Reflection paper

Connect the community again!

Participation as a tool for the redesign of vacant heritage

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1. Relationship between the Graduation Project, the Studio Topic, the Master Track (Architecture), and the Master Programme

My graduation project deals with Politiebureau Groningen Centrum on the vacant heritage topic addressed in Heritage & Architecture (HA) graduation studio. In the Netherlands, nearly 30% of police buildings are becoming vacant due to an organisational change within the Dutch police in 2013 (WEESSIES, 2017). This year, in collaboration with MBE and the Atelier Politie Bouwmeester, HA explores the redevelopment solutions for ten given buildings out of police vacant heritages within the Netherlands. These vacant buildings may have various heritage values and chances to boost more values through research and design. My graduation project focuses on Politiebureau Groningen Centrum as one of the case studies.

The case building has been used in the Groningen inner city for 51 years. Its blue and white colour, rich materials, elements, and compositions make its facades stand out from its surroundings. I was curious about how such appearance impacts the community and how the community can help transform the isolated police station into inclusive mixed programs. Therefore, my graduation project investigates how locals can participate in the redesign, trying to answer the above questions. The topic connects to Touch & Feel (T&F) studio line. Touch & Feel focuses on materiality being valued and perceived by different stakeholders and its role in the redesign (*Studio Text*, 2021). The project investigates the facades' associations with locals and the social values of their materiality. The project develops a participatory design approach that helps involve locals as essential stakeholders in redesigning the facades. Locals' thoughts and perceptions about the façade scenarios can be transparently delivered through the participatory approach, revealing what they value most and helping shape a community-rooted building. In this sense, the attributes identified and the approach explored in my project contribute to T&F.

The project also focuses on sustainability in line with the MSc program on "innovative ways to create more sustainable development." My graduation project touches upon sustainability from various angles. Firstly, the project makes use of the existing building, the structure and the space, and applies them to future functions. Secondly, the project explores building materials and technologies in terms of decarbonisation, modularity, reversibility, and flexibility. Thirdly, the project stresses the importance of social sustainability and uses participation to achieve it. Social sustainability refers to connections within the community and a sense of community among people, where participation is essential (Dempsey, Bramley, Power, & Brown, 2011). The project investigates how locals can actively participate and how the results can be transferred in the redesign to make a well-connected community.

