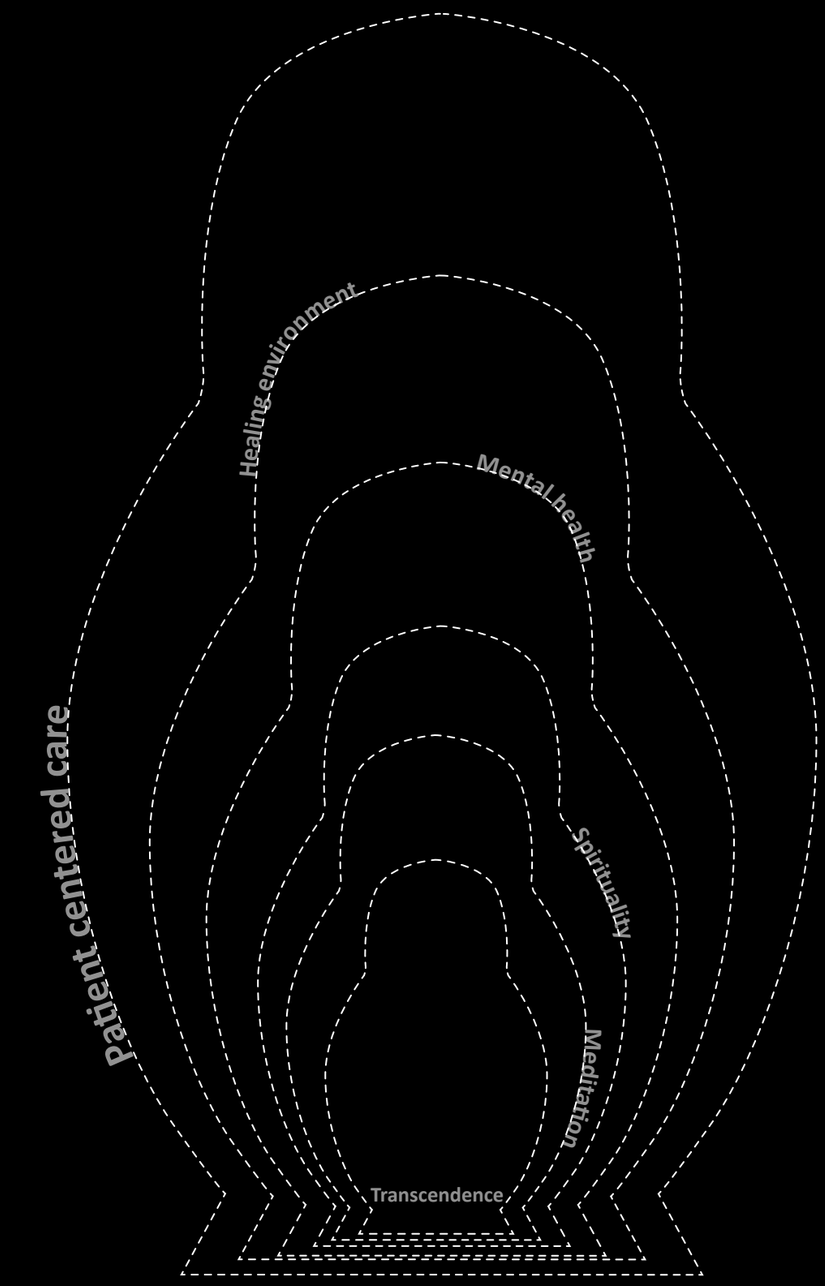
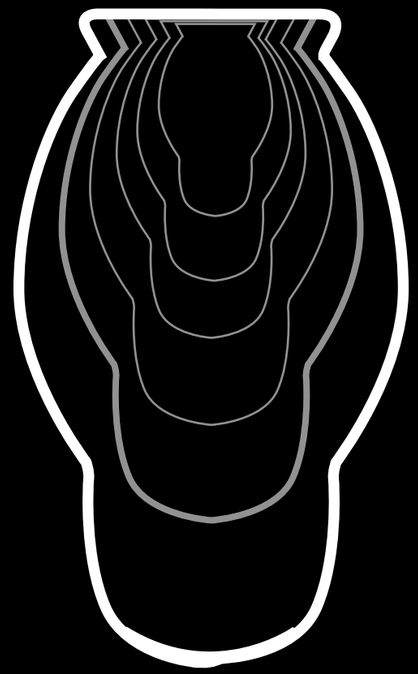
A new perspective on the architecture of psychiatric healing



Research tutor:
Frederique van Andel
Building technology tutor:
Jos Lafeber
Design tutors:
Elke Miedema

Mihnea Cernaianu – 5583616



Master thesis

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Research tutor:
Frederique van Andel
Building technology tutor:
Jos Lafeber
Design tutor:
Elke Miedema

Msc3 Master Thesis
Mihnea Cernaianu
5583616

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Introduction

Abstract

Keywords: Spirituality, Mental health, Psychiatry, Psychiatric facility, Transcendence, Meditation, Healing environment, Patient-centered care

Some researchers claim that the modern landscape of psychiatric treatment is mechanized to approach healing of the patients through the form the chemical treatment (Rhi, 2001). This method does not prove to be efficient for every patient, leaving them in a burdening psychological state. Elements such as holistic practices and spiritual rituals can offer an alternative which is patient-centered, and addresses the patient as a whole (CAN ÖZ & DURAN, 2021). Psychiatric facilities often neglect the need of the user in relation to the healing space. The approach in this field of architecture is often staff-centered, focused on control and safety, but often lacks the qualities that are associated with a holistic view of healing (Connellan et al., 2013). In order to understand and analyze the positive effect that buildings can have onto the patient, case studies, interviews, visits and reference reviews were conducted, which were summarized into design themes that serves as a basic framework for creating spiritual and healing environments. The design themes matrix outlines the qualities of architectural spaces on three different scales, representing the experience and feelings of each location. The most common features were elements such as minimalist, synthetic spaces, emphasized by either monochrome or complementary color schemes, are orchestrated through light and darkness. Thus, immersing the user into the architectural space opens them towards the possibility of experiencing a mystical experience.

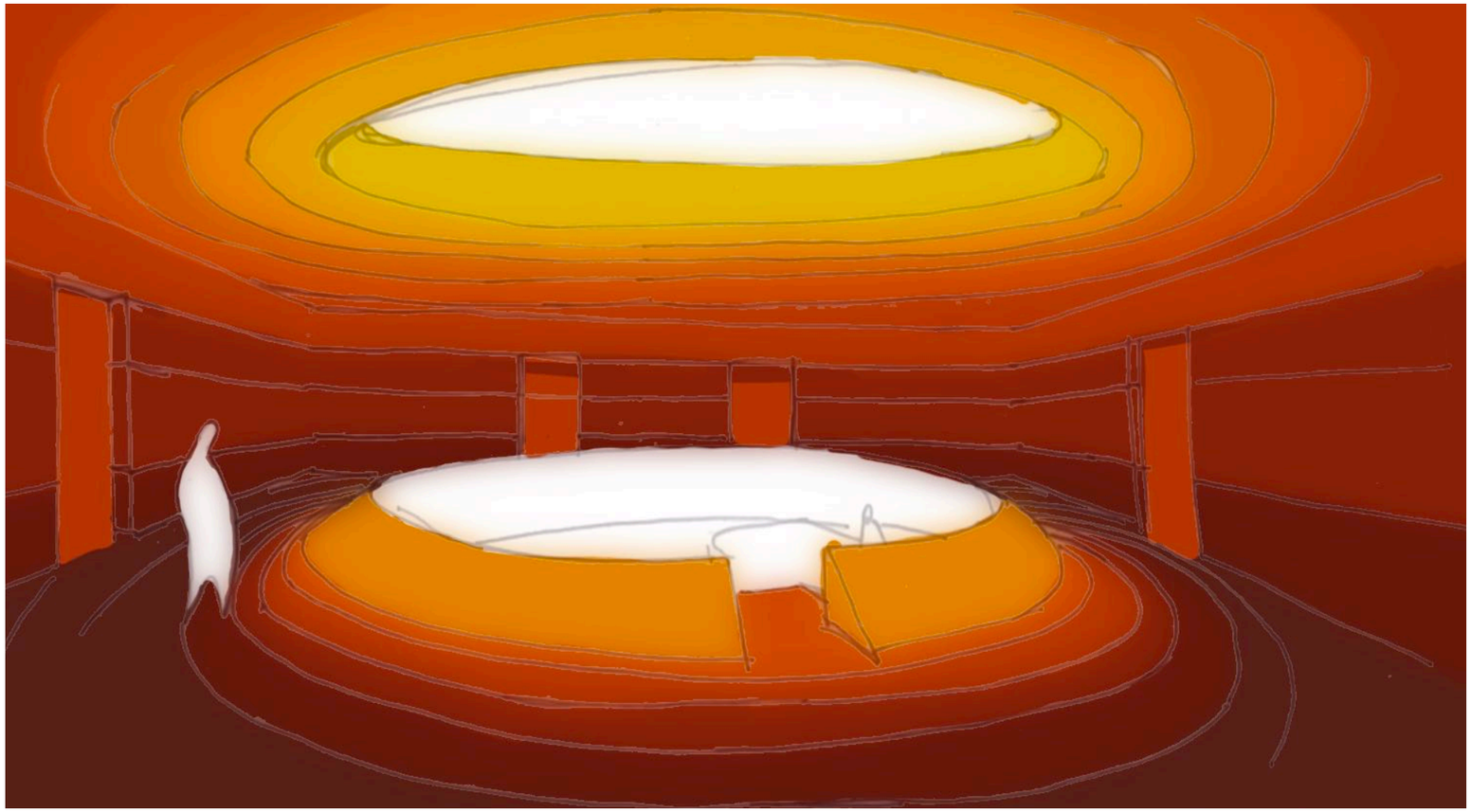


Figure 1. Sketch showing the interior quality of the psychiatric facility

Introduction to the problem

In the modern approach to mental health issues, such as psychiatric disorders, more often than not, psychiatrists resort to medication for treatments. Psychotropic drugs serve as an ameliorative agent in the process of curing mental illness, meaning they are not always permanent solutions. The issue cannot be resolved and reduced to simply administering pharmaceutical treatment, since this approach does not address the roots of the problem. A more efficient alternative is to assess the quality of life and environment of the individual being treated (Ivanov & Schwartz, 2021).

