REFLECTION PAPER

BONE HOSPITAL

Medical tourist center in the information society

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Complex Project Berlin Studio

INTRODUCTION

01

My fascination with architectural design in the Healthcare industry comes from my childhood experiences as a patient. The illnesses I experienced growing up have made hospital memories a vital part of my life. Whether it is the fear of the unknown, the frightening treatment process, or the long and challenging hospital stays, I have a deep sense of how hospital space can significantly impact a patient's physical and mental health, the highly professional medical staff, and others. I believe in the ability of architecture to influence one's emotions while helping a patient recover physically. As an undertrained architect, I have always considered my experience and insight valuable when combined with my profession. My curiosity about how space can inspire visitors with hope and perseverance during their difficult health journeys has led to this thesis research.

1.1 Transformation of Healthcare

Healing space delegates some of the most private and complex services needed; personal information must be shared with the medical staff during treatment. This is why tense and frightening situations often arise, where patients face crucial decisions and their autonomy and independence are restricted. Therefore, the building should provide a way to reduce patients' anxiety and optimize their independence. The current understanding of space in healthcare facilities is somewhat frustrating, focusing most of the attention on illness when more needs to be preserved for well-being.

Medical facilities underwent significant changes in the 20th century due to the rapid development of medicine and technology. The hospital is designed as a healing machine that brings patients in, quick fixes and releases them. However, this type of architectural layout has a downside. Efficient medical machines treat the human being as a body only and are oriented towards the efficiency of treating physical problems while neglecting the patient's comfort and mental health, often causing stress and anxiety.

Nowadays, technology enhancement, digitization, and automation impact today's industry profoundly, and healthcare delivery is no exception. On the supply side, a vast array of new technologies integrate into the healthcare system, including artificial intelligence, robotics, precision medicine, and telemedicine, with current urgency (cost containment and efficiency) and long-term goals (more precision, fewer errors, and better outcomes) driving these changes. On the demand side, patients expect to be treated more efficiently, comfortably, accessibly, and in a near-normal environment. The hospital service model is transforming, with the traditional hospital as a center for medical services being forced to transform into a setting with leisure and entertainment elements. Therefore, future medical facilities must consider patient-centered typologies. Furthermore, challenges the possibilities technology can offer.

1.2 Inclusive space for mobility impairs

People with mobility disabilities favor autonomy and independence. However, it depends on their capabilities, so every person with disabilities is different. In some cases, they may prefer to apprehend a venue by themselves, or in others, and they may require assistance. Assistive technology has offered many possibilities, for instance, transfer devices, Exoskeletons, Adaptive seating, and positioning. Etc. These techniques will be more widely used and even integrated into architectural spaces in future medical facilities. We all like having options and not feeling restrained or limited. For people with disabilities who may experience it in several aspects of their everyday lives, having the choice to use technology or to interact with a medical staff matters.

1.3 Therapeutic environment

Humans are visually dominant creatures; we all tend to think, reason, and imagine visually. (Pallasmaa,1996) Our built environment is also prevalent visually.

Designers worldwide continuously highlight the great potential of multi-sensory design for curative spaces. With this approach, the impact of architecture on occupants can be better tuned through sensory design for a healthier mind and body. Sensory design is the coordination of spatial stimuli in the built environment, tempered to enhance the quality of experience for the inhabitants it serves. By taking an occupant-centered approach, therapeutic architecture further explains how sensory design can better accommodate physically, cognitively, emotionally, behaviorally, and spiritually healthier mind-body connections. When provided with a positive healing environment, the body follows and allows the mechanism of "self-healing."

1.4 Medical tourism in Berlin

This project takes the issue of the demand for medical tourism in Germany as a springboard, tracing the obstacles medical tourists might face during their healing process as well as the typical gap in current medical facilities.

