

---

1 Heylighen A., Van der Linden V., Van Steenwinkel, I. (2017). Ten questions concerning inclusive design of the built environment. *Building and Environment* 114, (pp. 507–517). https://doi.org/10.1016/j.buildenv.2016.12.008

2 *Ibidem*.

In this connection, we set out to address the following research questions:

1) Which tensions, problems and challenges arise when making a historic environment more inclusive?

2) What strategies are adopted to address these tensions, problems and challenges?

## 2. Approach

In a first stage, exploratory research and literature review allowed delineating the existing context and frameworks of the areas of interest, namely inclusive design and built heritage conservation.

A second stage focused on analyzing six cases in two different settings, one focusing on projects that accommodate care in a built heritage context, and one on projects on a historic university campus, both based on an extensive document analysis.

On the one hand, two case studies illustrate the challenges when redesigning built heritage to accommodate a care program: matching the specific needs of such a program with the heritage values in a historic built environment is not a common design problem. The projects that are analyzed were designed by leading architecture firms in Flanders and Europe and reviewed by several renowned agencies, e.g. the Flemish Government Architect[3] team or the jury of an international architecture award, which testifies to their architectural quality. The available documentation on these cases includes design material and architectural presentation graphics, publications in (international) architecture magazines or books, texts written by the designers during or after the design process, and, in one case, academic literature. These case studies focus on how the design challenges were approached and what solutions the architects came up with.

On the other hand, four case studies in the context of the historic KU Leuven campus provide insight into the university's approach towards making its historic buildings more inclusive. KU Leuven has an ambitious policy towards accessibility[4]. The documents about these cases mainly consist of official communication between the university and built heritage authorities, and reports on meetings with these authorities. Analyzing these documents allowed identifying where the safeguarding of built heritage values and inclusive design interventions conflicted, which solutions were eventually chosen, and why.

The final stage of the research entailed a cross-case analysis and a confrontation of the findings with insights from the literature study. This revealed where literature supports and complements our findings , where they are contradictory, or where new findings may surface.

---

[3] The Flemish Government Architect (FGA) team aims to promote the architectural quality of the built environment. It advises public patrons in designing and realizing buildings, public space, landscape and infrastructure, and it stimulates the development of visions and reflection, with an emphasis on interdisciplinary and cross-sectoral initiatives.

[4] *Adviesraad toegankelijkheid.* (2019, September 12). Stad Leuven. https://www.leuven.be/adviesraad-toegankelijkheid; *Fysieke Toegankelijkheid.* (2019, November 8). KU Leuven, Diversiteitsbeleid. https://www.kuleuven.be/diversiteit/fysieke-toegankelijkheid

**3. Towards a more inclusive histroric enviromnent: a literature review**

Historic buildings were often constructed long before inclusive design approaches started gaining interest: designs were based on older design standards and architectural theories. As a result, interventions are often needed in order to adapt the buildings to contemporary standards, so that the building can be used and its conservation is ensured.

Interestingly, research suggests that some elements in historic buildings better suit the needs of diverse users than contemporary interventions[5]. Identifying where interventions are needed is thus an important step in making a historic built environment more inclusive. The major challenge, however, lies in balancing the needs of diverse users and the needs for the conservation of built heritage when they are in conflict[6].

Indeed, interventions aiming to make a historic building more inclusive may raise objections from built heritage authorities when these interventions are thought to compromise heritage values. The accessibility legislation in Flanders, for example, makes an exception for the accessibility of a historic building when the building is protected.

In this way, the accessibility of such a building becomes dependent on the professional judgement of the heritage expert, who has to weigh the interventions for inclusion and the heritage values. According to Foster (1997), conservationists may sometimes object to alterations because of 'moral and ethical issues', as alterations may affect the historic interest of the building or site adversely.

One could, however, consider interventions to make a building or site more inclusive as a new layer to the 'palimpsest', to pass on a message to future generations. This new layer would allow future generations to derive that our current society aspired to be more inclusive[7].