Recently, there has been a trend in the media to promote alternative ways of treatment, through the means of apps, video and audio platforms covering how the quality of life of individuals can change without the use of prescribed medicine (Hansen et al., 2013). This trend helped to popularize this different approach to mental health and bring to the attention of the masses, the possible benefits of such practices. Amongst the options, are the spiritual practices and the presence of holistic environments that positively affect their psychological state. Patients show significant signs of subjective recovery when spirituality is introduced into the practice of healing (CAN ÖZ & DURAN, 2021).

Conservative psychiatry developed a one-sided attachment to the materialistic and mechanical ideas of man and dedicated itself only to the chemical therapy, failing to meet the needs of the general population for spiritual satisfaction (Rhi, 2001). There is however, a lack of resources documentation and resources that would explore and analyzed the effects of combining, spirituality, holistic environments and psychiatric architecture, all together.

Societal relevance

Modern methods of treatment often neglect considering the spiritual needs of patients. These needs often go beyond treatment and expand onto our relationship with space. Although we cannot explain it, architecture sometimes warps our perception in a manner that induces a transcendent state. Through tacit knowledge and anecdotal evidence, these experiences can be recorded and replicated in buildings intended to heal people.

Currently there is a lack of government funding for buildings that are not able produce profit. The Organization for Economic Cooperation and Development (OECD) outlines the current state of healthcare system, emphasizing the issue of the costly upkeep(Forti, 2014). By designing an inclusive and holistic care environment, where the current healthcare network can expand and meet the needs of the patient, offering a long term solution, future psychiatric facilities will be able to cushion the burden that the healthcare system is currently facing.

Problem statement

Many of the current models for mental health service designs reflect the societal fears about mentally ill patients, namely: suicide risk, violence, and crime. In this way, present guidelines for mental health facilities are based only on staff-centered principles: empowering the control of the medical staff and diminishing the independence of the patients (Connellan et al., 2013). Few patients receive a treatment that is tailored to their needs, having to accept and undergo evidence-based care. The issue is that there is a mismatch between laboratory results when it comes to medication and the effects of implementing them into real-world practice (Bickman, 2020).

In addition to that, there is a problem with over-prescribed psychotropic medication, where the population is subjected to using this treatment too early and without an adequate amount of safety considerations. As a consequence, patients may experience harmful adverse effects (Frances, 2020). The Planetree framework outlines concepts that are lacking in the current practice, which are all focused on patient-centered care (Planetree, 2006).

In the culture of psychiatric practice heavily influenced by Sigmund Freud's thinking, the impact of spirituality has been either neglected or avoided due to its complicated mechanism, but nonetheless, the literature points the potential benefit of such practices (Swinton & Griffith, 2006). The growing materialistic outlook found in Western psychoanalysis turned psychologists away from encouraging patients to adopt a positive stance towards the spiritual practices (Rhi, 2001). Moreover, the gap in research and knowledge occurs due to the lack of data on holistic treatments, applied in the setting of psychotherapy, focused on the effect of the building. This consequence is also due to the fact that current psychiatric facilities do not accommodate some patients needs, which express the need for experiencing spiritual settings (Ferrell et al., 2018).

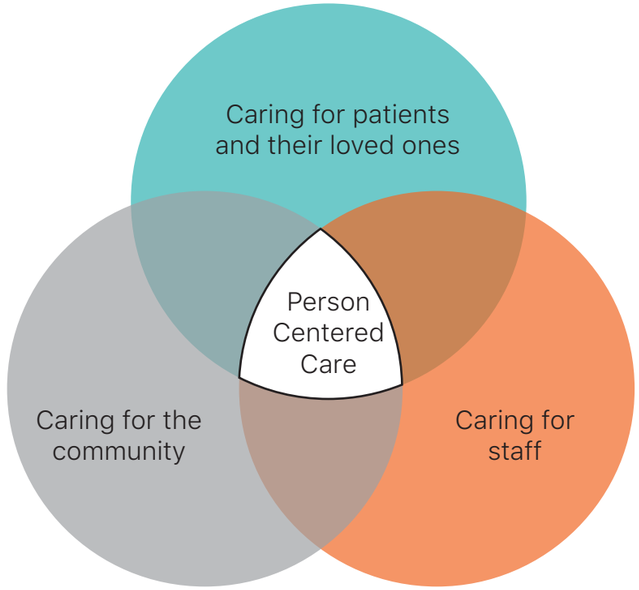
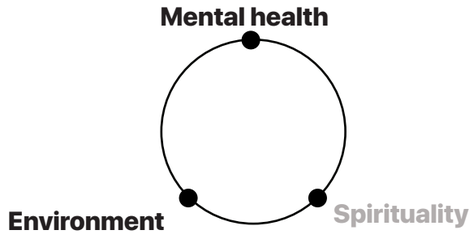


Figure 2. Planetree. Person-centered care diagram

Theoretical framework

Introduction

The framework outlined by the Planetree concepts was used as the starting point for the theoretical framework. The relationship between mental health, Spirituality and the environment serves as the base of the framework that will guide the investigation of supporting theories. The reciprocal connections will be highlighted by analyzing their relationship in pairs of two, in order to outline their commonalities.



Mental health and the environment of treatment

The therapeutic milieu in mental healthcare facility design is dependent on the multidisciplinary expertise of architects, psychiatrists, and other mental health professionals. The design goal that stems from the collaboration of the professionals is to create a "humane, efficient containment and reduction of severe psychopathology" (Connellan et al., 2013). Several designs and scientific approaches emerged to address this goal, including Antonovsky's salutogenic theory (1979) and the Planetree approach (1978).

The salutogenic theory introduced in 1979 by Aaron Antonovski in his book "Health, Stress, and Coping". His concept suggests the one's life experiences shape their sense of coherence, which is regarded as the ability to orient themselves. This sense relates to the individual's capacity to successfully cope and respond to stressors such as physical or psychological conditions (Mittelmark et al., 2017).

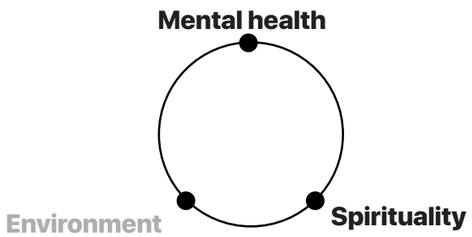
From a psychiatric point of view, the approach to the healthcare facility is that the relationship between a patient and the environment is understood as being transactional and not fixed, which means that the ability of people to cope with illnesses is correlated with the environment they are in. This approach focuses on holistic human well-being rather than the disease, cause, and effect (Connellan et al., 2013).

Figure 3. Theoretical framework

The relation between the environment and a patient is systemized with Planetree's approach, which consists of nine elements: (1) Human interaction, (2) Consumer and patient education, (3) Healing partnership with the patient's family and friends, (4) Nurturing through food and nutrition, (5) Spirituality, (6) Human touch, (7) Healing arts and visual therapy, (8) Integration of complementary therapies, (9) Healing environment created in the architecture and design of the healthcare setting (Connellan et al., 2013). Although this approach is not focused specifically on mental health, it suggests the following components of the healing environments: views to the outside or images of nature, extra seating spaces alternative to bed, reduced noise level, various lighting options, etc. The perspective of the staff is also addressed with the design concepts of the workflow process, safety,

mobilization of patients and equipment, visual access to patients, and stress reduction (Connellan et al., 2013).

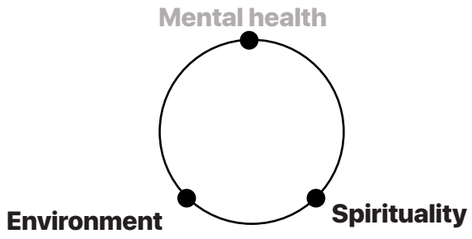
Both salutogenic and Planetree approaches follow the aims of person-centered care, which outline ambient features, architectural features (plan, layout, size, and shape), and social features of healthcare institutions. Thus, these different approaches to person-centered care illustrate the valuable relationship between the patient's well-being and the healing environment.



