

Student Life in a Former Swimming Pool

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KHIO 2022 - DE551 Theory 3

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Introduction

The entry point for the topic of my Master's thesis was the housing shortage of students in general, but with a focus on Germany, which I have been confronted with over and over again in recent years by friends and people from the wider neighbourhood. In addition, there is the rather monotonous and dull, repetitive design and furnishing of most rooms in student halls of residence, which I became aware of once again during my stay in Oslo. It stimulated me to deal more with the topic of student housing.

In addition, I have been interested in the topic of reusing existing buildings for a long time. Especially as an interior architect, this is a topic that you have to deal with a lot in your working life. Building in the existing structure is becoming increasingly important and has gained more and more significance due to the extreme densification of urban space, especially in metropolitan areas such as university cities. Resources must be conserved and treated with foresight. To create a personal reference, my chosen existing building is an indoor swimming pool that has been vacant for a long time, with an adjacent further building. It is located in my hometown Bonn in Germany, where I had school swimming lessons about 15 years ago. I would now like to develop a concept for student living and learning for this very centrally located property, in a neighbourhood characterised by vandalism and vacancy. Due to its location it also offers a great potential with regard to the revitalisation of the city.

In the following, I will start by presenting some facts and circumstances in order to establish a basis: "the pool". Then I will "fill" it and "dive" into a more narrative part to connect the old and new use and see how it is possible to preserve the spirit of the building and its former use and transfer it to the new one.

Student Housing Shortage

The fact that property prices are rising everywhere and affordable housing is becoming fundamentally scarce, is nothing new. Due to large variations, it is difficult to establish consistent definitions and comparisons for the entire European area for affordable housing. However, the rent burden ratio of a household, which is the amount of the household's net income that has to be paid for the gross cold rent, is most commonly used to measure affordable housing. If more than 40% of income is paid for rent, it is an overburden. Though Germany is not among the European countries worst affected by this housing burden, the housing shortage is still a significant problem (Caturianas et al. 2020, pp.7-11). It is difficult to generalise this for the whole country. One needs to distinguish between large cities, towns and rural areas, as well as between different towns. For example, Western Germany is much more affected by overcrowding and rents are generally higher here than in the East. Where housing is most popular, the risk of overburdening is also

the greatest. In popular large cities and university towns, it is particularly difficult for students to find affordable housing. According to the Hans Böckler Stiftung, almost 40% of tenant households in Germany are overburdened when it comes to the monthly “warm rent”. The most affected (77% of those overburdened) are households with a low income and single parents, as well as those living alone, which includes the students (Holm et al. 2021, p.12-14).

Since the academic year 2007/08, the number of students in Germany has risen steadily. Although the number of students has stagnated since the winter semester 2021/22, which is mainly due to the Corona pandemic, this does not affect the shortage of housing and exploding rents. Though Bonn is one of the university cities with a noticeable decline in student population (over 3%), the housing supply specifically for students is still inadequate here (Oberst et al. 2022, p.10-15). In addition, rental fees are rising. Especially in the last year, an extreme rent increase of approximately 5.9% compared to the previous year can be estimated (Oberst et al. 2022, pp.26-27). Bonn is one of Germany’s most popular university cities. Especially new students have a difficult time finding accommodation and the demand for housing is again similar to the times before the pandemic. This is partly due to extended standard study times or delays caused by online classes, resulting in extended occupation of student flats (Heckelsberg 2022).

Bonn and the Viktoriakarree

The former capital of Germany, Bonn, is located in the Southwest of Germany and has approximately 336,000 inhabitants (as of 2022). As it is a popular student city with a wide range of universities and faculties, students account for roughly 12% of the total population.