Solutions to do so are often proposed either by experts in built heritage conservation or by experts in inclusive design. The latter have identified relevant aspects of design approaches. Research suggests that political and financial support can be a successful motivator for addressing the need to render built heritage more inclusive[8]. The framework *Built Heritage for All*[9] delineates a strategy to develop a heritage-accessibility plan, focusing on the multidisciplinary input of experts in built heritage and accessibility. Research from these sources also highlights the

---

5 Heylighen A. (2012). Inclusive Built Heritage as a Matter of Concern: A Field Experiment, [in:] P. Langdon, P. J. Clarkson, P. Robinson, J. Lazar, A. Heylighen (Eds.), *Designing Inclusive Systems,* (pp. 207–216). Springer-Verlag.

6 Heylighen A., Van der Linden V., Van Steenwinkel, I. (2017). Ten questions concerning inclusive design of the built environment. *Building and Environment* 114, (pp. 507–517). https://doi.org/10.1016/j.buildenv.2016.12.008

7 Neyt E. (2008). *Erfgoed voor Iedereen.* KU Leuven.

8 Nilsen Ask L. (2015). Access to Cultural Heritage Sites for All. *EXARC Journal* 4.

9 *Ibidem*.

contributions of user/experts[10].

Built heritage experts tend to focus on specific solutions for creating a more inclusive built environment. They hardly address how to identify the needs of the envisaged users. Two types of solutions are proposed: management solutions rearrange use and organization, facilitating navigation and communication[11]; other solutions physically alter the historic fabric[12].

## 4. Creating a care environment in a historic context

### *De Korenbloem*

*De Korenbloem* is a residential care facility for older people based in Kortrijk since 1979. Its infrastructure is located near a historic park site with two villas: the nineteenth-century neoclassical *Villa Landhuis* (Fig. 1) and *Villa Portiek* (Fig. 2) built during the interbellum. The design task was to extend the villas with about ninety small residences for people with early-onset dementia and people who have had a stroke.

[10] "A user/expert can be anyone who has developed natural experience in dealing with the challenges of our built environment. User/experts include parents managing with toddlers, older people with changing vision or stamina, people of short stature, limited grasp or who use wheelchairs. These diverse people have developed strategies for coping with the barriers and hazards they encounter everyday." (Ostroff E. (1997). Mining Our Natural Resources: The User as Expert. *INNOVATION* 16(1)). See also: Heylighen A. (2012). Inclusive Built Heritage as a Matter of Concern: A Field Experiment, [in:] P. Langdon, P. J. Clarkson, P. Robinson, J. Lazar, A. Heylighen (Eds.), *Designing Inclusive Systems,* (pp. 207–216). Springer-Verlag; Heylighen A., Van der Linden V., Van Steenwinkel, I. (2017). Ten questions concerning inclusive design of the built environment. *Building and Environment* 114, (pp. 507–517). https://doi.org/10.1016/j.buildenv.2016.12.008; Neyt E. (2008). *Erfgoed voor Iedereen*. KU Leuven; Nilsen Ask L. (2015). Access to Cultural Heritage Sites for All. *EXARC Journal* 4.

[11] Van den Bossche H. (2012). *Onroerend erfgoed en toegankelijkheid. Streven naar een betere toegankelijkheid in het kader van de algemene ontsluiting van publiek toegankelijk onroerend erfgoed* (Vol. 3). Vlaams Instituut voor het Onroerend Erfgoed. https://oar.onroerenderfgoed.be/publicaties/VIOH/3/VIOH003-001.pdf

[12] Foster L. (1997). *Access to the historic environment: Meeting the needs of disabled people*. Donhead.

Fig. 1 Villa Landhuis

This project confronted the architects with several major design challenges. On the one hand, it required insight into the situation of people with early-onset dementia in order to develop a design for them specifically. How to introduce a feeling of home while ensuring that care can be provided efficiently? On the other hand, the villas on site needed to be conserved and restored, while their spatial organization did not allow  reusing them as residential care facility.