Mental health and spirituality

In order to address spiritual care, one must consider that it is part of human-centered care. The approach advocates that every individual is considered a valuable human being with complex needs. Catering to this inner need of the patient not only helps improve their psychological and emotional state, but also contributes to their self-image and sense of identity (Barber, 2015).

The model of Planetree aligns with the crucial role of spirituality in the process of healing the whole person. In this environment of healing, people close to the patients such as staff and families are contributing to the progress by connecting with their inner spiritual resources. The architectural spaces that allow the patients to heal are gardens, chapels, and meditation rooms, designed for praying and reflecting, where Chaplains are part of the healthcare team (Planetree, 2006).
Research shows that individuals who identify as having a religious or spiritual belief system are linked to low rates of suicidal behavior, substance abuse, and depression, as opposed to people who do not adhere to the belief in a higher power. There are however side effects and risks, which occur when severely mentally-ill patients engage in negative religious coping practices (Planetree, 2006).



Spirituality and the environment of treatment

A spiritual space has the architectural characteristic that instead of the mere focus on its form, it has a relation to the underlying principles of life quality and spiritual attitudes related to the human soul. These types of buildings are designed based on geometries that allow the flow of spiritual energy in a suitable way.

Several studies link spirituality with better results for human health and decreased anxiety, depression, and self-harm thoughts. The field of neuroscience uses visual stimuli to examine the emotional and cognitive demands of users. Based on the results of these experiments, negative emotions, fear, pain, anxiety, and concern could be replaced with positive moods by thoughtful architectural design (Sadeghi Habibabad et al., 2020).

According to the neuroscience experiment on the control group of 15 males and females, Ali Sadeghi Habibabad, has found that brain fluctuations took place as the people observed panoramic pictures of Imam Isfahan Mosque. The effects of using religious building images led to peace and relaxation among the study participants. The study concluded that architecture affects people's introspective mechanism (Sadeghi Habibabad et al., 2020). This data illustrates the positive correlation between the environment and the spiritual orientation of the individual.

In the past, religious spirituality was an integral part of mental institutions. For instance, 19th-century European psychiatric hospitals followed the tradition of Christian care and implied the presence of sacred spaces such as chapels, churches, and cemeteries. The patients' spiritual needs were somewhat manifested in the design of the space, visual expression of forms, and shaping of the sacred realm (Staniewska, 2018).

Modern healthcare environments sometimes consist of multi-faith places of spiritual healing that require careful considerations from designers and may include prayer rugs, labyrinths, movable furniture, or customization. In the case of secular healing spaces, hospitals allow patients be in touch nature which can be similarly therapeutic on a spiritual level.

Design hypothesis & Position

Design Hypothesis

The main hypothesis is that architecture which offers the possibility of experiencing spirituality and healing environments can support the healing process of inpatients. Here, the building acts as a medium between the patient and the staff, giving the user room for personal preference and supporting them throughout their journey.

Position

In the context of healthcare architecture, specifically when dealing with a demographic that is vulnerable, it is essential that architects consider and respond to the needs of the individuals in a manner that focuses on creating nurturing and healing environments. The research is based on the two approaches of holistic architecture, healing environments and spirituality.

By addressing not only the usual aspects of healthcare architecture, the two Planetree approaches will create beneficial surroundings that will in turn improve the mental and physical health of psychiatric patients.

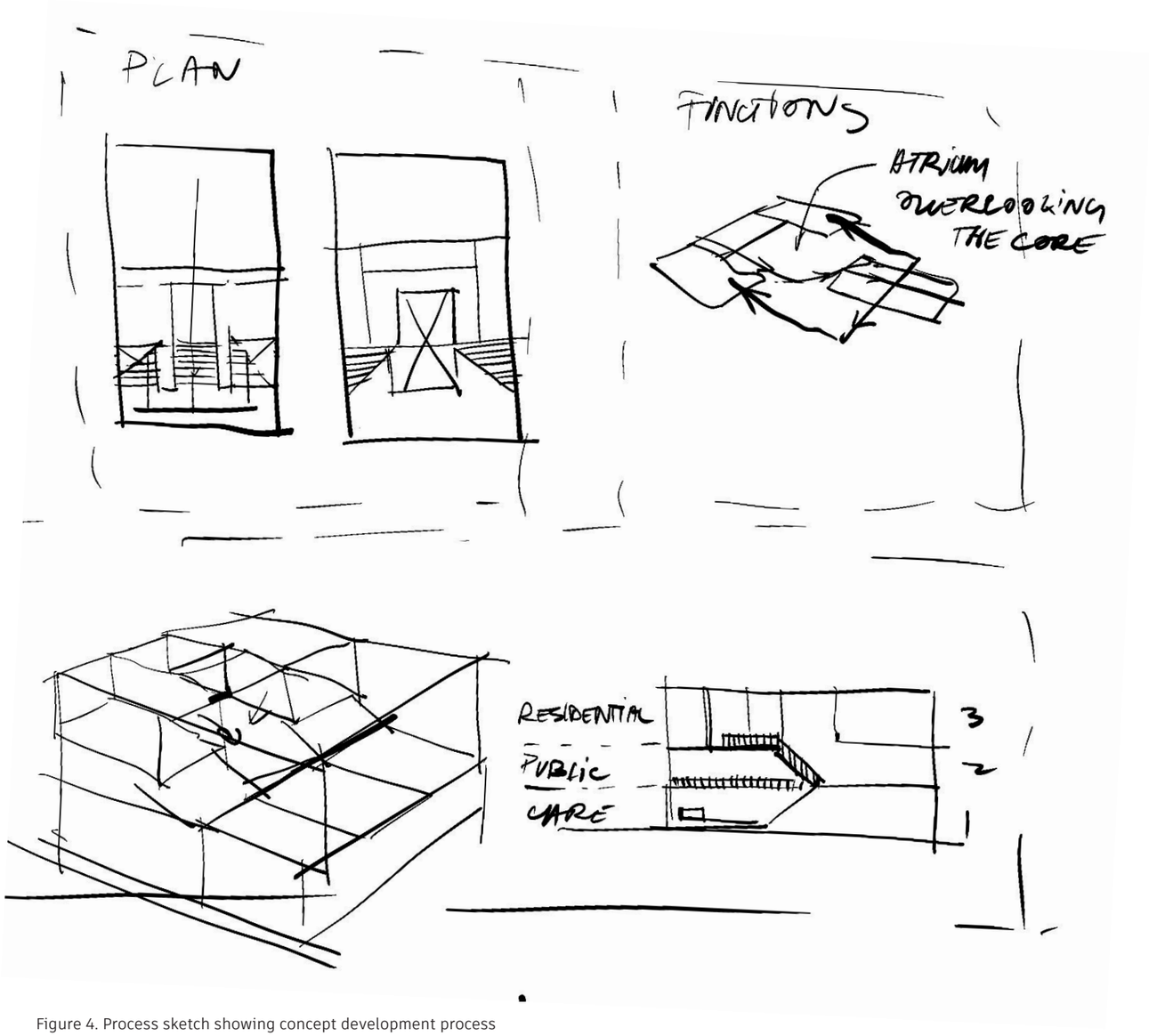


Figure 4. Process sketch showing concept development process

Research aim

The goal of my research is to bridge the gap in knowledge about how spirituality and psychotherapy work when combined in terms of treatment and how this relationship can be translated into architecture. This goal will be achieved by improving the current model of building for psychiatric care, with the objective to positively influence the health outcome of patients in a holistic and inclusive manner. More specifically, analyzing the architectural elements that are part of holistic forms of treatment, which are outlined in the Planetree approach.

Rather than focusing solely on the more well-known methods of treatment, such as medication and psychotherapy, the research will lead to a design proposal that would promote spiritual practices, as well as healing environments. The need for an individual means of achieving spiritual healing will be addressed by using spaces where people can reach a meditative state.

Lastly, the research will also cover the topic of transcendence and the creation of sacred space. I aim to understand the inner workings of the process of reaching a transcendent state and how architecture triggers this phenomenon.

Research limitations

The same need for spiritual healing can be identified in people who consider themselves atheists, for whom spaces can still appear as spiritual, meaning that on a subconscious level, regardless of our beliefs, there is a shared experience of the sacred. In the clinical literature, this phenomenon is called the spontaneous mystical experience (van der Tempel & Moodley, 2020).

Considering the elements mentioned above, the demographic will be split into religious, spiritual, and atheist individuals, which will all be the categories that will be addressed through design.

In my research, I will focus on a specific group of mental health patients, more specifically, adults with mild forms of psychiatric disorders. Here, the choice for mild forms was based on literature research that revealed how different patients react to spirituality. Patients with extreme forms of mental health disorders experience spirituality much differently than patients with low to mild forms of the same diagnosis. Such an example would be inpatients with an aggravated diagnosis of schizophrenia, which, through a warped sense of reality, might consider themselves gods who have supernatural powers. Thus, for patients that are identified as delusional or psychotic, professionals are advised to avoid introducing them to religious rituals or encouraging them in their beliefs (Mohr, 2006).

Therefore, the targeted demographic for this research are the patients with mild forms of mental disorders (i.e., anxiety, depression, bipolar disorder, eating disorders, OCD, PTSD, and suicide tendencies).