For the process, it is important to look at the history of the Viktoriakarree in the centre of the city and in particular the history of the Viktoriabad, the object for which a conversion concept will be designed. The first building of the swimming pool was started in 1903 in one of the oldest settlement areas in Bonn. In the



Fig. 1: The old Viktoriabad



Fig. 2: The new Viktoriabad

late Middle Ages, a monastery was located there, which was later used as an administrative building. Within the open spaces of the monastery complex there was room for Bonn's first indoor swimming pool, which opened in 1906. The architect of the baths was Rudolf Schultze and the sculptor and painter Karl Menser was responsible for the interior. The building comprised two indoor swimming pools, one for women and a slightly larger one for men, tub and shower baths and sweat and therapeutic baths. In addition to the recreation of Bonn's citizens, it was also used as a venue for competitions and exhibition swims. In 1918, the Viktoriabad had to be closed for the first time due to a shortage of coal and was temporarily used as a potato storage facility. In the 1920s, the equipment of the indoor pool was partly changed, and since that time it was also used by schools for swimming lessons.

During the Second World War, the indoor swimming pool was heavily damaged by bomb attacks and due to the shortage of materials it was only provisionally rebuilt. The reconstruction work lasted until the end of the 1950s. In 1969, the old swimming pool was completely demolished in favour of a modern new building. The old, historic building, which was characterised by richly detailed decoration, was replaced by a simple, functional building in reinforced concrete construction. The design was created by the architect Goswin Weltring.

A special feature of the building is the 240sqm large and colourful synthetic resin window, which was designed by Wilhelm Jungherz in the construction studio of the architect Gottfried Böhm as part of a competition. The 296 panes are supported by a steel frame skeleton and, in an overall view, they form a large painting that creates an association with a church window. A special technique was used in the production. The colours were applied in liquid form, which created an impressionistic colour effect. The stained glass is called "Geysirlandschaft mit roter Sonne" (Geyser Landscape with Red Sun) and was intended to create a reference to the existing use in the building due to its water and wave forms. The window front functions as a light and noise barrier and creates an exciting play of light in the large swimming hall. During daylight hours, it shines from the outside to the inside, and in the evening and night hours, it shines from the inside to the outside with artificial interior lighting.