2. Relationship between Research and Design

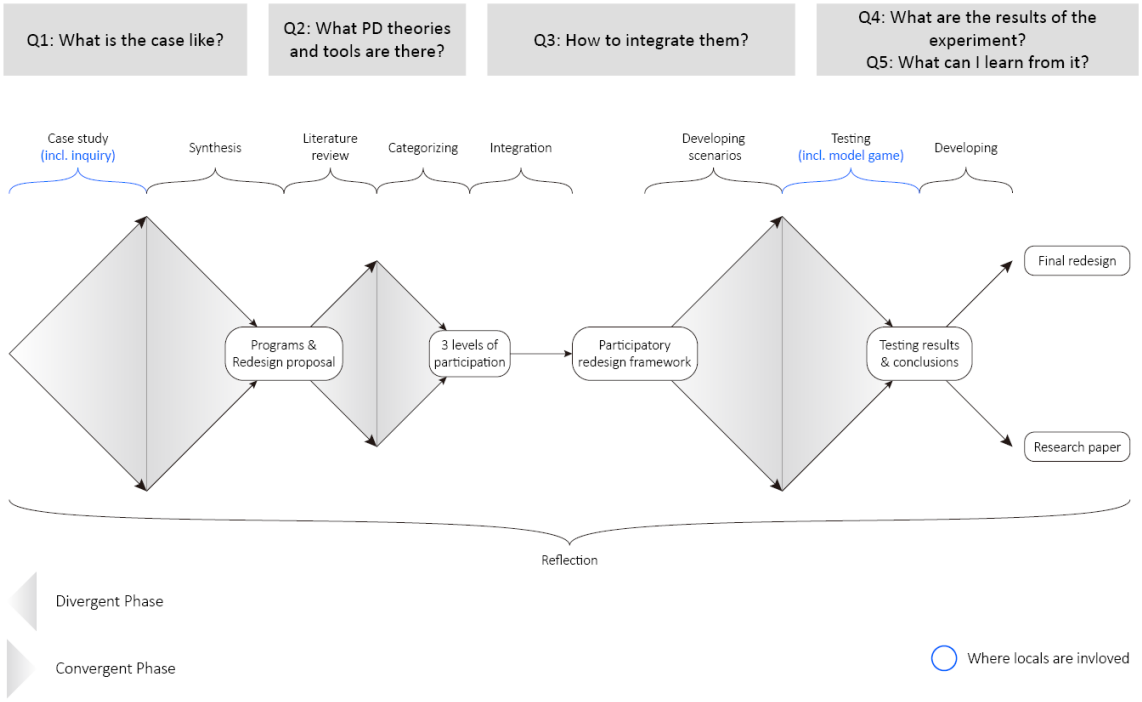

Figure 1 Research-design structure

In a complex process of research and design that involves multi-users, a series of divergent and convergent phases from inquiry to testing is suggested to ensure sufficient insights into the project (Rowe, 1987). In my graduation project, research and design are also structured similarly. As figure 1 shows, the research and design are intertwined in a linear process, consisting of several divergent and convergent phases, from the literature review toward the final design & research paper.

The literature review about participatory design (PD) provides fundamental design theories and tools inspiring the case study. The inquiry to locals about their perceptions, demands, and ideas serves as inputs for the redesign. Complemented by other analyses such as cityscape mapping, demographic analyses, and BT analyses, the function of the building is determined as mixed housing targeting the elderly, families, and couples. Based on all the inputs, design starting points are generated and integrated with three levels of participation (fig 2). The research on PD testing only focuses on the facades because the locals as participants are easy to reach for the façade testing. In the design testing, model games are invented for locals to play, through which their interpretation and preference about the redesign scenarios are figured out. These data are analysed and categorised into "perception & feeling," "spatial & function demand," and "aesthetic taste," with overall façade results from each participant.

The key findings are the common ground among participants. They have many shared preferences, though their reasons might differ. Such shared preferences indicate what they believe is valuable. For example, when the option was given to remove the bay windows, all the participants did not want that. The common ground directly lead to the final façade redesign

because they represent the scenarios with maximum social values. In other words, the redesigned façades would be positively perceived, interpreted and liked by locals. The rest of the site is redesigned accordingly to the facades to meet locals' spatial and functional demands discovered through participation. As a result, the new design would improve the surrounding atmosphere, connect inside-outside, provide needed functions, and attract locals, thus transforming the isolated building into a great joint in the community. The participatory process also builds up new connections between locals and the facades. Imagine, when the building was renovated based on the common ground, locals could feel their contribution and proud of it. They might share such stories with their families and friends. In this way, the site is activated and connects the community again, boosting social values.

It is critical to clarify my role as an architect throughout the whole approach. As figure 1 shows, before the locals played the façade model, I did an extensive façade scenario design based on various inputs. Specifically, from cognitive mapping, I locate some memorable façade characteristics like the entrance and horizontality of windows that make the building a landmark. I value some windows and the blue colour because they bring quietness and a sense of privacy to the surroundings. I also find negative aspects of the façade, such as the stones, shadings, and metal isolations. Based on these findings, there are three façadewise design starting points: keep the characteristics, keep the quietness and sense of privacy, and eliminate negative feelings. In the same way, I generated four buildingwise and citywise starting points by interviews and site analysis: closer to nature, related to possible functions, emphasising architectural rhythm, and responding to the urban fabric. Then I designed different scenarios to emphasise and prioritise those different starting points (Fig 3). The principles are to integrate as many starting points as possible into one scenario and to divide the façade into as few pieces as possible. In this way, the scenarios are already very highly efficient solutions, and the model game works efficiently.

Then locals are involved in playing the game and decide which scenario they value most. Based on the results/common ground, I, as an architect, integrate the chosen scenarios further to ensure they are not conflicting. For example, the common ground shows that both the horizontal bay element and the passage are valued, so I found an architectural solution to make a passage while not disrupting the horizontality on the first floor. I also take technical aspects into account through all phases. For example, how to strip the colour, add bricks, extend balconies, add greenery, etc. As a professional, I need to integrate all the aspects to make a decent design out of the research findings.