Fig. 2 Villa Portiek

Sergison Bates architects and Studio Thys Vermeulen proposed a network of little worlds, based on an ethnographic study about Mary, a woman with early-onset dementia[13], and a spatial concept of networks, based on the architects' design experience and architectural background[14]. While the ethnographic study offered insight into the experience of people living with early-onset dementia, the architects were able to translate the research findings to a spatial concept. Retrieving knowledge through scientific research findings can be considered as a strategy to identify the needs of future users of the site. The research findings' translation into a usable spatial

[13] Van Steenwinkel I., Van Audenhove C., Heylighen A. (2014). Mary's Little Worlds: Changing Person–Space Relationships When Living With Dementia. *Qualitative Health Research* 24(8), (pp. 1023–1032). https://doi.org/10.1177/1049732314542808

[14] Van der Linden V., Van Steenwinkel I., Dong H., Heylighen A. (2016). Designing "little worlds" in Walnut Park: How architects adopted an ethnographic case study on living with dementia, [in:] P. Lloyd, D. Bohemia (Eds.), *Proceedings of DRS2016: Design + Research + Society—Future-Focused Thinking* 8, (pp. 3199–3212)). https://doi.org/10.21606/drs.2016.418

concept is the merit of the architects, and using their professional experience and background can be considered as a second, complementary strategy. The resulting spatial concept is reflected in different aspects of the design proposal.

For example, the context of an urban care campus allows residents to appropriate their own little worlds on different scales: in an armchair in their own room or apartment, in the buildings' circulation spaces that were conceived as living rooms, in the collective spaces or on a bench outside in the large park environment.

The villas on site, listed as established built heritage, play a leading role in creating these little worlds. They deliver the model for 'hominess', which the architects translated spatially through an unambiguous design agenda. Similar principles were applied to the villas, nevertheless also resulting in new buildings with a strong identity linked to the villa they belong to. Their architectural skills enabled the architects to identify the qualities of the built heritage and link them to the findings from the case study.

The built heritage has yet another function. As a center for knowledge, for visitors, for the neighborhood, the historic buildings make the site accessible and bring other people in contact with the residents. Yet again, the residents' living environment is extended, through the presence of visitors on site.

One could thus say that the architects decided not to reuse the built heritage for the main purpose of providing residential care, but acknowledged its qualities and used these as a means to make the site more socially inclusive. The Flemish Government Architect team synthesized the project for De Korenbloem very accurately as *'built heritage and reconversion as carriers of care,'* referring to the role of the villas as built heritage in creating a feeling of 'hominess' by appreciating their qualities, and in using them as a means to draw other people to the site.

### *Karus*

In the project for Karus the ambition was to design 'the psychiatric center of the future'. This directly reflects the need for a higher-quality care environment, not only because the buildings on site were considered outdated, but also because it acknowledges that it is not clear what the psychiatric center of the future should look like. Therefore, identifying and addressing the needs of future users is considered as crucial, by Boie and Vandamme[15] as well as by the management of the center.

To identify these needs and ensure the design solution reflects and meets them, research collective BAVO initiated a working group with the current patients, staff, nurses, doctors and management. The adoption of a participatory design approach resonates with the indication that user/experts could bring valuable information to the design table. In this project, user/experts are involved in the design process, not only as a stakeholder or advisor with valuable information, but as co-designers, to ensure that their needs are understood correctly and met in the eventual design proposal[16].

---

15 Boie G., Vandamme F. (2016, August 1). Relationele architectuur. *A+261 [Re]politicize*, (pp. 51–55).

16 *Ibidem*.

Initiating a participatory design process raised unforeseen challenges, but offered opportunities as well. The working group quite soon revealed an appreciation for the historic buildings on site. While top-down financial incentives and management automatically assumed or indicated that the historic buildings should be demolished, the working group, triggered by the presence of the half-demolished building, argued to preserve it and integrate it in the future of the psychiatric center.

The proposal to preserve the historic building as a ruin and use it as a 'monumental outdoor space' presented an unprecedented design challenge, eventually addressed and spatially translated by architecten de vylder vinck taillieu. The architects chose to intervene cleverly and minimally, to only make spatial interventions where absolutely necessary. All interventions were made with a clear goal in mind. By stripping the building and removing anything that could rot and thus contaminate the building's structural integrity, the architects ensured its safety and conservation. Where necessary, reparations were made in contrasting materials and remind of scars. The architects added a new porch mirroring the existing one on the front, creating a 360° view from inside and improving accessibility; a concrete tribune connecting the ground floor with the basement; and glass houses inside the building, offering protected and safe spaces.

While the historic building is not really inclusive in the sense of being useable by all people, its use as a monumental outdoor space in the context of a psychiatric center promotes social inclusion. The building contributes to removing stigma about psychiatric patients by drawing visitors to the site.