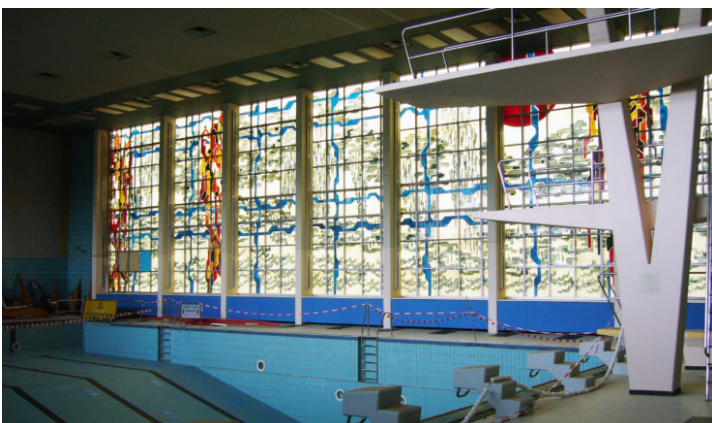


Fig. 3: Window by day

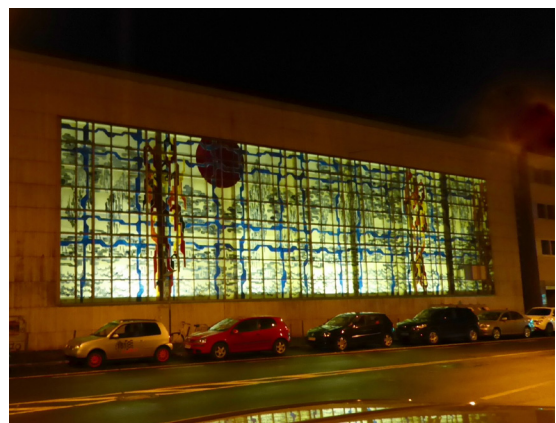


Fig. 4: Window at night

The new swimming pool opened in 1971. Due to its central location and its use as a sports and leisure pool, it was very popular among the citizens. The spa wing was abandoned in the 1990s and since then the vacated space has been used by the Stadtmuseum Bonn (city museum) and a popular student café, the "Café Blau". In 2007, it was decided to close the Viktoriabad, and in 2010 the swimming pool was then closed down due to structural disrepair. In 2013, the synthetic resin window was listed and since then both the building and the entire square have been the subject of intense discussion. After an official planning competition for the carree was announced, designs for demolition and new construction of a completely new quarter were presented in 2015. Citizens campaigned with associations and citizens' petitions for the building to be preserved, and the resin window to be treated appropriately. A decision was made to retain the small-scale mixed use of retail, restaurants and housing, but it remained uncertain what would happen to the vacant swimming pool. In 2021, the idea of a "Forum des Wissens" (forum of knowledge) by the University of Bonn came up, which, however, also envisages the demolition of the swimming pool, but with the preservation and integration of the colourful window front in a new building. Yet, nothing has been done so far and the swimming pool is only used sporadically as an exhibition space or for cultural events such as readings, discussions or theatre performances (Steffen, 2021).

Since this place offers much more potential than just being used sporadically, especially because of its central location, I would like to develop a long-term and functioning concept. It should be a place for the students where they can live, learn and come together for exchanging ideas and be creative and productive. As it has been considered several times, the old buildings could be demolished and a very modern structure could be created to suit such needs. So why should the swimming pool be preserved instead of being demolished? Often, the focus of reuse is the preservation of artistic and cultural heritage. This is also the case here. The listed synthetic resin window must be preserved in any case and, above all, integrated into the new concept in a dignified way. But it is not only important to protect the artistic heritage. The neighbourhood context itself is equally important, as the building is very popular with citizens and especially with students due to the gastronomic offer, which has partly been existing for a long time. Also with regard to the revitalisation of the city and to avoid gentrification, the neighbourhood and the local identity should remain as they are, enhanced by a new, enriching concept for the students.

Adaptive Reuse

Times change rapidly and so does architecture, the techniques and materials that are available, including the requirements and regulations for buildings. Often, architecture is ephemeral, and major interventions and changes are essential to bring buildings up to a usable standard (Brand 1994, p.5). Due to the long durability of most buildings, which at best last for generations, they have to adapt to changing requirements

and demands on use, material and appearance. The most common way in which buildings are adapted is through changes in use (Brand 1994, p.2-3).

Since buildings have a much longer life cycle than humans, they always tell a comprehensive story. I think it is very important to carry on this story and keep it visible even when a building changes its use. In the case of the Viktoriabad, this story could, among others, refer to the gender separation through two different swimming halls. Although the swimming halls have not been used as a separation of men and women in the years since the swimming pool was rebuilt, it has been documented that it originally had the use of separating the two sexes.

Why are reuse and building in the existing stock so important? Especially with regard to climate change, the preservation of existing buildings plays a major role. Architect Carl Elefante (2017) explains: "the greenest building is...one that is already built" (Elefante 2017, p.11). For him, the topic is of great importance: he campaigns for a sustainable approach to existing architecture. The building sector provides a comparative easy starting point in the fight against climate change. One can identify and measure what and how much needs to be done to reduce environmental impact through improved building performance (Elefante 2017, p.10).

Yet, it is important to remember that not every building conversion leaves a minimal carbon footprint and is a better environmental option. Especially in the case of major adaptations, a conversion can be just as resource-intensive as building new. And the attention to "green" approaches to new construction is growing (Cairns 2013, p.3-4). Conversion and refurbishment now account for about 40% of all construction and this continues to increase steadily. The existing environment needs to be repaired and restored, resources need to be conserved. We do not refer exclusively to exceptional and listed buildings. There is no building that is unsuitable for reuse or conversion from the beginning. Due to the wide range of possibilities, it is a particularly creative and fascinating task (Schittich 2003, p.9-11).