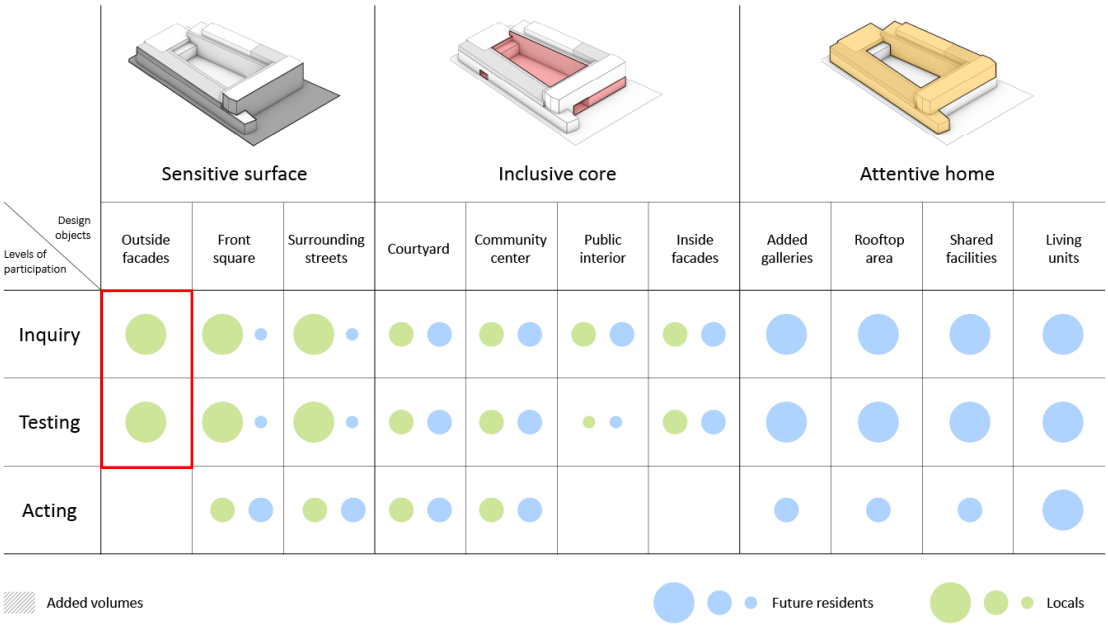

Figure 2 Participatory redesign schemes

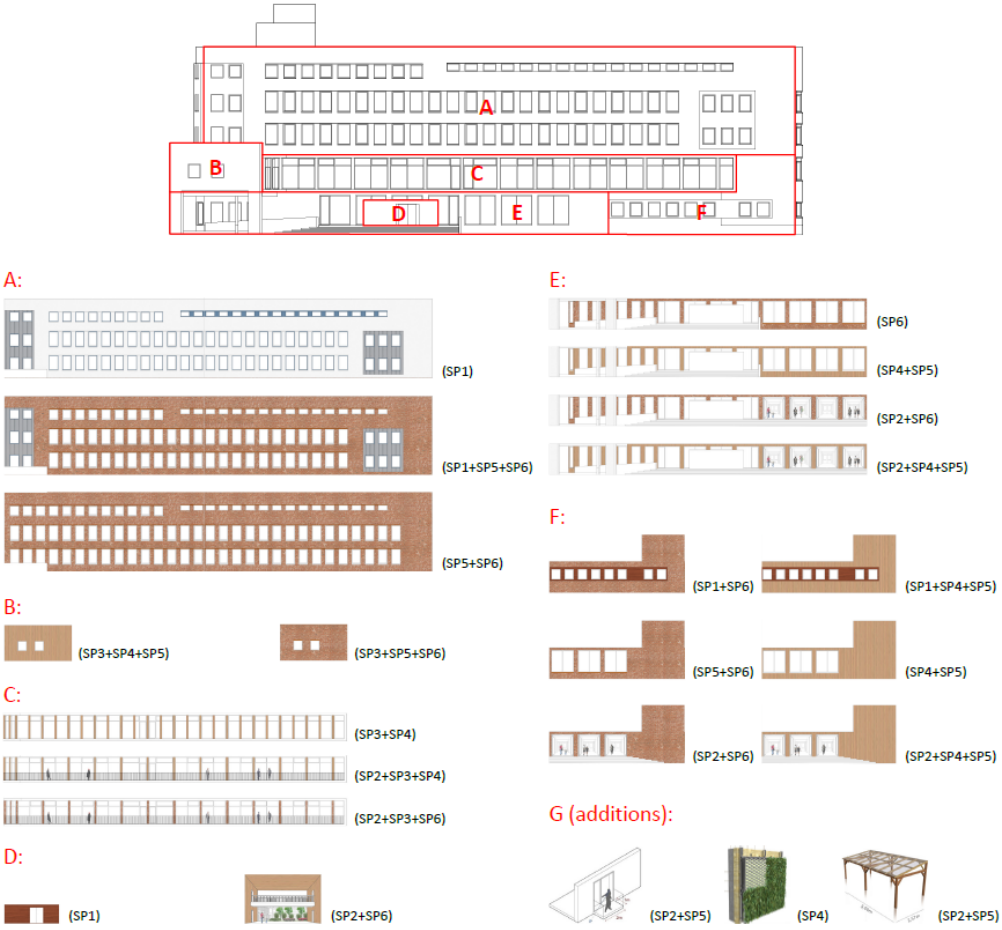

Figure 3 Scenarios of the front facade

3. Research-Design Methodology

In order to reflect on the different methods used, they are listed below.

Literature review on participatory design

The literature review touches upon several theories of design methodology involving multi-users, which helps me build the structure of the research and design. The method investigates a wide range of participatory design tools from papers and precedents, which helps me clarify three levels of participation: inquiry, testing, and acting, where I can develop the approaches further. The method also helps reveal some problems in current approaches. There is usually a lack of transparency in communications between experts and non-experts because current tools fail to show sufficient design possibilities in the design testing phase, and thus participants' views may be limited and narrowed with bias. So to improve, I divide the façade into pieces. There are multiple scenarios for every piece, and thus when putting pieces together, there is a variety of possibilities the façade could be. The participants are fully informed of those scenarios, raising transparency and reducing bias. The comparison of different participation tools drives me to also focus on the process itself of creating a sense of participation among people.

Cognitive mapping and interviews

These methods were conducted to investigate locals' perceptions and memories of the building and their ideas about the redevelopment. The cognitive mapping method is inspired by Kevin Lynch (1977) in his book The Image of the City and TU Delft pilot methods of identifying values and attributes in Almere and H-Buurt (Martynas, 2021). By asking locals to draw the building and describe the drawings, their perceptions and remembrance of specific