The renewed building raised awareness of the qualities of other buildings on site as well. Boie and Vandamme[17] mention the perception that the open floor plan of the historic pavilions makes them easy to rearrange. Pavilions from the end of the twentieth century, by contrast, are characterized by endless and dead-ending corridors, offering less possibilities for adaptive reuse.

## 5. Creating an inclusive historic university campus

Pauscollege | Pope Adrian VI College

KU Leuven aims to value its historic built patrimony, of which *Pauscollege* (Fig. 3) is one of the oldest and most valuable buildings. The building was in need of restoration and adaptation to contemporary standards. At the same time, the university aims to provide an inclusive environment, accommodating the needs of its diverse students, staff and visitors.

[17] Boie G., Vandamme F. (2015, March 1). De toekomst is aan het zorgerfgoed? *Psyche* 27(1), (pp. 20–21).

Fig. 3 Pope Adrian VI college, courtyard (© Vandevorst 2004)

The proposal to restore and renovate Pauscollege was developed after a long process of identifying the needs regarding inclusive design and built heritage conservation, in accordance with the framework *Built Heritage for All*[18].

One aspect of the research was a building audit by students in architecture and five user/experts with varying impairments, including two with a vision impairment, two with a mobility impairment and one autistic person (Fig. 4 and Fig. 5).

Fig. 4 A wheelchair user can not use the strip in natural stone as a comfort strip as it is too narrow (© Deraeve aand Janssens)

Fig. 5 A blind person uses the strip in natural stone as a guideline (© Van Bokstal)

[18] Neyt E. (2008). *Erfgoed voor Iedereen.* KU Leuven.

This building audit revealed an overall problem related to the circulation in the building. For example, several user/experts experience difficulties with the pavement in the courtyard. This makes it hard to reach the entrances for wheelchair users and a blind person. Additionally, the elevators are not suited to accommodate the needs of wheelchair users and vision impaired people, since the doors are too narrow and the control panel is hard to find and manipulate. Another aspect the building audit revealed, is that the corridors lack daylight, which makes it difficult for people with a vision impairment to find the doors painted in a similar color as the wall. User/experts also point out the poor acoustic qualities in the corridors. However, the building audit revealed some qualities as well. While the person with autism experienced many spaces as unpleasant, he did express an appreciation for spaces with a distinct historic character. He also appreciated the atmosphere in the courtyard, claiming that it is much quieter than the city you leave behind when you walk through the gates of *Pauscollege*.

On the other hand, several historic studies conducted by architects, architecture historians and art historians identified, described and assessed the heritage values of the site in its current state.

Based on the information gained from these sources, A2D architecture 2 design and Barbara Van der Wee architects, cooperated to make a design proposal. This design proposal was evaluated on aspects of accessibility by the Advisory Board on Accessibility of Leuven[19], which consists of user/experts. They made suggestions regarding the architects' proposal for the building's accessibility, pointing out which entrances should be accessible, as well as advising against using an outdoor platform lift because they feared it would be unreliable.

### *Zwartzusterklooster | Convent of the Black Sisters*

The Zwartzusterklooster (Fig. 4) in Leuven was founded in 1438. Initially, the convent was only a hut made of mud and a thatched roof. However, the convent soon grew with the building of a chapel, a cloister, a hospital and a plague house. At the end of the 17th century, a new baroque church was built with next to it a new cloister wing. In the 19th century, the convent was reused as an institution for so-called 'mentally deranged' women, and the existing buildings were adapted to accommodate their new function. At the end of the 1980's, KU Leuven bought the former convent, which is since then reused as a student residence. The building also houses the KU Leuven Green Office[20].

[19] The Advisory Board on Accessibility of Leuven consists of user/experts, relatives of and representatives of organizations for disabled people. The advisory board supports the city to make its buildings and public spaces more inclusive.

[20] KU Leuven, Directie Technische Diensten. (2017). *Beheersplan: Complex omvattende het zwartzusterklooster.* KU Leuven.

Fig. 6 Historic drawing of Zwartzusterklooster (N.N., before 1861)

The *Zwartzusterklooster* project includes the conservation and restoration of the historic buildings plus the construction of a new volume on the north side of the convent. By being enclosed by a new volume, the courtyard is supposed to be better perceived as a convent. One of the secondary aims is to make the site more accessible. The design proposal aims to do so by making the ground floors accessible, which requires a careful approach towards the exterior environment, i.e. the courtyard.

