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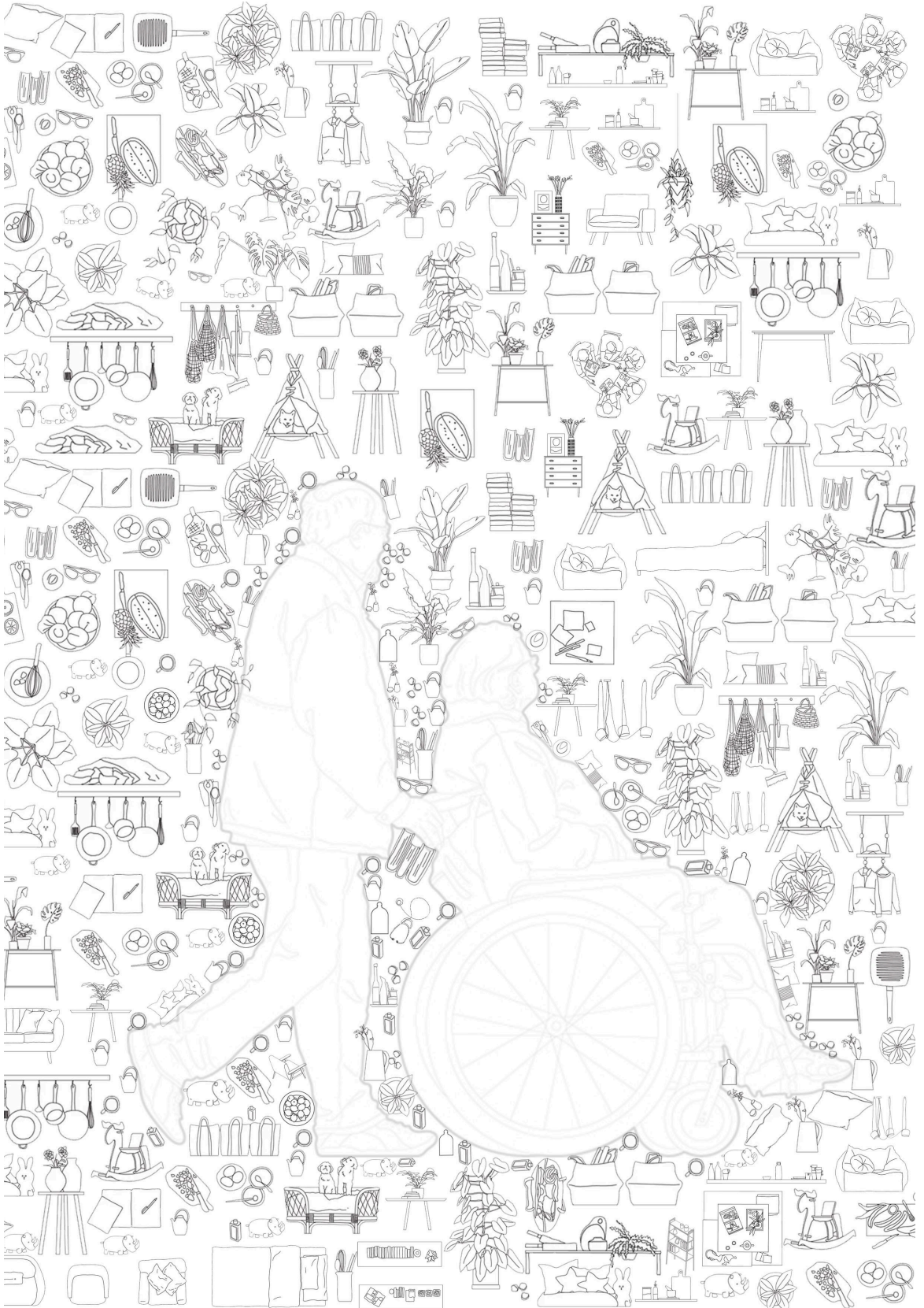
Body, Building, Berlin
Complex Project