1. Relationship between research and design

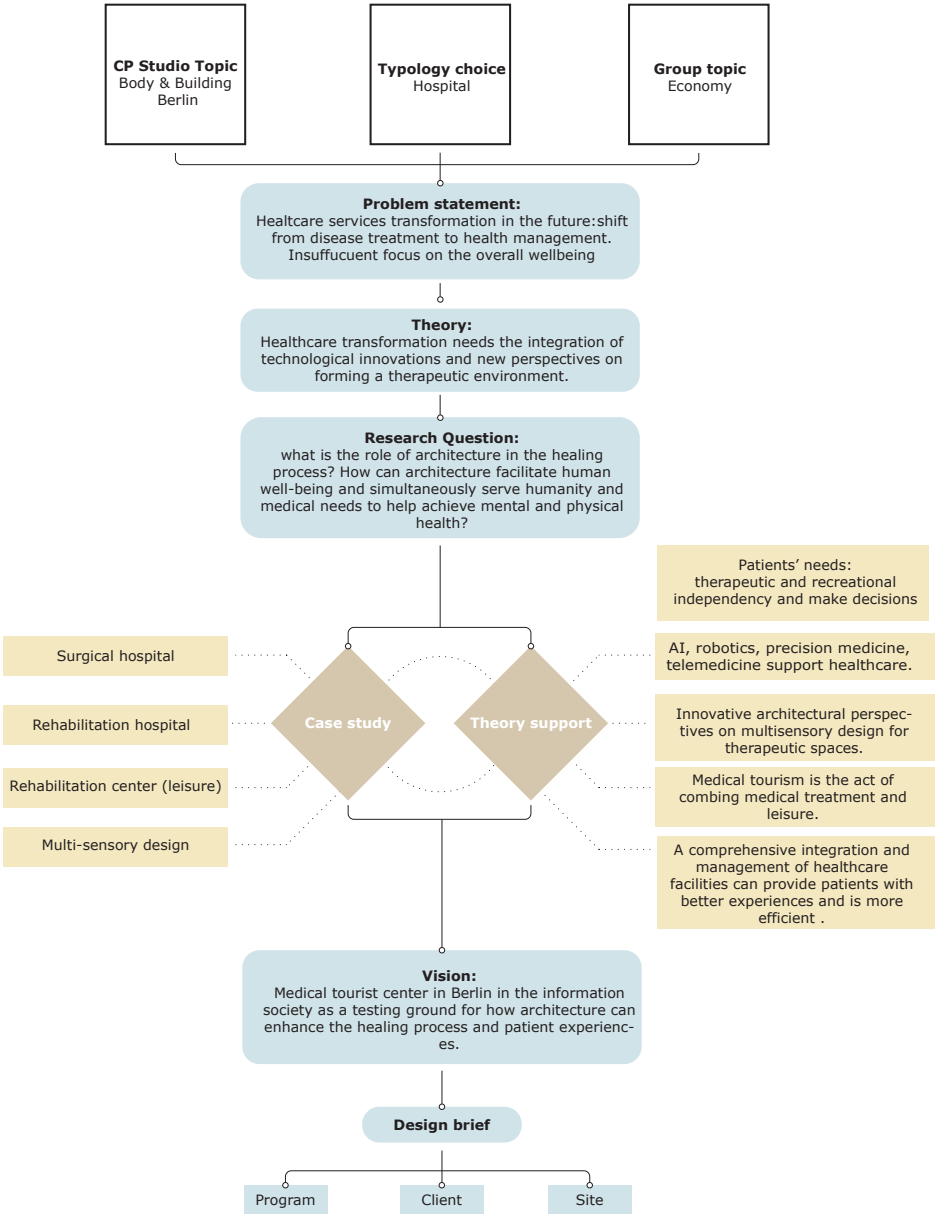
Research and design are inseparable, and although we tend to divide them into two phases in a project, their relationship is not sequential but rather mutually reinforcing. In the project's implementation process, we constantly optimize the design with research theories and evaluate the design results to consolidate the research's validity.