In his book "Adaption strategies for interior architecture and design" Brooker (2017) describes various strategies that can be used for the conversion of existing buildings. These are sensitive strategies that do not define the interiors by the given function, but that consciously refer to and act with the existing context. Both local and cultural references are addressed here (Brooker 2017, p.8). Two of the strategies are particularly relevant to my project. The first one is the strategy of reprogramming. This approach is applied when an existing building is no longer suitable for its original purpose. Existing elements are placed in a new context, which requires a careful study of their characteristics and features beforehand to see how they can be used for the new purpose. It is at the designers' discretion whether or not to preserve and tell the story of a building within its structure (Brooker 2017, pp.16-18). In the case of the Viktoriabad, I feel it is important to preserve the existing substances of the former use. Of course, it is particularly important to retain and carefully integrate the resin window.

Another strategy that Brooker (2017) points out is intervention. He describes this as a brutal and radical strategy in which the old and the new interact with one another, but are clearly distinct from each other. This allows an interior to emerge in the old shell that is visibly different from the given architecture, but still harmonises with it. It can also be a stabilisation or reinforcement of buildings that are already almost in ruins. The intervention aims at developing the use of a building through new forms and materials (Brooker 2017, p.40-41). A good interventionist example is the space in a historic church building by the architects of Klaarchitectuur in Belgium. There, the past is directly connected to the present and the future. The extreme separation of the new elements from the old structure, and in particular the preservation of the historical walls, creates a very fascinating tension.

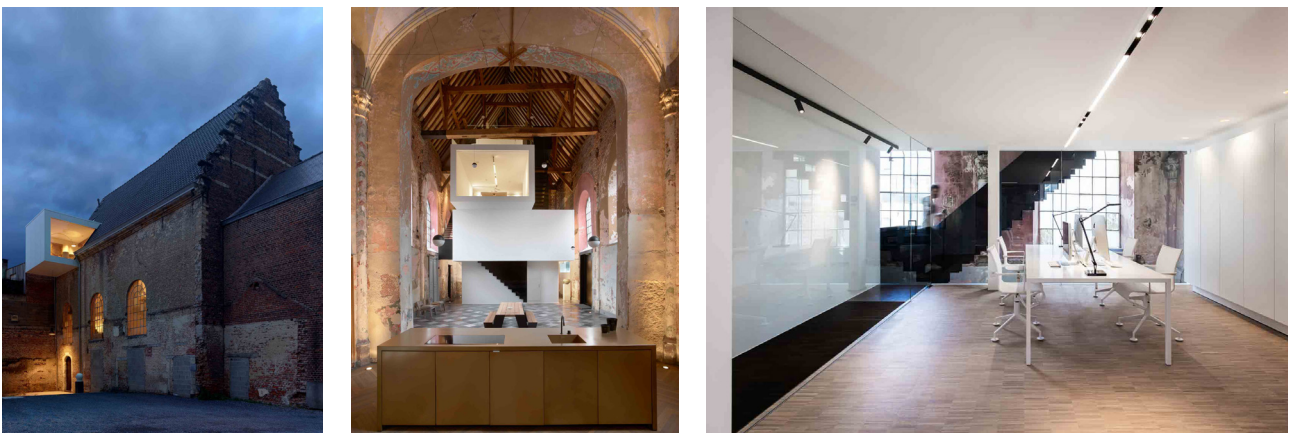


Fig. 5,6+7: Office of Klaarchitectuur in Sint-Truiden, Belgien

When a building is converted, the interior exists in an already given context. However, it can be considered completely separately and does not necessarily have anything to do with the shell initially intended for it. To speak metaphorically, as Cairns (2013) does: the interior is an extension of the body, which means the external architecture, and surgical interventions can be performed on this body: "It can of course be much more than that, involving considerable and fundamental alterations to the body: surgical interventions akin to adding or taking away a limb or plugging in a prosthetic." (Cairns 2013, p.1)

It becomes particularly exciting in the case of special objects, for which a new, functional concept is not immediately obvious. These include, for example, bunkers, gasometers, grain silos or swimming pools. In this case, a new relationship between space and function must be established, which entails the possibility of developing a completely new use that will open new doors. The "form follows function" design approach established by architect Louis Sullivan is turned upside down here, which makes the whole process very attractive and exciting. In addition, a mixture of uses can be possible that might not be conceivable in another location (Schittich 2003, p.15-16).