Hierarchy of topics

The diagram in Figure 3 illustrates the hierarchy of the subjects for research, showing how they are connected in relation to each other. The overarching aim of the research is investigating the architecture of Patient centered care, while the innermost and specific piece of the research is transcendence. All the components of the diagram are directed towards the context of architecture

The design of the diagram is inspired by the Russian Nesting Doll, which is made up of components that are proportional to each other but differ in size. Using this model the diagram shows the succession of topics, offering a glimpse into how the research will be conducted. Starting with the exterior element, “Patient centered care”, the research will converge gradually into the topic of“Transcendence”.

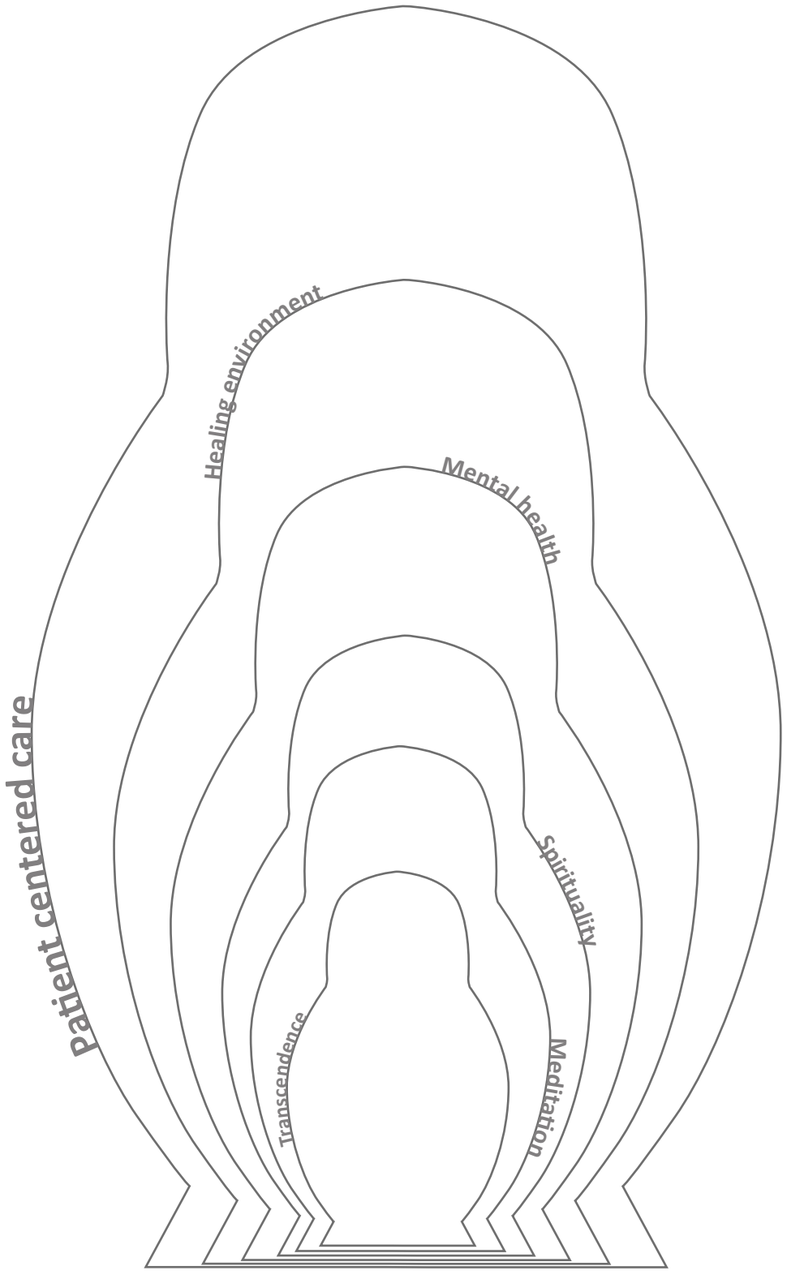


Figure 5. Hierarchical diagram

Research diagram

Problem statement

Many current models for mental health services are based on designing for a staff centered facility rather than focusing on the individual needs of the patients. Frameworks for patient centered institutions are not implemented due to the rigid structure that they still follow, and the lack of environments that support the individual. The current system disregards the use of holistic methods, leaving many patients in need to search elsewhere for a solution. Two of the holistic elements that are lacking are Healing environments and Spirituality.

Research question

How can architecture and built environment features related to spirituality and healing environments in a mental health care facility in the Netherlands improve the wellbeing of adult inpatients?

Sub questions

- What are the architecture and built environment features that correspond with psychotherapeutic practices?
- What are the architectural principles that correspond with the wellbeing of patients?
- What does spirituality mean for psychiatric patients?
- Are there generic architectural and built environment features of a space that can induce a spiritual experience?

Method

- Literature study on spatial requirements for practicing therapy, supporting safety and the control of the inpatients. Reference studies on current psychiatric facilities and investigation into what are the principles applied in their design.
- Literature study on requirements for healing design such as the Planetree scheme, as well as requirements for uplifting the mood of the patients. Fieldwork observations on how patients interact with their environment.
- Literature study on methods of practice, types of spiritual individuals and the context of spirituality within a mental health facility. Interviewing staff, professionals about how they implement spirituality and how patients perceive the subject.
- Literature study on transcendental experience, spiritual rituals and the different spaces where it is practiced. Case studies of spiritual architecture (both religious, as well as "spiritual but not religious"). Interviews with professionals about implementation.

Outcome

- List of principles used for safety, support and control of the patients.
- Overview and analysis on the current state of the fieldwork location. List of requirements for health promoting design.
- Methods, knowledge on spaces of worship, meditation and reflection. Reasons for using and promoting spirituality.
- Overview of references, analyzed examples of transcendental architecture in terms of physical components that contribute to the experience.

Design proposal

Figure 6. Research diagram

Methods

The two concepts chosen from the Planetree scheme: Healing environments and Spirituality will be the basis for addressing the sub questions of the research. The first two questions will tackle the aspects of healing spaces, while the last two will focus on the aspects of spirituality. All the questions will include both literature review, as well as analyzing reference projects, as a part of the research process.

The research questions will be answered through illustrated design guidelines that conclude the literature review and case studies. The layout of the research report will follow a narrative that encompasses the process and the findings. The research chapter will highlight the findings, subsequently a chapter will be dedicated to answering the research questions though the design themes, followed by a matrix that offers the overview of all collected data. Each chapter of the research will be structured according to the two main themes, Healing Environments and spirituality.

Besides the design guidelines, there will be a section dedicated to the patient healing journey, which will be based on conversations with professionals in the field and interviews with professionals from the field. The chapters of conclusion and discussion will reflect on the consequences of the design, limitations and the findings.

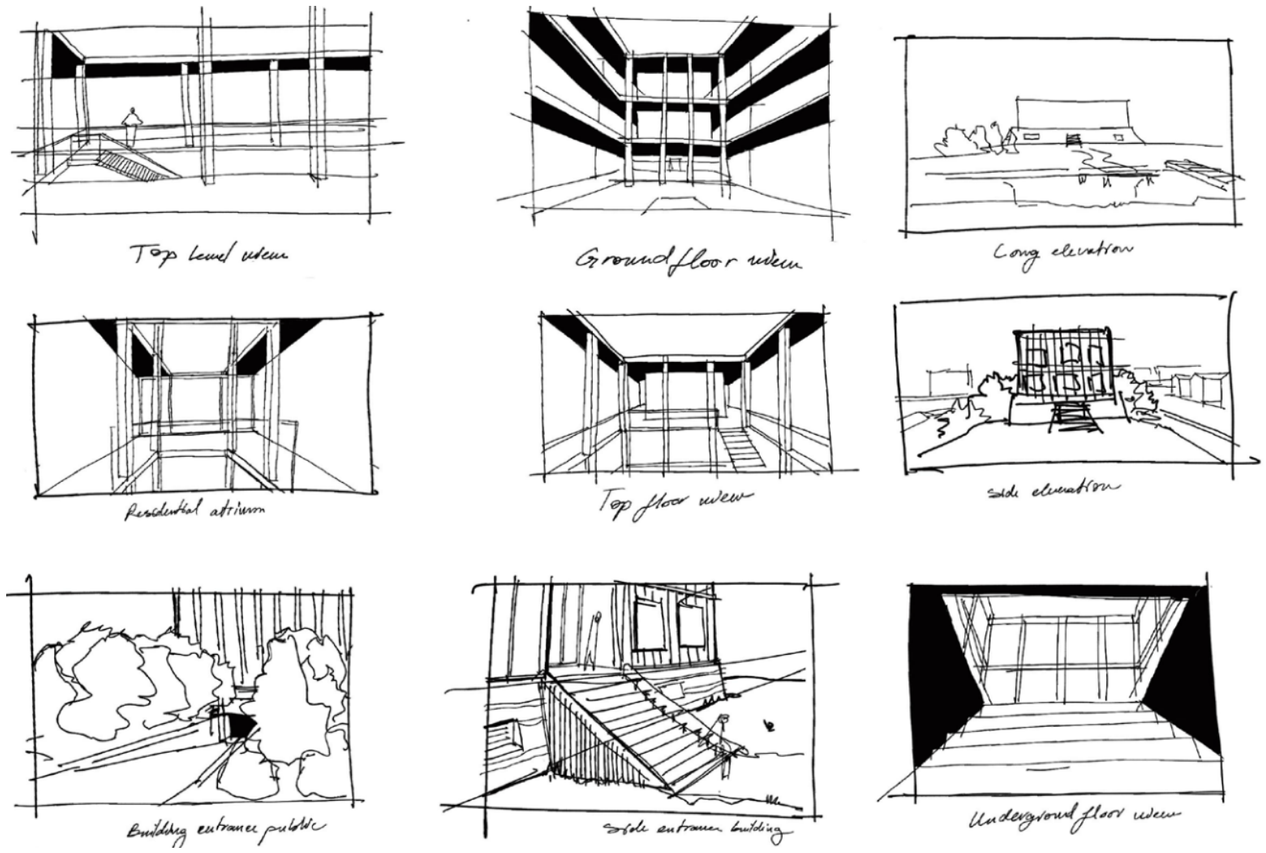


Figure 7. Process sketch showing the qualities of the design

Addressing the research sub questions

1. What are the architecture and built environment features that correspond with psychotherapeutic practices?

As an outcome of the first sub-question, the research will investigate what the current facilities is in terms of psychiatric care, what has been done in the past, and what promoted the healing of the patients, in the context of architecture.