Unlike in the project for the *Pauscollege*, so far, no user/experts were involved in the project for the *Zwartzusterklooster*. However, conflicts between the conservation of heritage values and accessibility needs can be traced in reports on several meetings between the university's technical services and the built heritage experts.

As illustrated by these reports, the choice for concrete pavers raised objections from the built heritage expert, who preferred a pavement with a more historic look, and offered financial support to do so. The technical services of the university, however, did not accept this alternative and were able to reject it with several arguments, substantiated by (historic) research. In the end, a compromise was found.

This discussion between KU Leuven – the building client – and the built heritage expert illustrates that conflicting interests can be reconciled by taking time for research and engaging in an intense dialogue.

### *Groot Begijnhof / Grand Beguinage*

The case of the Groot Begijnhof clearly illustrates a tension between preserving heritage values of an authentic material (cobblestones), and facilitating integral accessibility (see Fig. 5). The heritage status of the beguinage, which is listed as protected built heritage and UNESCO World Heritage, does not allow far-reaching interventions. Yet, in order to make the site more accessible and easy to navigate (not only for people with an impairment but for everyone), far-reaching interventions in the pavement  is exactly what was needed.

Fig. 7 A man with a walker has difficulties navigating the cobbled streets of Groot Begijnhof (©Van de Bemdt, 2021)

To find a surface that is easy to navigate without compromising the materials' authenticity and detracting from the *Groot Begijnhof'* heritage values, different possible solutions were tested in consultation with several representatives for the building client (KU Leuven technical services), a built heritage expert (Built Heritage Agency of Flanders) and a user/expert (Working Group on Physical Accessibility of KU Leuven).

The contribution of each of the different parties is remarkable. For instance, the built heritage expert brought on the idea to work with test surfaces, which would allow built heritage authorities to evaluate techniques for the repavement by testing and assessing them beforehand. Involving a user/expert in the evaluation made it possible to guarantee a satisfying solution regarding accessibility. Lastly, the expertise and experience of the building contractor facilitated experimenting with different joint filing materials, which have a great influence on how even (and thus how accessible and comfortable) a surface is. This cooperation resulted in a solution that required compromises on both sides, but was nevertheless satisfying for both the built heritage expert and the wheelchair user.

### *Arenberg Campus Library*

The former Celestine priory in Heverlee was converted into the new library for the Science and Technology campus by Rafael Moneo in 2002 (Fig. 8)[21] (Geschiedenis, 2018). In 2019, the university made alterations to the pavement of the entrance area in order to make the building easier to reach.

The main challenge in this case concerns the materials used in the entrance area in front of the library. The area is paved in cobblestones and does not facilitate integral accessibility. For instance, wheelchair users cannot navigate cobblestones with low physical effort.

Authenticity is once again an important concept in relation to the approach to make inclusive interventions on a historic site. The technical services argued that the original pavement of cobblestones dated only from 2002, which facilitated obtaining permission to make changes since they are not authentic.

Furthermore, the presented solution was cleverly integrated in the existing landscape of the circular plant bed in front of the library entrance (Fig. 9). Attention to match the color of the clay bricks with that of the existing pavement in cobblestones also contributes to creating a visually coherent whole. This solution was developed in consultation with the Advisory Board on Accessibility of Leuven, thereby including user/experts in the decision making to ensure a satisfying result for more users.

[21] *Geschiedenis*. (2018, June 22). KU Leuven bibliotheken. https://bib.kuleuven.be/2bergen/cba/over/geschiedenis

Fig. 8 Aerial view of campus library Arenberg (© Malagamba 2002)

Fig. 9 Detail of the connection between the cobblestone pavement, comfort zone and central plant bed after the interventions. The right side of the new comfort zone is marked with a guiding line of brick pavers with a contrasting, lighter color. On the left, the edge of the path is marked with a roll layer in cobblestones. (© Van de Bemdt 2020)

## 6. Discussion

### *Challenges*

#### *1. Functional mismatches*

In the case of adaptive reuse, built heritage conservation policy demands that a building's function does not exceed its capacities. Rather than being adapted to suit a new function, the building itself can thus determine whether or not a new function is suitable. So, care functions in historic buildings tend to raise objections from built heritage authorities because such functions often require thorough interventions.