Another beautiful reference project that pursued an interventionist approach and made respectful and, above all, sensible use of existing substances, is the Hallenbad Ost in Kassel, Germany. It was acquired by

KM Architekten from Kassel in 2018 and redesigned and converted into a flexible event venue and co-working space in the following years. The architects have succeeded in revitalising the area, which was run-down and plagued by vandalism, and turning it into a popular venue for a wide audience (Schoof, 2022). What I particularly like about this project, is the careful and respectful treatment of the existing building. The architects were able to retain many original components and therefore preserve the spirit of the former swimming hall. But by adding to it with clear demarcation from the existing building, they were able to significantly enhance it. By retaining the old spirit in combination with the new use, a special place has been created.

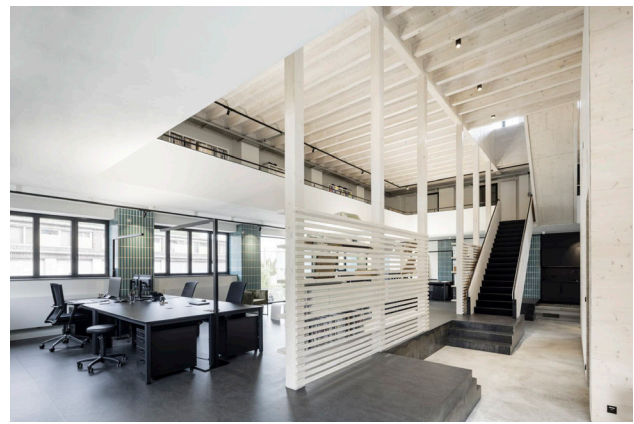
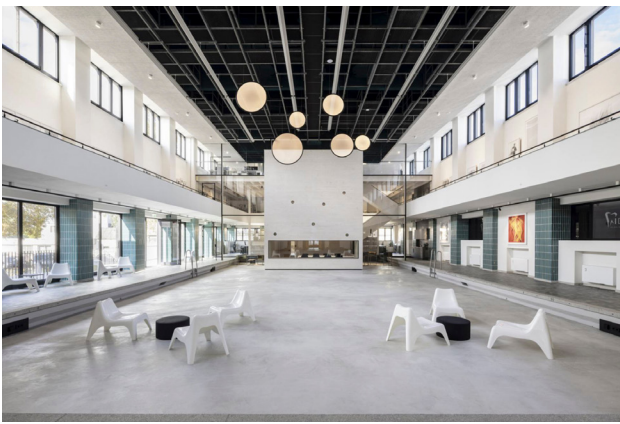


Fig. 8+9: Hallenbad Ost Kassel

History of Swimming and Bathing

In the next step a connection between the old use of the building and the new one shall be established. For this purpose, I would first like to take a look at the history of swimming and bathing and at bathing culture in classical antiquity.

The origin of public bathing goes back to Greek antiquity. Gymnasia served as places for the military, athletic, intellectual and artistic development of young citizens, where the physical aspects were closely related to the spiritual ones. Accordingly, they were the first schools and also the predecessors of the baths in ancient Rome (Yegül 1992, p.7). The Roman baths were, in the broadest sense, cultural centres, i.e. social institutions that were a part of daily life. Their function went far beyond the athletic and hygienic aspect; it was rather a place where people from all social classes came together to relax, exchange ideas, discuss and educate themselves. Indeed, it also had an intellectual level: many of the baths were equipped with lecture halls and libraries, which was inherited from the Greek gymnasia. A place with a diverse mix of uses. Because everyone had access to the baths, they also had an integrative function. Admission was often free, which meant that no one was excluded, everyone was integrated into society. Even the emperor sometimes visited the public baths to interact with his subjects.

The facilities were usually large, bright and inviting, and visiting the baths was considered a physically and psychologically satisfying experience. "A freshly bathed person felt light and optimistic (...)" is how Yegül (1992) describes the state people reached after a visit to a Roman bath (Yegül 1992, p.30-32).