DE-AGING EDEN

ELDERLY SCHOOL

Reflection in P5
Junran Zhao_5745675

TUDelft
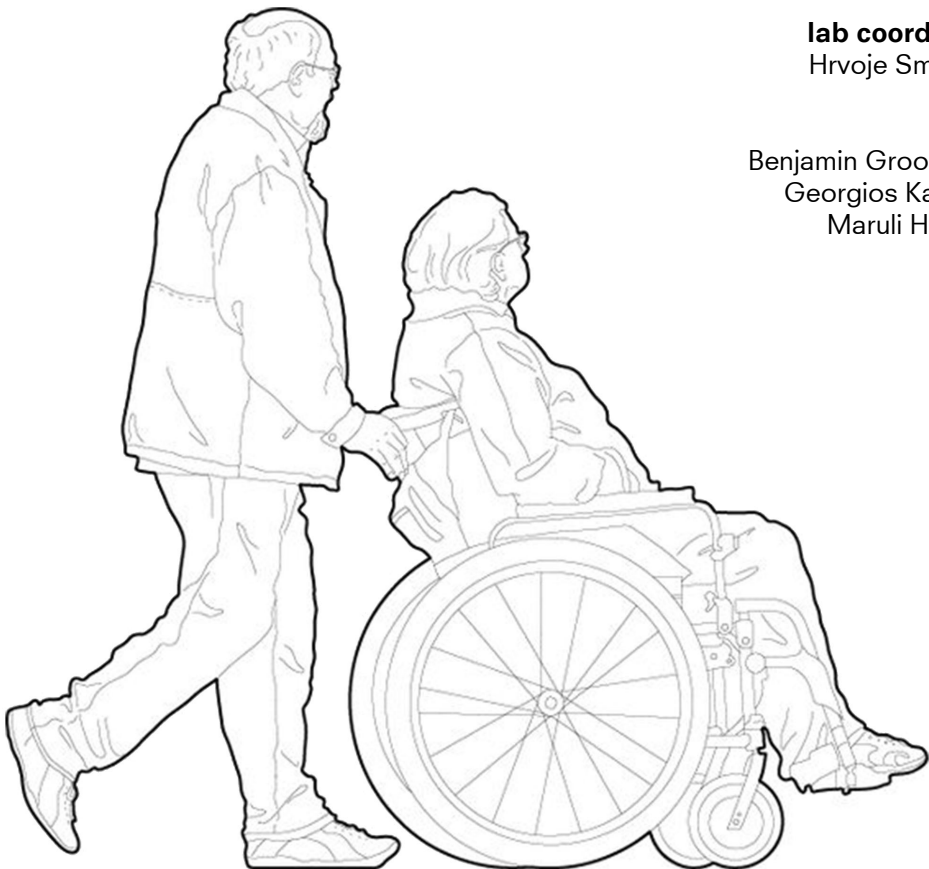
RELATIONSHIP BETWEEN RESEARCH & DESIGN

My graduation design is an elderly school in Berlin, which aims to help the elderly enjoy their happy life by enhancing their sense of self-achievement through knowledge sharing with other people. This elderly school floats on top of Fennpfuhl Lake in the park, and the elderly could also enjoy poetic scenery while teaching and learning. It includes age-friendly design, participatory design, and multi-sensory design, aiming to help the elderly gain a sense of self-achievement through cross-age communication. The elderly school allows people to meet and talk, using classrooms, in-between spaces, and gardens to provide formal and random learning and communication opportunities. It also improves the self-satisfaction of the elderly in different aspects. The classroom is a teaching space that provides fixed courses where the elderly can gain a sense of self-achievement when teaching and acquiring knowledge. The in-between space allows people to communicate and rest, where random learning opportunities can be triggered. The indoor garden is separated by exhibition shelves, where the elderly carefully maintain the plants, and they will also feel happy in this planting space.