elements and materials are documented. In practice, the freedom of drawing given to locals, on the one hand, encourages them to think independently, away from my interference on the topic; On the other hand, it is inefficient because the participants are too shy to draw about their minds than describe them in words. From the conversation, I find that there are some parts of the building they value, for example, the small private windows; however, they can hardly remember what the windows look like and are thus unable to draw. I also assume there might be some attributes of the façade they even cannot remember until they see it in a photo. Therefore, I reflect on this cognitive mapping method that it is an initial phase to know some independent general thoughts. But, for inquiring non-experts, a specific photo-based method needs to follow up for more in-depth knowledge. I also reflect on the method of interviewing that specific prompts are necessary to prepare in advance, which can help structure the interview and make participants respond more comprehensively.

2,5D model game

This method involves locals in the façade redesign testing. It ensures transparent communication between the researcher and participants and enhances their sense of participation. The method of model games is inspired by Rosalia Leung (Leung, 2020) and her course "Research on Participatory Design in Architecture" at Hong Kong University, where she experiments with several participatory model games. The method also considers the context of heritage redesign in Heritage & Architecture studio, where a variety of values, added values, and balancing these values are of great importance. Based on these considerations, a 2,5D model game was invented to represent different design scenarios of the facades by model pieces. Locals can choose, play, and make up these pieces by themselves to get their own façade preferences (fig 4).