Here, the focus will not only be the architectural design but also the type of spatial organization, materiality, and positioning in the landscape. This part of the research will be illustrated through a series of reference project reviews that include requirements for psychotherapeutic practices. Health-promoting design, as a topic is also of interest to this sub question and will be researched.

2. What are the architectural principles that correspond with the wellbeing of patients?

In the part of the research that deals with the well-being of patients, the research will analyze what are the general guidelines for health promotion and wellness, as well as approaches developed to enrich the life of patients and staff that experience the environment of a mental health facility.

Two of these approaches have been discussed in the theoretical framework, and they are: Antonovsky's salutogenic theory (1979) and the Planetree approach (1978). These two models represent the direction of the research when it comes to the well-being of the patients.

In addition to the literature study, the perspective of psychiatric patients and staff will be also taken into account. Namely, through activities and conversations that take place during a site visit to a mental health facility, the way users interact with their space will be observed, leading to conclusions that illustrate the qualities and deficiencies of the design.

The findings of this part of the research will lead to uncovering the most suitable option of framework in terms of design elements.

3. What does spirituality mean for psychiatric patients?

Here, there will be a need for a defined and narrowed down view of the topic of spirituality, in order to conduct the research. The relationship of the user to the spiritual architectural space will be investigated according to the three main subgroups that cover the demographic of patients.

When it comes to the religious group, the spaces of worship will be considered for the design, but will not represent the main focus of the research. When it comes to spiritual and agnostic people, the assumption will be that the degree of openness towards accepting a synthesized and altered version of sacred space is higher than it would be for religious people. For these two subgroups of individuals, I will explore what spirituality means for agnostic and "spiritual but not religious" individuals.

The process will be conducted through a literature study and reference review on meditative spaces in terms of architectural features.

4. Are there generic architectural and built environment features of a space that can induce a spiritual experience?

Choosing the experiential state as one of the two central parts of the research means that every other element of the final design will be interlinked with the spiritual phenomenon.

In this section, uncovering the components of spiritual spaces in terms of architecture will be done through reviewing the literature on meditative spaces for reflection, which induce the transcendental state. Followed by that will be case studies based on site visits which are conducted based on research, displaying both spiritual and agnostic architecture.

Answering this question will lead to finding the key components of architecture such as churches, but also spaces that could be completely unrelated to religion, that still evoke a spiritual experience.

Definitions

The definitions are given below outline the meaning of the keywords used within the research. The first descriptions are given by the author. The definitions are given specific to this research in order to outline precisely the commonly occurring elements throughout the study. The own definitions are followed by definitions found in literature in order to also provide an outlook on how each keyword is defined in a more broader sense.

Mental health institution
- An inpatient care facility dedicated to treating and supporting adults with low to mild mental health disorders.
- A mental health institution deals with patients that show symptoms of mental distress, pathology, or patients who were diagnosed with mental illness (Psychology dictionary, 2013).

Healing environment
- An environment that positively contributes to the mental and physical health of its inhabitants.
- An optimal healing environment is one where health factors such as social, psychological, spiritual, physical, and behavioral are oriented towards support and inner healing capacities (Healing environments, 2012).

Spirituality
- The belief in a higher power, whether that is a specific deity or a general higher being, acknowledged in the case of the religious and the “spiritual but not religious” patients or the willingness to reach an ego-less state, encountered through a mystical experience.
- Spirituality is a general, unstructured, personalized, and naturally occurring phenomenon, where one seeks connectedness between themselves and a higher power or purpose (Bożek et al., 2020).
-

Patient-centered care
- A holistic environment approach that implements requirements for the care of the whole person, rather than focusing solely on patient safety and control.
- The approach is defined by its focus towards the needs of the individual. Ensuring that their preferences, needs and values are the basis for personal clinical decisions (Person-centred care, 2022).

Mental health
- The fusion of all the psychological and emotional components of well-being.
- Mental health dictates how an individual thinks, feels and acts, it is also a factor that determines how one relates to others, handles stress and makes healthy choices. It includes emotional, psychological, and social well-being (CDC, 2021).

Transcendence
- The state achieved through meditation, prayer, or reflection, where one supersedes the natural realm, reaching a state of oneness with their environment.
- Maslow defines transcendence as the highest and most inclusive or holistic level of human consciousness, behaving and relating to oneself and others (Maslow, 1971).

Well-being
- A state of both psychological and physical health, where one supports the other, in the context of an individual being able to face life’s adversities.
- Well-being includes the presence of positive emotion, satisfaction with life, fulfillment and positive functioning. Well being covers the physical, economical, social, emotional and psychological aspects of an individual’s life (CDC, 2018).

Meditation
- A state of reflection, calmness, quietness, and peace, where one is freed from all worries, concerns, and hardships of life.
- Meditation can be considered an exercise, where one achieves an extended state of contemplation and reflection over a specific subject or their existential state (What is meditation?, 2015).

Mystical experience
- A state of wonder and awe in which the individual loses the sense of time and becomes ego-less, where the person is one with its environment.
- States of consciousness characterized by the presence of what appears to the subject to be an object or state of affairs which, in ordinary life, is felt as being external to him, but which, in this state, is presented to him without the feeling of externality(James 1902, 316).

Research

Reference projects on healing environments

Architectural principles for therapy

In the pursuit of understanding and finding the components that positively affect the psychiatric patients inside a mental health facility, it was of crucial importance to understand how different layouts affect the use of the space. Thus, the following examples will highlight how different layouts are beneficial in establishing a healthy environment.

The healthy environment of a psychiatric institution should guide patients towards their healing journey, with the goal to reintroduce them back into society or care facilities.

The model outlined by sociologist Aaron Antonovsky, offers an insight into the connection between health,stress and coping mechanisms, which has the potential of informing the connection between architecture and human behavior.

He defined the concept of the sense of coherence, through which he can measure the impact that salutogenic space have onto the user. More specifically, he used the concept to measure one's ability to react to any given situation. Individuals with high scores are able to cope with stressful situations and are considered to have a healthy psychological and physiological state (Dilani, 2014).

Salutogenic design supports components such as social cohesion; personal control over the space in terms of light, the micro climate of air, sound, temperature; relaxation, soft lighting, a good exterior view and access to nature. The impact on the mental health of the patients can be promoted through access through access to social environments, predictability and aesthetics of the space (Dilani, 2014).

The Brinkåsen hospital in Vänersborg, in Sweden, won the 2013 Helge Zimdal Prize for architecture and the 2014 Healthcare Building Award. Built in 2011, the building was designed for forensic psychiatry and long term care, with the aim of creating an environment which opposes following the usual strategy for

Figure 8. Brinkåsen hospital in Vänersborg, Sweden, 2011, courtyard

Figure 9. Brinkåsen hospital in Vänersborg, Sweden, 2011, Birdseye perspective

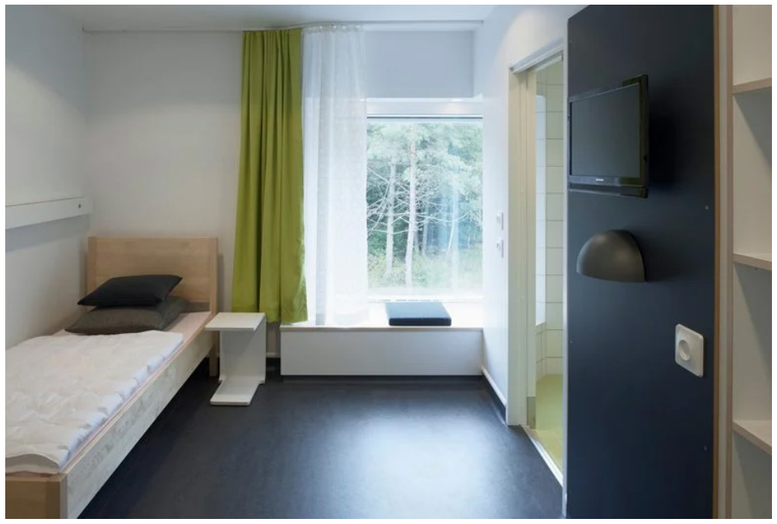


Figure 10. Brinkåsen hospital in Vänersborg, Sweden, 2011, bedroom

Figure 11. Brinkåsen hospital in Vänersborg, Sweden, 2011, Inner courtyard

institutional care. The way this is achieved in the hospital is by imitating the society on the outside of the institution, including leisure, housing and work. In the plan for the layout, the staff is offered the ability to step away from their work with patients and spend time with colleagues, while also being able to be close to development work and research. This allows for different specialists to be employed. Having access to the atrium courtyards and being in close proximity to the park are appreciated by the patients and contribute to the calming environment.