RELATIONSHIP BETWEEN GRADUATION & STUDIO TOPIC

The elderly school focuses on all aspects of the elderly's health, including physical, mental, and social health (Constitution, z.d.). Also, the main topic of group-07 is health, and nine different building types in our group contribute to reflecting the field of health in Berlin. This project, starting from the perspective of the elderly and delving into local issues in Berlin's residential areas, responds to architectural themes. Simultaneously, it explores the various interaction possibilities between human bodies, activities, and architectural spaces. It also profoundly explores the multiple possibilities of the interaction between the human body activities and the architectural space. This is exactly what complex projects wanted with their theme "Bodies & Buildings - Berlin."

This project responds to the impact of knowledge-sharing space on the self-satisfaction of the elderly from the urban, architectural, and human scales. On an urban scale, after research on transportation, service facilities, green space, water bodies, and per capita age distribution, it was determined that the surrounding area around Fennpfuhl Lake was the site. The elderly school will float on the lake and blend into the poetic trees and natural environment. The elderly can participate outdoors in fishing and farm courses when the weather is nice and cozy. On the architectural scale, unlike ordinary school designs, teaching spaces occur in classrooms, gardens, and in-between spaces, increasing opportunities for cross-age knowledge exchange. On the human scale, the space design considers issues such as the gradient of the ramp, the rental space for wheelchairs and hearing aids, and the size of the accessible bathroom to facilitate the use of the elderly and other groups (including children).

RESEARCH METHOD & APPROACH IN RELATION TO GRADUATION STUDIO

This graduation project is ultimately oriented to the design of a single building as the basis of all design and research. It is the last and most important training for architecture in the master stage. In this design, according to the requirements of complex projects, I divided my research method into three parts: client, program, and site, and my research approach into three parts: concept, design, and material.

Client
The main target demographic of the intergenerational knowledge-sharing space is the elderly population living in Berlin. Therefore, understanding relevant information about the elderly in Berlin is necessary to research this demographic. Browsing healthcare-related websites and literature,

using data-driven approaches to understand the age distribution, issues, and future trends of aging in Berlin, as well as the health conditions and disease distribution proportions among the elderly. Additionally, through researching and comparing different elderly care models in Berlin, summarizing standards for evaluating care models and the developmental trends of age-appropriate functionalities in the future. The aim is to explore current issues and shortcomings in the elderly care system and identify the genuine needs of the elderly. At the micro level of individual difference, this stage also involves investigating the interests and learning needs of the elderly, allowing for a better understanding of how to leverage their strengths in the elderly school and facilitating intergenerational knowledge exchange with a sense of self-actualization.

Program
The functional ratios and spatial structures of existing buildings and schools can be obtained using case studies. As a forward-looking elderly school with intergenerational communication at its core, it is essential to analyze the functional composition and spatial proportions of existing elderly schools, elderly daycare centers, and schools for different age groups. This analysis helps better understand age-appropriate architectural spaces and the spatial needs of varying age groups. Comparing case studies can also help me grasp the development trends and core spatial proportions of intergenerational communication senior school projects. Furthermore, understanding spatial arrangements can be deduced from observing crowd behavior. By extensively reading school case studies, analyzing the spatial needs of different age groups, and summarizing the spatial highlights of excellent cases, possibilities for promoting intergenerational communication spaces can be discovered, and a comprehensive spatial structure for the senior school can be organized. Field investigations and interviews with outstanding real-life elderly care projects, enabling face-to-face communication with the elderly and service people, contribute to on-site understanding of the interests, lifestyle patterns, and needs of the elderly.

Site
During the initial site selection process, the mapping method was employed based on factors such as the concentration of elderly and young populations, natural environmental resources, community safety conditions, urban soundscapes, etc. This approach helped filter out age-mixed areas that are conducive to living. Subsequently, a quantitative comparison was made regarding the candidate sites' socio-economic conditions, healthcare facilities, social development, and other aspects to determine the final selection. Following the site selection, literature research was conducted to understand the historical context and plans for the chosen site. In the final stage, an in-depth field investigation was carried out, combining sensory awareness with multidimensional scientific recording to comprehend the actual state of the site's spatial characteristics. Detailed data collection involved studying the activities of the people on the site, the distribution of different types of spaces, the functioning of social activities, and other potential on-site design resources.