As a reflection, for the preparation and improving the scenarios, it is helpful to ask fellows to check if the variations make sense and if there are other possibilities. I asked three fellows to help me improve it before the on-site experiment, and they gave useful feedback. For the on-site experiment, the model game works well in general. Locals are curious to join the game, intuitive in playing it, and satisfied with the process and the outcome "masterpieces." It achieves a high level of participation in the redesign activities, which helps boost community cohesion and add more associations between locals and the site. The model game is so readable that people intuitively know the way to play it (fig 5), ensuring that the method is repeatable for almost any case and participant. I collected the data from 13 local participants (10 groups) about their preferences and reasons for the redesign. The consenses are translated into final design decisions.

There still are some points where future research can explore and improve. Some model pieces are misleading because of the thickness and colours that I did not intend to emphasise. Some variations, such as balconies and greenery, are not represented in the model for practical issues with model-making techniques. I tried to use hook and loop fasteners to add balconies and greenery to the façade, and in this way, they can also be easily removed if participants don't want them. But because the tapes are white, becoming some misleading lintel-like stuff on the façade, I leave them out. The way of communication with locals while playing the game can be improved. The researcher should ask more "why" to get more intimate knowledge of participants' feelings and perceptions. For example, when they say they like brick, it is time to ask "why" and dig out some underlying reasons. The researcher should not interpret the answers; instead, if the answer is not clear, ask more "why." For example, when one participant says she prefers that door with people, the researcher should not interpret it as the door is more open, but maybe ask why a scenario of more people is fascinating. In this way, more transparent communication and more in-depth knowledge can be achieved and acquired.