The Concept of the Roman Baths as a Model

All the aspects of the Roman baths mentioned above lead me to the planned idea for the use of the swimming halls of the Viktoriabad. The idea is to create a place that fulfils exactly these functions of the baths in ancient Rome. A place where students can stay together, learn from each other, exchange ideas, motivate each other and push each other forward. Every day I notice the importance of exchange and interaction among students. As soon as I have a good conversation, I feel inspired and motivated. It moves me forward and helps me when I get stuck. I became particularly aware of this aspect during the pandemic, when an exchange with others was completely lost for a while. During this time, I worked on my Bachelor's thesis and sometimes didn't leave the house for three consecutive days without noticing it. In retrospect, this was a great burden on me and showed me how important it is to encourage exchange and togetherness in everyday student life so that isolation and loneliness do not occur.

Therefore, I see the concept of the Roman baths as a good model for a place at the daily student life. There have to be places where all students can feel comfortable, places where everyone is welcome.

I think that many art and design colleges can be seen as a model, because of the space they provide for their students, in which, in the best case, you also have your own workplace. Of course, the need for your own workspace and ample room to work with different materials (e.g. different workshops) is stronger in art and design programmes than in studies where you often only need a laptop and some books. In addition, in most cases there are far less students in art and design related subjects than at an economics, philosophy or law faculty. The Faculty of Philosophy at the University of Bonn, for example, which is located in the main university building right next to the Viktoriakarree, has over 10,000 students. Creating a dedicated workplace for so many students is of course not possible. But creating a place for students that has the features and uses of a Roman bath could be a meaningful step in that direction.

Human Beings and Water

Another creative link could be seen in the relationship between human beings and water. I also want to establish a relationship between old and new use through this aspect, even if it is more in a rhetorical sense than in a physical one. In this context it is important to know why people are attracted to water and what different feelings water evokes in people.

Van Leeuwen describes the invention of swimming pools as “[...] the architectural outcome of man’s desire to become one with the element of water, privately and free of danger” (van Leeuwen, 1998, p.2). Man’s relationship with water begins in the mother’s womb before they are even born. Basically, this is a very controversial relationship. Water gives life and water takes life. On the one hand, it can become one of the greatest dangers for humans. Water can be wild, unpredictable and destructive. Of course, for my project, I want to focus on the positive side of this relationship. Water is the origin of all life. Next to air, it is the most important ingredient for life. People use it for drinking, food production, cleaning, working, relaxing and travelling. In their genes, they have an intense connection with nature. The biologist and naturalist Edward O. Wilson explains this with the fact, that we have spent most of our evolutionary history in nature. Accordingly, we feel drawn to it. The element of water plays a major role in this. Besides the evolutionary aspect, there is also the emotional connection to water. “There’s something about water that draws and fascinates us” (Nichols 2014, p.8-11). It delights and inspires us, it comforts us, but it can also intimidate us. It creates feelings of awe, peace and joy (Nichols 2014, p.17). We can touch water, it has weight. It weighs more than air, but still we can wade through it. When you are in water, it supports you, holds you upright and it relieves you of your weight. The senses come alive. Relaxing, weightless, floating in infinity, embraced and protected - these are positive descriptions often used to describe the feeling you get when you are in water. The surface world with all its obligations and worries seems far away, even unreal (Nichols 2014, p.99-101). “From birth, man carries the weight of gravity on his shoulders. He is bolted to earth. But man has only to sink beneath the surface and he is free”, the pioneer of oceanography, Jacques-Yves Cousteau, once said (Nichols 2014, p.119).

How does water feel like? It is wet. It can be cold and it can be warm. When you are in it, it exerts a certain pressure on your body. The sense of touch and thus also the sensation of things are even more distinct with blind people than with sighted people. They “see” through touch. So how do blind people feel about being in the water? Eriko Wantanabe describes swimming and being in water as a feeling of floating, with none of her body parts touching anything. She is an artist who has been blind since the age of two and has no memory of seeing. She draws pictures with the so-called raised line drawing technique, for which she has a special kit. This is a drawing technique in which the drawn lines rise and become tactile and accordingly are palpable and easy to follow.