Concept
In the early concept design stage, according to the teaching requirements of complex projects, I used the enumeration method to make nine possible concept models for comparison and selection. They discussed the spatial relationship between the building form and the lake, the sunlight, and the scenery area of the teaching space. After that, I chose a rectangular block floating on the lake that connects both sides and has the most superior classroom sunlight and scenery area. The rectangular block is also suitable for the vertical space division. Each classroom is a cube distributed within a rectangular block, with its negative space as a scenic and fluid study space. The relationship between the school building and classrooms can be metaphorically described as "boxes within a box."

Design

According to the publicity and privacy of space, the teaching space is divided into three types: classrooms, the in-between space, and indoor gardens. Regarding spatial details, the teaching space adopts age-appropriate, multi-sensory, and participatory design. In terms of institutional design at the elderly school, a credit system is adopted where people can exchange credits for their own class hours, thus continuing to choose their preferred courses. In terms of spatial design, the school has three main indoor gardens, which also help the elderly to orient themselves in this rectangular space. The first indoor garden, the "Green Hall," is a sensory garden composed of bamboo, with the sound of dripping water, rustling leaves, green plants' visual effects, and flowers' fragrance. The second indoor garden, the "Blue Hall," is surrounded by exhibits and extends from the ground floor to the third floor via a ramp, allowing people to stroll from the lake surface to the top floor while enjoying the exhibits and scenery. The third indoor garden, the "Orange Hall," is a reading garden with large steps providing space for communication and reading. At the same time, the orange carpet makes the elderly feel warm and comfortable. Depending on the theme of different courses, the interior furniture and furnishings of the classroom space also vary. The classroom space is not monofunctional but multifunctional, including the production space, the small exhibition space, and spaces for communication and relaxation. Outside of these areas, the in-between space is more private, including functions such as private reading, psychological counseling, rest, scenery viewing, and credit exchange.

Material
In his book "Architecture of Defeat," Kengo Kuma mentions that architecture, including its surrounding spaces, is referred to as a sense of the field, and the sense of the field of architecture should fit into the existing environment (Kuma, 2019). The elderly school embodies this sense of field and naturally integrates into the park's landscape. The school is in a park with superior natural scenery, so the selected construction materials should maintain a transparent and natural architectural character. Wood, with its superior material properties, natural texture, and renewable environmental advantages, becomes the primary material for the elderly school, integrating material with architectural form and structure seamlessly. Glass is widely used for spatial interfaces, allowing for transparent sightlines so that every classroom can enjoy the indoor and outdoor landscapes. The choice of wood and glass integrates senior users, the elderly school, and Fennpfuhl Park.

THE PROJECT´S WIDER SOCIAL, PROFESSIONAL, SCIENTIFIC RELEVANCE

The original intention of this project is to help and improve the lives of the elderly in Berlin. It has a specific regional focus, which is very local. Therefore, it has a certain reference value in guiding related social issues in Berlin. As a building project that involves age-friendly design, participatory design, and multi-sensory design, it expands the traditional responsibility boundaries of architecture. Also, it has ontological value for the architectural discipline. Likewise, as a school building, it explores the spatial attributes from public to private and matches different needs and types of teaching activities. This is an innovative design for school buildings.

ETHICAL ISSUES & DILEMMAS

Architectural design should not only have beautiful forms and advanced technologies but also use them to respond to social problems. The elderly school provides another way to face Berlin's aging population. Elderly people alone at home can participate in various teaching activities in this elderly school, which increases opportunities for social communication. This helps them achieve self-achievement and spend their later years more joyfully. Schools for the elderly assume the social responsibility of caring for the elderly and provide people with lifelong learning opportunities.

Complex Projects align with my perception of public buildings and architectural complexity. As Venturi posited in "Complexity and Contradiction in Architecture," architecture possesses deficiencies, and outstanding architectural works are inevitably contradictory and complex (Venturi, 2023). The complexity and contradiction of buildings are very intuitively reflected in public buildings and building complexes. They will inevitably encounter difficult and complex social problems when serving the city. At this time, they play a role in generating social value and addressing social issues.

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