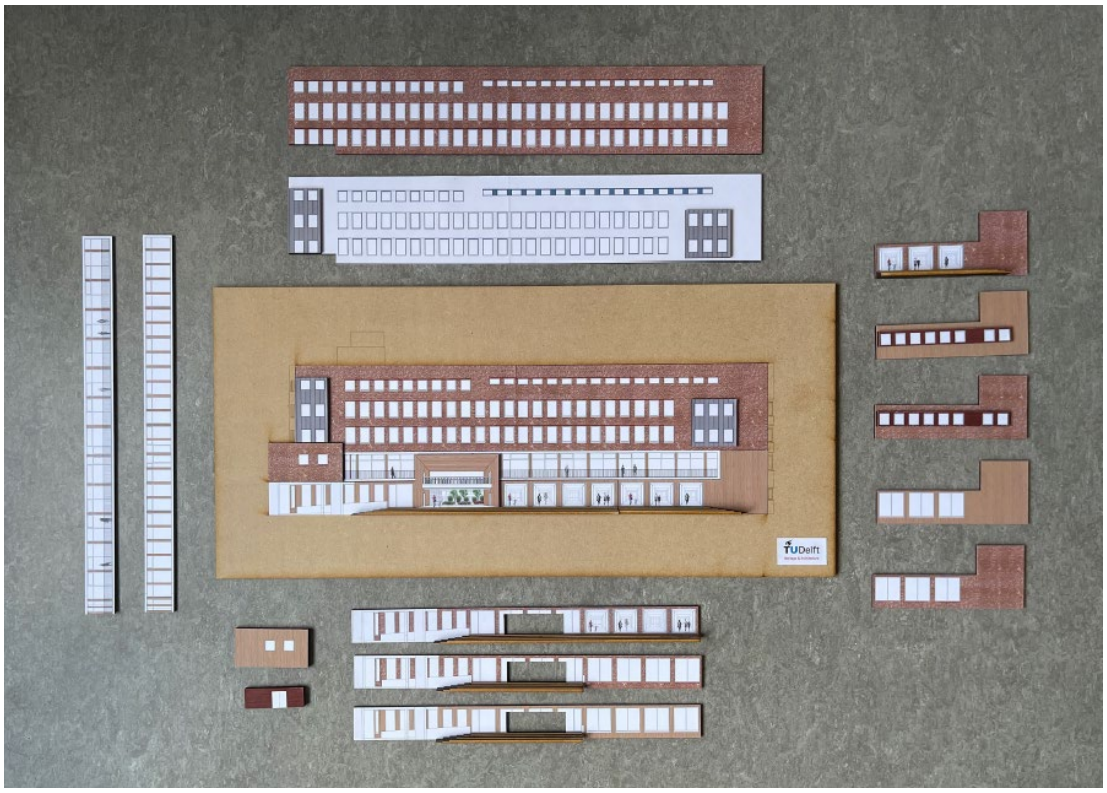

Figure 4 The model game for the front facade

Figure 5 One participant playing the game

4. Relationship between the Graduation Project and the Wider Context

The project topic of police vacant heritage contributes to society by exploring the solutions to the issue in the Netherlands that nearly 30% of police buildings are becoming vacant and in urgent need of appropriate redevelopment (WEESSIES, 2017). In collaboration with the department of MBE and Atelier Politie Bouw Meester, the project investigates the value of the vacant heritage and added value through the redesign to achieve a sustainable future.

The project explores how participation can be used in heritage redevelopment, which has been recently stressed of great societal importance. As pointed out in the UNESCO Recommendation on the Historic Urban Landscape (HUL) in 2011, "rapid and frequently uncontrolled development is transforming urban areas and their settings, which may cause fragmentation and deterioration to urban heritage with deep impacts on community values (UNESCO, 2011)." To tackle this challenge, HUL encourages the involvement of different stakeholders, such as locals, in urban development processes, as a way to keep and pass on community values (UNESCO, 2011). The Faro Convention, operated by the Council of Europe, points out the opportunities in heritage governance and management where society can achieve consensus and boost cohesion through participatory activities (Faro Convention, 2022). Following the Faro Convention, participation in heritage redevelopment is promoted locally in the Netherlands by the national Cultural Heritage Agency of the Ministry of Education, Cultural, and Science (Cultural Heritage Agency, 2019). Participation plays a more and more essential role in managing the heritage values and shaping a better future. In what way people can actively participate in heritage building redevelopment thus is being questioned and explored in this project.

The project fills the gap that there is little research bridging PD approaches to heritage building redesign. PD involves different non-experts in the co-design process by employing participatory tools (Sanders, Brandt, & Binder, 2010). The book "Design Thinking" introduces the general PD methodology that includes a series of divergent and convergent phases for the designer and participants (Rowe, 1987). Participatory design is concluded into three levels: inquiry, testing, and acting, from the existing approaches (Caspersen, 2009; Leung, 2020; Martin & Hanington, 2012; Sanders et al., 2010). The project invented an innovative façade model game and integrated it with the methods of heritage building redesign from heritage values (Kuipers & de Jonge, 2017), thus bridging the two academic fields.

The project builds a framework to combine heritage building redesign and participatory approaches. However, due to the time limit, it only touches upon the façade redesign and thus leaves other redesign parts for future research. The results and reflections of the research and design provide insights into the approach created, which turns out repeatable and efficient for other buildings and participants, though some details can be improved in the future. The approach is in needs to apply in real projects. There are some "self-initiated and community-oriented" practices, such as Urban Synergy's practices in the Netherlands and the Baugruppe model in German, where participatory approaches are promoted, and this approach can be applied (Ring, 2016; Urban Synergy, 2022).

5. The Dilemmas of the Graduation Project

Ethical issue

For the data collecting phase, i.e., cognitive mapping, interviewing, and model gaming, several ethical issues are considered in advance. The participants are informed of my identity as a TU Delft student researcher, the collaborator as Atelier Politie Bouw Meester, the purpose of the research, and the content of the research. They are asked for permission to record for academic purposes and have the right to accept it or not. The participants' identities collected, including their addresses and occupations, are hidden from everyone else. I minimise the number of questions to ask to reduce the psychological harm they may cause. Still, the research activities may remind participants of bad memories. Candies and chocolates are prepared for smoothing and gratitude.