On the other hand, the care sector is not always keen on implementing such interventions as it may not recognize the potential opportunities of historic or heritage buildings. This came forward in the cases of *De Korenbloem* and *Karus*, where both initially planned to demolish the historic buildings.

Thus, as illustrated, it can be very difficult to adapt a historic building with respect for its heritage values and at the same time accommodate a high-quality residential care function.

#### *2. Authenticity*

Our analysis illustrates that authenticity of materials often complicates interventions towards accessibility. In three cases – *Pauscollege*, *Zwartzusterklooster* and *Groot Begijnhof* – cobblestones are considered as an important aspect of the heritage site. However, they are not convenient, especially for wheelchair users or people with other impairments.

#### *3. Financial support*

As the case of *Zwartzusterklooster* illustrates, financial support can be a major factor to invest in making the historic buildings inclusive or not.

Furthermore, for *Karus*, building anew turned out to be better supported by care authorities than thoroughly renovating the existing building. Additionally, the financial support for care infrastructure is granted per bed, often resulting in the so-called institutional 'bedhouse'. As mentioned before, historic buildings are often not fit to be used as a residence in a care environment. So, once more, integrating built heritage in a care environment is financially discouraged.

### *Strategies*

#### *1. Bottom-up and top-down*

In Flanders, both built heritage conservation and accessibility are regulated top down through spatial planning regulation. Without this regulation, many historic buildings would not be conserved and many public buildings would never be made accessible. In the case of De *Korenbloem*, the management wanted to replace the historic villas with a new structure but was not allowed to do so when the villas were listed as protected built heritage.

However, to determine which functions heritage buildings can accommodate, or which interventions are most suitable to make them accessible, a bottom-up strategy seems inevitable and preferable. Inevitable, as there is no clear and detailed legal framework regarding inclusive design, let alone inclusive design of the historic built environment; preferable, as the cases illustrate that users might deliver valuable contributions. In the case of *Karus*, consulting the users even led to the conservation of more buildings than planned. Furthermore, as illustrated, the policy of KU Leuven goes beyond the legal framework.

*2. Transdisciplinary input*

The challenges faced with when creating an inclusive historic environment, are very complex. Therefore, it is preferable to unite knowledge, insights and skills of experts in various disciplines. Architects and building clients are always involved in a project, but their insights and ideas are enhanced by consulting built heritage experts, accessibility advisors, and as in *Groot Begijnhof*, building contractors. An invaluable contribution across the cases we studied came from user/experts. They assured that the needs of the intended users will be met.

*3. Taking time*

Obviously, selecting and contacting experts and agencies takes time, gathering and processing their input even more. First, it takes time to identify the needs. Second, those needs should be balanced. Based on these considerations, different solutions should be proposed, tested and evaluated by the different stakeholders.

Furthermore, as illustrated in *Zwartzusterklooster*, valuable solutions might be rejected by one of the parties for invalid reasons. Taking time for research turned out to be useful to make a strong argument about why the proposed intervention was nevertheless acceptable.

***Opportunities***

*1. Historic buildings as incubators for inclusion*

The projects for *De Korenbloem* and *Karus* both started from the assumption that historic buildings were not suited to accommodate contemporary care, as the building clients thought in terms of 'bedhouses'. Gradually, they realized that these buildings could be used to organize non-residential care functions.

Using built heritage as a more public part of the care environment invites people who are unfamiliar with the residents or patients to pay a visit. Facilitating social inclusion this way may contribute to reducing and avoiding stigmatization of residents and patients.

*2. Built heritage as a means to improve mental well-being*

A careful conservation, restoration or renovation can reveal and enhance the existing quality of a heritage site. In the case of *De Korenbloem*, for example, the architects associate the villas' rich interiors and spatial organization of with the feeling of 'hominess' they want to introduce, with the aim to contribute to mental well-being. The resulting environment has not yet been evaluated by users, however. Nevertheless, the building audit of *Pauscollege* suggests that the way a historic environment is preserved effectively influences how users perceive it.