The relationship between the user and the environment can be beneficial for their psychological state. The diagram by the architecture office IBI Group, illustrates how nature affects the user through the layers of the building, through the different types of spaces, eliciting sensorial and physiological body responses, in order to generate psychological, emotional and physical responses from the body (Mazuch, 2017).(see figure 9)

An aspect of the building that masks the feeling of a harsh psychiatric institution is the absence of a fence. The way that the architects avoided having perimeter fencing for the facility is by creating an outer protective layer made up of the buildings themselves. Patient rooms have locked storage rooms, bathrooms with access to daylight, and an observation hatch for the staff (Roudebush, 2012).

The patients are not given permission to open the windows and regulate air or water temperature themselves, which is negatively affecting their personal control and independence.

Besides the quality and arrangement of functions, architecture has to be mindful of the qualities of the site that are related to the geographical position of the building, such as light, wind, terrain, soil,etc.

Day light is one such characteristic which is crucial in the healing process of the patients. In regions of the world which lack an adequate amount of natural daylight, people suffer and are affected by light deprivation. This phenomena is also known as winter blues, or Seasonal Affective Disorder (SAD) when the effects are rather extreme (Roudebush, 2012).

In order to mitigate the effects of SAD, the proposal for Vardø's community center in Norway, created a space where locals are treated for this affection. This retreat dedicated to people that suffer from SAD's effects during the winter, deals with the lack of light in a space that brings people together.

The design incorporates a living room with artificial lighting as a substitute for the lack of natural intakes, but also hides the intent of the space by creating an accent wall that hides the led lights.The concept embodies community light therapy by not only providing the needed light, but also including social interaction, which lessens the harmful effects of SAD's symptoms(Roudebush, 2012).

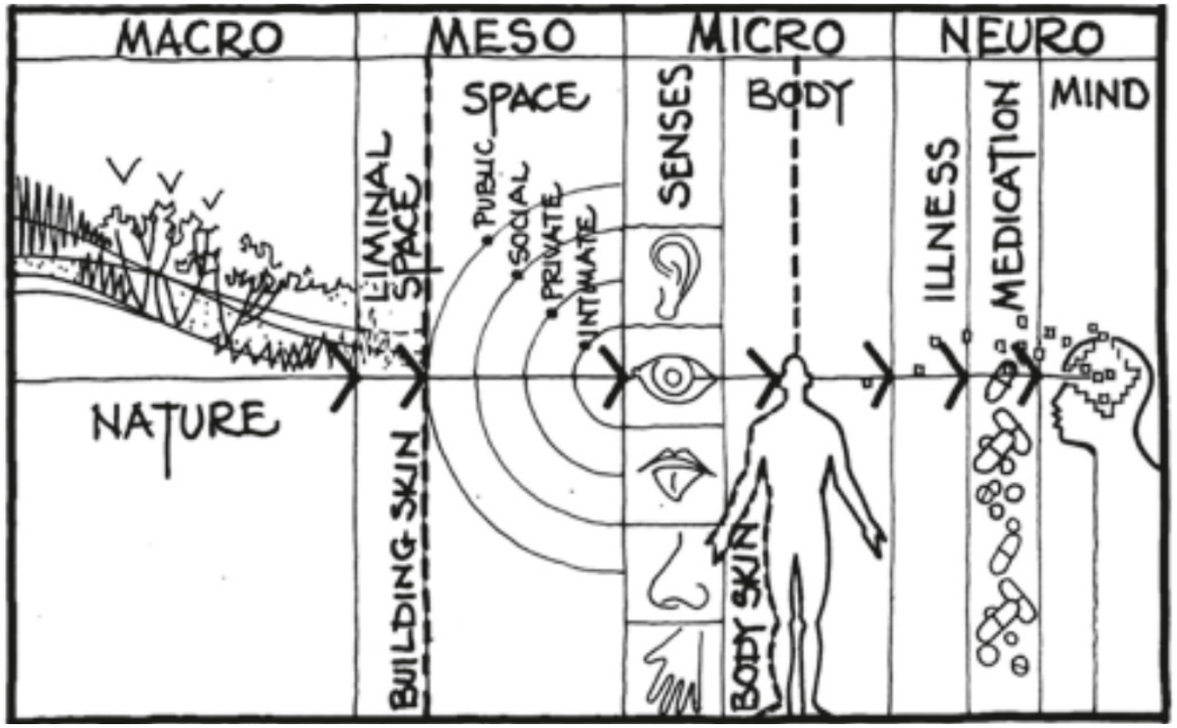


Figure 12. IBI Group, Nature Nurtures, Macro to Neuro, 2016

Figure 13. Vardø's community center, Norway, n.d.

Figure 14. Vardø's community center floor plan, Norway, n.d.

Architectural principles for well being

There are general characteristics of the architecture and the built environment that can improve well being, such as clean, physically safe and well lit spaces, which apply to both patients and the staff, and should be regarded for all built environments. These types of spaces should foster an environment where the individual is protected from exterior threats, offered nurturing spaces and an environment free of bacteria, viruses, as well as other types of germs that can cause disease.

The Angered Närsjukhus hospital, in Angered, Gothenburg, Sweden, built in 2015, which contains a psychiatric section, was amongst the first organizations planning to provide and facilitate local care(närvård) and health promotion. The architectural and functional qualities of the building come as a result of applying evidence-based design strategies. The details of the construction and the designing process are outlined by the researcher Elke Miedema, in her PhD thesis "Health Promotive Building Design: Exploring Perspectives on Building Design for health promotion in healthcare settings ".

The design came as a result of a lengthy participatory process that was focused on health promotion. Within the contributors to the process were people working in the area, politicians and inhabitants of the Angered area. The layout of the building incorporates a reception for both of the healthcare areas, primary and specialist care. The reception desk allows for both standing and seated conversations, with screens separating each booth for visual and acoustic privacy. Way finding is also one of the components considered in the layout of the building, thus, the entrance, elevators, waiting areas and courtyard are all visible from the reception (Elke Miedema, 2020).

Besides the required medical spaces, the facility also offers a few additional rooms for the user. The hospital has an educational kitchen where families are brought together and taught how to

Figure 15. Angered Närsjukhus hospital in Gothenburg, Sweden, Exterior view

Figure 16. Angered Närsjukhus hospital in Gothenburg,Sweden, Reception area

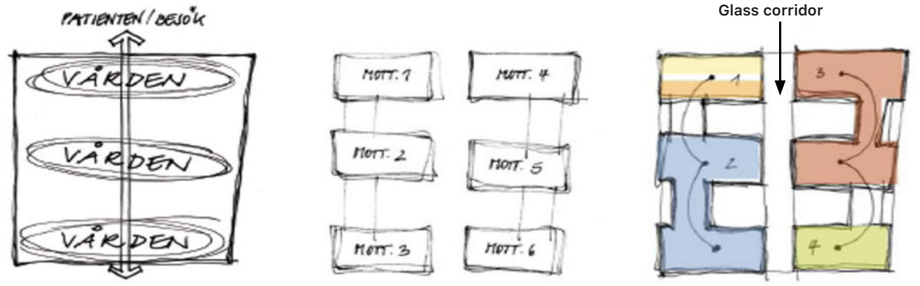


Figure 17. Angered Närsjukhus hospital in Gothenburg,Sweden, sketch showing the flexibility of the layout

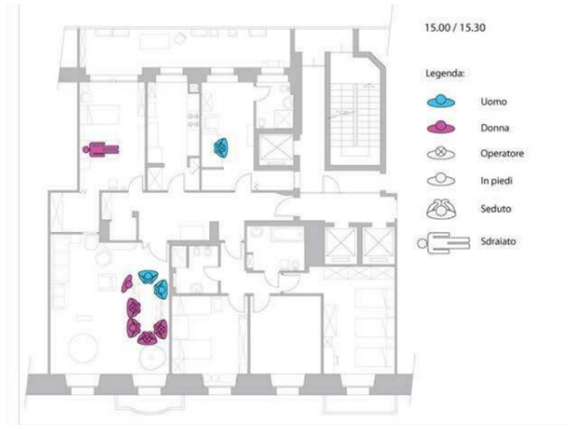


Figure 18. Psychiatric facility in the Lighea community, Italy

create healthier meals. For patients that consider themselves spiritual, there is a room that accommodates their needs in terms of providing a space for prayer and meditation. The scale of the interior spaces was adjusted in the examination room, in order to be able to fit patients, family and interpreters (Elke Miedema, 2020).