This project examines existing medical buildings, accessible spaces, and healing environments. By analyzing and reconstructing spatial elements according to evidence-based design theories, the project aims to provide an optimal healing and health-promoting environment, especially for the mobility-impaired group, healthcare professionals, and the wider user community.

2. Relationship between graduation topic and studio topic

The theme of the Complex project studio is Body, Building, and Berlin. The studio aims to study and clarify the relationship between the three. Based on the studio syllabus, nine types of public buildings are offered as optional scopes for the project. Through research-based design, the interrelationship between the three is developed.

Among all building typologies, the functionality of hospital buildings is one of the most unique, with significant changes in typology, functionality, form, and management in just a few decades. Many new diseases and medical behaviors have emerged over time, the development of science and technology, the shift in lifestyle, and the pursuit of better healing/treating experiences. Therefore, this project explores how to create and construct a lively hospital building in a limited space by considering the factor of time and balancing human emotions and technological development.


CP Studio Topic
Body & Building
Berlin
Typology choice
Hospital
Group topic
Economy
Problem statement:
Healtcare services transformation in the future:shift from disease treatment to health management. Insuffucuent focus on the overall wellbeing
Theory:
Healthcare transformation needs the integration of technological innovations and new perspectives on forming a therapeutic environment.
Research Question:
what is the role of architecture in the healing process? How can architecture facilitate human well-being and simultaneously serve humanity and medical needs to help achieve mental and physical health?
Patients' needs:
therapeutic and recreational independency and make decisions
Surgical hospital
Rehabilitation hospital
Rehabilitation center (leisure)
Multi-sensory design
Case study
Theory support
AI, robotics, precision medicine, telemedicine support healthcare.
Innovative architectural perspectives on multisensory design for therapeutic spaces.
Medical tourism is the act of combing medical treatment and leisure.
A comprehensive integration and management of healthcare facilities can provide patients with better experiences and is more efficient .
Vision:
Medical tourist center in Berlin in the information society as a testing ground for how architecture can enhance the healing process and patient experiences.
Design brief
Program
Client
Site

3. Research method and approach in relation to the graduation studio

Within Studio's design methodology framework, the relationship between the body, architecture, and Berlin is explored from two perspectives. On the one hand, the impact of public architecture on Berlin's development is examined from a macro point of view, deduced through five dimensions: transportation, environment, culture, future, and economy (the group's theme). On the other hand, the three attributes Flow (hospitals, airports, and stations are categorized as such), Space, and Area are compared to discuss the relationship between architecture and body.

Based on the studio framework, my project focuses on the impact of medical tourism on Berlin's economy, the patient's experience, and the impact of the healthcare system on architectural forms in the information society.

4. Relationship between the project and the wider social, professional and scientific relevance

The relationship between body and Building has changed from an agrarian society to an industrial society to an information society.

Our society has undergone a data-driven transformation, and in the healthcare industry, the prevalence of wearable devices, intelligent medical systems, and precision medical instruments has made the body a medium for collecting data that can be used extensively to optimize diagnostic, therapeutic, and healthcare management processes. Whether AI, robotics, precision medicine, or telemedicine, they all profoundly impact the relationship between architecture and the body.

Nowadays, human development has made us capable of handling more data, which means that the form of architecture as a physical tool for human-environment interaction needs to be reconsidered.

5. Ethical issues and dilemmas

The remarkable and high threshold of hospital architectural design lies in the fact that it is not a mono-functional building design. "A hospital is a microcosm of society. In this limited space that operates all year round, how to take care of the needs of patients, visitors, and medical staff, the function of the hospital and the aesthetics of the building, the advanced medical technology and the humanized medical environment, the limited medical space and the medical time. Etc. At the same time, how do we achieve the optimal balance between the interdependent or conflicting factors? How to achieve the optimal balance between interdependent or conflicting factors is the most formidable but fascinating challenge in planning and designing healthcare architecture .