## 7. Conclusion

Interventions to make the historic built environment more inclusive may raise objections from built heritage authorities when they interfere with safeguarding heritage values. Through a multiple case study enquiry, we have attempted to identify the tensions and challenges related to this aim, as well as strategies to overcome them. A first challenge may be a functional mismatch between the historic site and the desired functions. Secondly, authenticity of materials may complicate interventions towards accessibility and inclusion. A third challenge relates to financial support for interventions in historic sites, either encouraging or discouraging inclusive interventions. Both in literature and in the case studies, consulting various experts, including built heritage experts and user/experts, is suggested as a valuable contribution towards identifying the needs for built heritage conservation and inclusive design. Evidently, elaborate research takes time, but has been proven necessary by the cases we studied. Additionally, the cases also illustrate some unforeseen opportunities: built heritage can be made more inclusive, and might even improve the quality of inclusive design. This requires a time consuming process with transdisciplinary input.

The challenges, strategies and opportunities we identified may not correspond with the experience of the users of the resulting environments. Future research is necessary to determine to what extent the findings from our documentation-oriented research correspond with users' experiences. In doing so, additional challenges and strategies may come forward.

## 8. Acknowledgements

The authors would like to thank the technical services of KU Leuven for providing the documentation on the cases studied and discussed in this research.

**Bibliography**

*Adviesraad toegankelijkheid*. (2019, September 12). Stad Leuven. https://www.leuven.be/adviesraad-toegankelijkheid

Boie G., Vandamme F. (2015, March 1). De toekomst is aan het zorgerfgoed? *Psyche* 27(1), (pp. 20–21).

Boie G., Vandamme F. (2016, August 1). Relationele architectuur. *A+261 [Re]politicize*, (pp. 51–55).

Foster L. (1997). *Access to the historic environment: Meeting the needs of disabled people*. Donhead.

*Fysieke Toegankelijkheid*. (2019, November 8). KU Leuven, Diversiteitsbeleid. https://www.kuleuven.be/diversiteit/fysieke-toegankelijkheid

*Geschiedenis*. (2018, June 22). KU Leuven bibliotheken. https://bib.kuleuven.be/2bergen/cba/over/geschiedenis

Heylighen A. (2012). Inclusive Built Heritage as a Matter of Concern: A Field Experiment, [in:] P. Langdon, P. J. Clarkson, P. Robinson, J. Lazar, A. Heylighen (Eds.), *Designing Inclusive Systems* (pp. 207–216). Springer-Verlag.

Heylighen A., Van der Linden V., Van Steenwinkel I. (2017). Ten questions concerning inclusive design of the built environment. *Building and Environment* 114, (pp. 507–517). https://doi.org/10.1016/j.buildenv.2016.12.008

KU Leuven, Directie Technische Diensten. (2017). *Beheersplan: Complex omvattende het zwartzusterklooster.* KU Leuven.

Neyt E. (2008). *Erfgoed voor Iedereen*. KU Leuven.

Nilsen Ask L. (2015). Access to Cultural Heritage Sites for All. *EXARC Journal*, 4.

Ostroff E. (1997). Mining Our Natural Resources: The User as Expert. *INNOVATION* 16(1).

Besluit van de Vlaamse Regering tot vaststelling van een gewestelijke stedenbouwkundige verordening betreffende toegankelijkheid, (2009). https://www.toegankelijkgebouw.be/Regelgeving/Integraletekst/tabid/72/Default.aspx

Van den Bossche H. (2012). *Onroerend erfgoed en toegankelijkheid. Streven naar een betere toegankelijkheid in het kader van de algemene ontsluiting van publiek toegankelijk onroerend erfgoed* (Vol. 3). Vlaams Instituut voor het Onroerend Erfgoed. https://oar.onroerenderfgoed.be/publicaties/VIOH/3/VIOH003-001.pdf

Van der Linden V., Van Steenwinkel I., Dong H., Heylighen A. (2016). Designing "little worlds" in Walnut Park: How architects adopted an ethnographic case study on living with dementia, [in:] P. Lloyd, D. Bohemia (Eds.), *Proceedings of DRS2016: Design + Research + Society—Future-Focused Thinking* 8, (pp. 3199–3212). https://doi.org/10.21606/drs.2016.418

Van Steenwinkel I., Van Audenhove C., Heylighen A. (2014). Mary's Little Worlds: Changing Person–Space Relationships When Living With Dementia. *Qualitative Health Research* 24(8), (pp. 1023–1032). https://doi.org/10.1177/1049732314542808