The building is modeled around the concept of growth and flexibility. Moreover, if the future situation will require it, the hospital structure is designed to accommodate an additional floor in the case that more functions are needed(Elke Miedema, 2020).

The sketch made by the architect of the hospital illustrates the how the flexibility aspect of the layout. The patients use the glass corridor for access into the treatment rooms, while the mirrored E-shaped volumes on each side of the corridor can switch their function or connect depending on the current needs for the treatment of the patients (Angered Närsjukhus, 2022).

Francesca Plantamura, Paola Albini and Pietro Lembi, researchers located in Italy, investigated and researched the case for one psychiatric facility in the Lighea community in Italy. There are three residential therapeutic communities, a day care center and independent housing present within the development area. Here, the approach involved interviewing the patients, exploratory visits and direct observation. The conclusion of their research was illustrated through a series of criteria that relates to the physical environment.

Facilitating the relationship between the patients and the surrounding environment through integration and openness is one of the first criteria that came as a result to the study. The design of the psychiatric facility should be articulated, through layouts that use way finding, allowing the guest to follow the different steps of healing.

Followed by that, the importance of a non-labeling environment was also noticed in the needs of the patients. Through that, the future psychiatric buildings will resemble less of an institution and more of a community for healing, free of judgment. On the same note, there is also a need for non medical spaces, which do not resemble a psychiatric ward, in order to eliminate the constant reminder towards the users that they are all patients and unwell. These spaces should be equipped to house public spaces for the patients, in order to increase their autonomy (Fremantle,2013).

The environment and needs of psychiatric patients undergo constant change, that is why flexible spaces should be embedded into the design, in order to allow for change and growth, without floor plans that are rigid. The same need for change can be identified in the way people use their rooms too, with users that feel the need to customize their space and personalize their living environments. Some users also feel the need from stimuli in their social environments. These stimuli can act as motivators that promote daily tasks and engaging in leisure activities. Furthermore, the residential functions should be non-binding, meaning that they provide comfort to the patients, but also allow them to transition into environments where there is no psychiatric assistance (Fremantle,2013). More specifically, the period that the patient spends in the psychiatric facility should be regarded as temporary, and that environment should enable and motivate the user to reintegrate themselves into the life outside the institution.

The presence of greenery and the importance of gardens is an implied factor when looking at the needs of psychiatric patients, but Amal Ramadan, Jun Lu and Tim Heath researched biophilic design as a medium for supporting the design of outpatient clinics in terms of their spatial setting. The biophilic design theory represents the use of the innate appreciation of nature that humans have in order to positively influence our psychology. Philia relates to the feeling of attraction people have towards the natural world. Thus, biophilic design can imitate the natural setting of greenery in order to bring it into the built environment(Ramadan, 2013).

Greenery is not only present on the interior of the building, but also in the surrounding environment, thus the connection between inside and outside should also be emphasized. The best medium to achieve a strong connection are large windows that increase the level of illumination, sunlight gains and views. Stephen R. Kellert

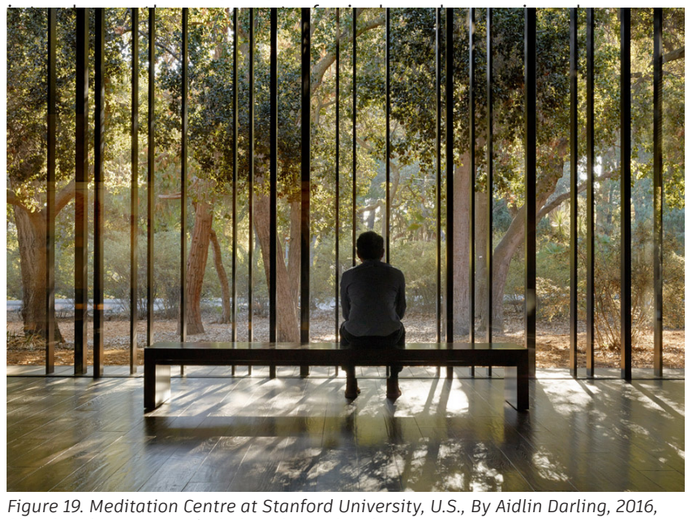


Figure 19. Meditation Centre at Stanford University, U.S., By Aidlin Darling, 2016, Showing the concept of windows becoming doors

Biophilic design also promotes the use of natural materials. These materials can be incorporated in the flooring, through hardwood floors, natural stone cladding, trails that are paved with pebbles and rocks, etc.

Water is one the first elements that is brought up in the discussion of the quality of the environment. Although somewhat obvious, the effect of water can be highly beneficial for the patients. The features of water such as color, movement and sound are all factors that contribute to the experience of the user. The bodies of water can range from small fountains, ponds, lakes, canals, to fish tanks; indoor or outdoor. However, the indoor ponds will require sanitation as a result of regulations when it comes to health care regulations.

Natural ventilation and fresh air are also basic qualities that should be implemented in any designs that are focused on healing. Research conducted in Europe and Scandinavia promotes the use and benefits of fresh air, as opposed to air that comes through processing (Seppänen et al., 2004). Implementing natural air ventilation can mitigate symptoms such as airborne infection, sick building syndrome, dryness and discomfort. Ultimately, choosing a ventilation system comes down to deciding between operable windows, natural ventilation mechanisms, mechanical systems and filtration systems.

Sunlight is a crucial element that sustains one's wellbeing. The effect of Vitamin D has been proven to uplift mood and decrease risk of heart disease, depression, multiple forms of cancer, Type I Diabetes and osteoporosis (Grant and Holick, 2005). When considering the healthcare environment, the architect has to consider that in most hospital environments, health care workers, as well as patients spend a considerable amount of time under fluorescent light rather than sunlight. This feature has negative consequences for the individual, with increased stress level, reduced productivity and well being and lifespan reduction (McColl and Veitch, 2001).

The architect should design for a considerable amount of daylight, however, that does not mean shaded areas should be eliminated. The play of light and shadow can be implemented in areas meant for relaxation.

Using daylight does not only contribute to patient and staff help, it can also help boost the growth and development of natural plants. In the context of the psychiatric facilities, it has been shown that the view of nature is associated with reduced levels of pain, fatigue, depression and stress (Aries et al, 2010). Thus, plants and greenery elements should be considered as a major requirement for healing spaces, as opposed to just creating a decorative setting.

The surrounding landscape might not always be a top priority, but biophilic theory promotes designing landscapes that are adjacent to the functions of the psychiatric facility. These outer healing grounds are outdoor gardens that incorporate real natural components, such as water, verdant greenery and local fauna. Here, greenery is used as a catalyst for healing and acts as a retreat for users, staff and visitors. Thus, the importance of the landscape of the location should be emphasized in the design. The natural elements can be included in the forms of open gardens, open courtyards for patients, sheltered landscaped corridors that can be semi open, allowing safe passage for the users.

Researchers associate the cognitive benefits of nature to a few theories .The biophilia hypothesis argues that there is an innate connection to nature that comes through the process of humans evolving with nature as an environment for survival. The hypothesis of stress reduction attributes spending time in nature with a physiological response of lowered stress levels. Researchers also consider the theory of attention restoration, which states that nature restores the ability to pay attention and concentrate(Capaldi et al., 2015).

Figure 20. Campus building of The New School, New York, U.S., Facade

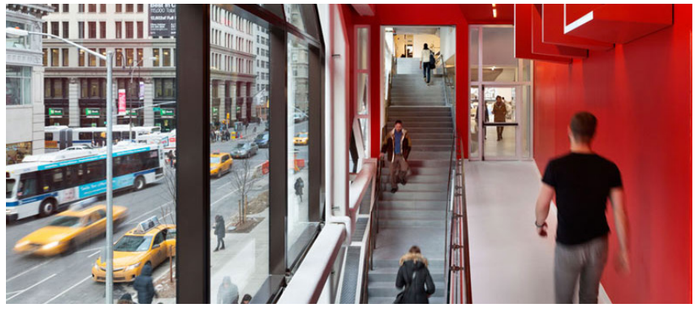


Figure 21. Campus building of The New School, New York, U.S., Interior

A pilot study applied in an outpatient psychiatric clinic researched the effects of walking onto the mental and physical health of patients during a 12 week walking program for sedentary adults with serious and persistent mental illness. The study results show that the model is feasible for rehabilitation programs, however the benefits went beyond the expected outcomes. The action of participating in the walking activity improved mood and psychosocial functioning in the adults. Moreover, the study confirmed the known physical benefits related to risk reduction in the cardiovascular system (McDevitt et al., 2005).

Thus, creating an environment where movement is encouraged for the patients will create physiological and psychological rewards for the user.

The campus building of The New School in New York, completed in 2014 by SOM architects, illustrates how active design is emphasized and encouraged within the interior layout of the building. The circulation paths are incorporated into the working spaces and the public areas.

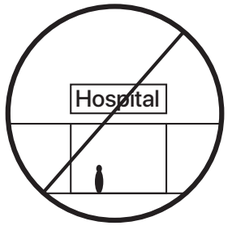
Conclusion

In essence, elements of the building such as daylight intake, active design, way finding, micro climates, greenery, water, surrounding environment should be emphasized in order to promote the healing process of the patient, offering them a context where they can flourish. Considering all of the aspects discussed in the chapter for principles of well being, from the moment of conceptualizing a mental health facility, will lead to a supportive design that is symbiotic in relation their users.