The exciting thing about her work is that she not only draws what people with sight can see, but also what she feels when she touches it. An example of this is a picture she drew showing herself swimming. There are lines representing her body, her swimming costume and her hair. In addition, however, there are lines radiating from her fingers. She describes these lines as the pressure she felt against her fingertips while swimming (Spark 2020). I find this a very intense and somehow “electrifying” expression.



Fig. 10+11: Drawing by Erico Wantanabe

I also asked myself what form water has for me. During my research, I came across the project "Augen zu. Eine unsichtbare Designsprache" (Close your eyes. An invisible design language) by the designer Alena Halmes. It deals with the question of how birth-blind people imagine the movement and shape of water, based on sounds that water makes in different situations. She interviewed four birth-blind people and used their answers and descriptions as a source of inspiration for a new form development. Five drinking glasses in new special shapes were created, which entail a haptic, acoustic and playful experience (Halmes 2020). I find it particularly exciting, that all five glasses were organic and round shaped. None of the glasses had corners or edges.



Fig. 12+13: Glasses by Alena Halmes

If I had to give water a shape, it would be very similar to the glass shapes. Rounded and smooth shapes that cling well to the body, adapt to it and embrace it. I immediately thought of the classic beanbag, which was designed by three Italian architects in the 1960s and adapts perfectly to the shape of the body thanks to its flexible filling. Water was also one of the materials the designers experimented with to find the desired, hugging quality of this piece of furniture. Two other references describe my idea of the shape of water very well. They come from the Brazilian artist Ernesto Neto, whose sculptures and installations are often very spatial and above all related to the human body.



Fig. 14: Untitled - Ernesto Neto



Fig. 15: Celula Nave - Ernesto Neto

Conclusion

Where does all my analysis lead me now? How do I proceed? On the one hand, as a future interior architect, I am very interested in the sustainable use of existing buildings. Cities are becoming more and more densely populated and there is less and less space to build new buildings. So building in existing stock is becoming increasingly important. The work of an interior architect is a discipline that is inextricably linked to the reuse of existing spaces, buildings and structures. Furthermore, there are countless examples where existing stock is not treated respectfully and I think it is important to deal more with this issue.

On the other hand, this essay was a good preparation and theoretical discussion with this topic for the practical part of my Master's thesis. I want to find out what the commonalities of two completely different uses are, in order to continue to give meaning to the former use. Accordingly, I have tried to establish a relationship between the old and the new use in different ways. The results revealed meaningful points of references for decisions about uses and materiality.

Based on the considerations explained above, it would also be conceivable for me to develop a piece of furniture or a room-in-room situation that I can integrate into the project. Here I refer to the rhetorical qualities of being in the water that I worked out in the course of my research on the relationship between human beings and water, and create a place through certain materials and forms where one feels protected, embraced and secure.

During Studio 3, I was already thinking about how it could be possible to create a room-in-room situation that would create a zoning and demarcation within a large space - not through a separation in the form of walls, but through a light, fragile structure. I decided to work with strings, threads and ropes and started weaving with them. At the same time I saw the structure of something woven as a translation for the ideal student cohabitation. New people move in, come together and meet at different points. They all bring

different inputs, often from different cultures. An exchange takes place and, in the best case, all this leads to a stable network, a structure that holds together. This led me to the idea of a woven space, and I tried to find a solution for putting a woven structure into the form of a space to make it appear as light and fragile as possible. To achieve this, I tried to bring a woven structure of threads into an organic, spatial and stable form with a mixture of glue and paste, without needing an additional framework, so that it appeared as delicate as possible. The result was definitely not a finalised concept, but I still think that the approach and idea is relevant to my project - especially since I want to maintain and use the height and width of the big swimming hall instead of dividing it into small spaces. I think that the space has a special potential, especially because of its height. Nevertheless, in this case it is important to think about a certain zoning in order to make the large, wide space structured and useful.



Fig. 16-18: Woven Room - Helena Fremerey

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