Dilemma

The first dilemma is balancing the existing and added values on the façade. In the first phase of the research, I found several attributes on the façade, such as the mahogany entrance. The entrance is a characteristic remembered by many locals. Some think the dark red colour is lovely and works well with bricks. But a new passage replacing such an entrance is also valuable because the new passage connects the historic city lane and opens the courtyard to the community. There are many such dilemmas in the project. To deal with them, I think back to the intention of my project that I want to open up the isolated block and connect it to the community again. Therefore, social value is the most important criterion in this case. As we know, social value is about people's well-being, sense of belonging/ownership/identity, place attachment, memories, community cohesion, etc. The stakeholder is the locals in this case. Therefore, the key criteria in the case study are what they think is valuable, what elements and materials they appreciate, what functions they need, and what kind of space they enjoy. By answering these questions, the site can be truly activated and become part of the community again. Participation is a good way to know those answers, thus becoming my strategy to tackle this dilemma.

The second dilemma in the project is whether an old police identity representation is valuable. In the conversation with Atelier Politie Bouw Meester, it is argued by the police that the institutional look in blue and white should be totally abandoned because it represents an opposite position of police from citizens. But from the research, away from the abstract ideological representations, locals value the blue colour very much. The project tends to accept what people value instead of what slogans deliver, even if it looks pretty.

The third dilemma the case might have is the conflicting demands between locals and the future residents of the building. The project does not elaborate on this dilemma, but it can be imagined that in a real project where locals do not invest in the redevelopment, it would be hard to adopt their opinions, especially when their demands conflict with future residents'. To what extent can different stakeholders be balanced? How to weigh their demands and thoughts? I deeply believe it is not only a matter of who invests more, and we need solutions to be put forward in reality.

Bibliographical References

Caspersen, O. H. (2009). Public participation in strengthening cultural heritage: The role of landscape character assessment in Denmark. *Geografisk Tidsskrift-Danish Journal of Geography, 109*(1), 33-45. doi:10.1080/00167223.2009.10649594

Cultural Heritage Agency, M. o. E., Culture and Science, the Netherlands,. (2019). *Heritage as a means for societal challenges*. Paper presented at the Faro Convention Meeting, Lumiere Masstricht, Schunck Heerlen.

Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable development, 19*(5), 289-300.

Faro Convention. (2022). Enhanced participation in cultural heritage: the Faro Way. Retrieved from https://www.coe.int/en/web/culture-and-heritage/the-faro-way

Kuipers, M. C., & de Jonge, W. (2017). *Designing from Heritage: Strategies for Conservation and Conversion*. Retrieved from WorldCat.org database. Delft University of Technology.

Leung, R. (2020). Research on participatory Design in Architecture. Retrieved from https://rosalialeung.com/research-on-participatory-design-in-architecture

Martin, B., & Hanington, B. M. (2012). *Universal methods of design : 100 ways to research complex problems, develop innovative ideas, and design effective solutions* [1 online resource (207 pages) : illustrations (some color)]. Retrieved from http://site.ebrary.com/id/10690608

Martynas, S. (2021). *Juxtaposition of notions: Adaptable housing through circular transformation.* (Master). TU Delft, Retrieved from http://resolver.tudelft.nl/uuid:8716e2a6-e3da-4ca1-93bb-cbb815a58116

Ring, K. (2016). Reinventing density: how baugruppen are pioneering the self-made city. Retrieved from https://theconversation.com/reinventing-density-how-baugruppen-are-pioneering-the-self-made-city-66488

Rowe, P. G. (1987). *Design thinking*. Cambridge, Mass.: MIT Press.

Sanders, E. B. N., Brandt, E., & Binder, T. (2010). A framework for organising the tools and techniques of participatory design. In *Proceedings of the 11th Biennial Participatory Design Conference* (pp. 195-198).

Studio Text. (2021). Faculty of Architecture and Built Environment. Vacant Heritage, Heritage & Architecture.

UNESCO. (2011). *Recommendation on the Historic Urban Landscape*. Paper presented at the UNESCO's General Conference at its 36th session, Paris.

Urban Synergy. (2022). Urban Synergy contributes to a more beautiful, sustainable and more future-proof world. Retrieved from https://urbansynergy.nl/

WEESSIES, R. (2017). Politiebouwmeester gezocht. Retrieved from https://architectenweb.nl/nieuws/artikel.aspx?ID=41267

Illustrations