Concluding design guidelines - Healing environments

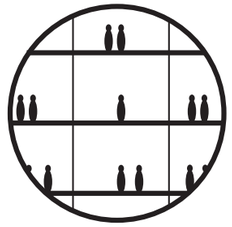
Praying room

Spaces for religious practice and worship.



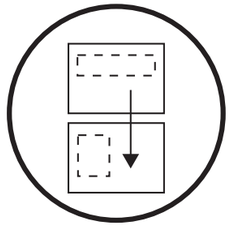
Non-labeling spaces

Buildings that hide their function, for instance: a hospital that appears to be a residential block.



Spaces for autonomy

Rooms inside the facility that allow the residents to have autonomy and independence.

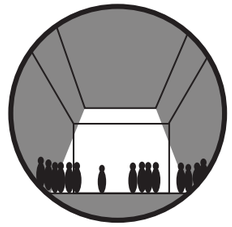


Flexible spaces

Flexibility within the layout that allows the building to respond to the current needs.

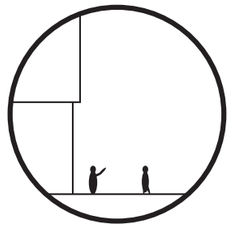
Customizable spaces

Residents should be allowed and encouraged to customize their personal spaces.



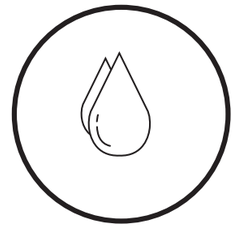
Stimulating spaces

Areas that controllably stimulate the residents of the facility.



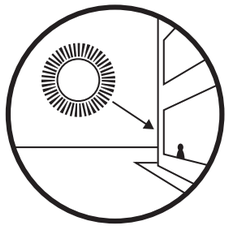
Non-binding spaces

The hospital should not hold patients back from gaining independence and leaving the controlled environment.



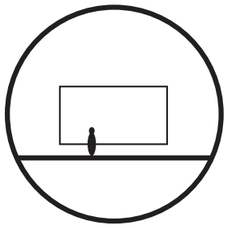
Water

The presence of ponds, lakes and canals is beneficial for the patient's mental health.



Natural daylight

Building in a way in which natural daylight is captured and refracted in the interior spaces.



Large windows

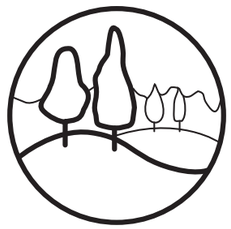
Including large windows that frame the surroundings and open the interior space to the exterior environment.

Natural materials

Natural materials used in the design have a grounding effect for the user.

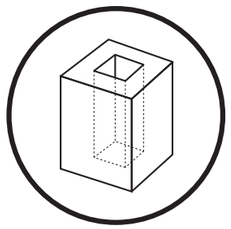
Separation

Patients need a space to retrieve, which is achieved by separation.



Natural landscape

The presence or vicinity to a natural landscape is beneficial for the mental health of the patients.

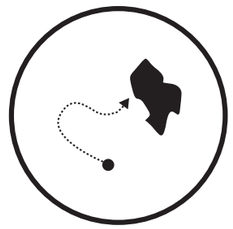


Atrium courtyards

The atrium courtyard works as the heart of the building, being a social core.

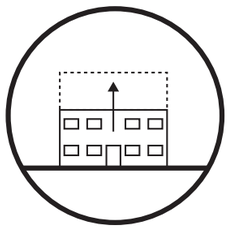
Activity room

A room where patients can practice social activities.



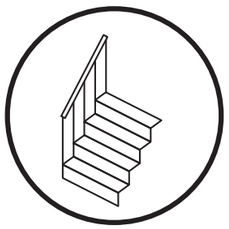
Proximity to nature

Proximity to natural landscape is important for the mental health of the patients.



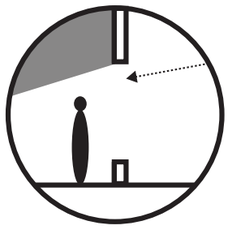
Growing building

The design of a building allows the layout to grow with time.



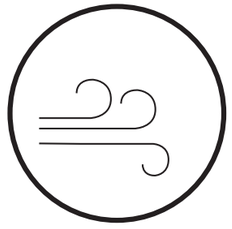
Active design

The building encourages the user to move through space.



Daylight during winter

The building has systems which allow winter sun to enter the interior.



Fresh air & ventilation

Clean air that is free of germs and microbes is crucial for patient and staff health.

Reference projects on spirituality

The perspective of some psychiatric patients

The spiritual component of health care architecture is an essential part of providing holistic, patient-centered care. This perspective on architecture focuses on providing spaces that allows the patient to feel connected to their spiritual beliefs and to be able to practice them without fear of judgment, regardless of their background.

This part of the spirituality chapter will investigate the spiritual and religious perspectives of patients.

Research into this relationship shows that although the correlation can lead to negative psychological outcomes for the person, the overwhelming majority of the studies point towards positive physical, social and mental health outcomes (Koenig et al., 2001).

Moreover, even with the evidence supporting it, health care practitioners avoid encouraging these practices due to lack of clear guidelines needed in order to implement them (Mooney, 2009). Another reason implementation is rarely present is that when psychiatric patients voice their need for spirituality in their healing process, professionals might regards it as a mental illness symptom rather than a real need (Greasley et al., 2001)

A qualitative systematic review on the experiences of spirituality among adults with mental health difficulties was concluded through a series of themes that summarizes their experiences in the psychiatric institutions. The six themes are: Meaning-making,Identity, Service provision, Talk about it, Interaction with symptoms and Coping (Milner et al., 2020). This data set illustrates the reality of patients dealing with mental illness, and suggestions of how professionals can deal with this sensitive topic.

The benefits of spirituality within healthcare come from the structural aspect of spirituality, more specifically, from the measurable and graspable elements such as spiritual practices like praying, reflecting, meditating, the promotion of a healthy lifestyle free of dangerous substances and habits, and a close knit community, rather than the mysterious intangible aspects (Cobb et al., 2012).

2. Identity	The centrality of spirituality for many people's lives and core sense of self. Spirituality represents for many the core essence of who they are, shaping their identities through their experiences of illness, struggle, recovery and meaning-making. Participants draw on their spiritual frameworks to develop and negotiate a spiritual identity.	'...to invalidate a person's spirituality no matter how distorted that is, is to invalidate that real core sense of self and I think once you do that you risk doing untold damage to somebody.'(Mental Health Foundation, 2002, p. 22). 'I just want to be loved for who I am.' (Mental Health Foundation, 2002, p. 46)
4. Talk about it	What people say they particularly need and yet may lack opportunities to do in relation to their experiences of spirituality and mental health difficulties, and how practitioners can better support people's spiritual needs.	'Many people don't realise how devastating it is to be told that that's not real, that that's fantasy ... Because to the people it is real and it needs to be treated as if it is real instead of just discarded and pushed aside, because it is a very big part of people ... It's their core' (Starnino, 2014, p. 127). 'The community psychiatric nurse was terrific. Although he was not a Christian, he asked me very, very pertinent questions about how I could reconcile my faith with what was happening to me and what God meant to me.' (Mental Health Foundation, 2002, p. 23)

Figure 22. Two of the six themes, highlighting the experiences of spirituality among people with mental health illnesses

Since the topic of spirituality presents itself with the issue of complete subjectivity based on the background of the patients, the therapists and doctors first need to understand the patient's personal story and connection to spirituality. One's personal connection to spirituality is shaped by their lived experiences containing their relationship to other people and possible divine entities, more so than the adherence to the predetermined beliefs of a religious group. Thus, the act of introducing and working together with the patient's spirituality in the healing process not only acknowledges their beliefs but also seeks to understand and replicate the positive aspects of spirituality that are rooted in their life experience(Cobb et al., 2012).

In the chapter "Psychiatry and mental health treatment" of the book "Healthcare spirituality", James L. Griffith describes the case of Mr. Miller, a 64-year old man that worked for his whole life and dedicated his life to the office. He had no social connections outside of his work, having no wife and kids, or close relatives. He was soon faced with involuntary retirement due to his age, which brought along feelings of despair and thoughts of suicide, because "life had no more meaning".

Further on, he started going to therapy, where he eventually uncovered the reason he was still not giving up. In one of the sessions, Mr. Miller remembered that during his youth, he used to attend the church where he was met with more warmth and love than he would receive in his family setting (Cobb et al., 2012).

After successful treatment, he was gradually included in his local church group, giving him purpose and motivation to look forward to the next day. In this case, church attendance meant that he had a support group and connection to a community, which accepts people unconditionally(Cobb et al., 2012).

Analyzing the experience

This chapter will investigate how architecture acts as a catalyst for spiritual or mystical experience. The research will analyze the experience as a result of one's response to their environment, in terms architectural elements. The first step of the process is understanding the demographic audience, in order to know the type of architecture that needs to be investigated.

A sample survey of the Dutch population in 2015, highlights that 23 percent of Dutch adults, which accounts for roughly three million people, see themselves as combiners of elements from various religious traditions.

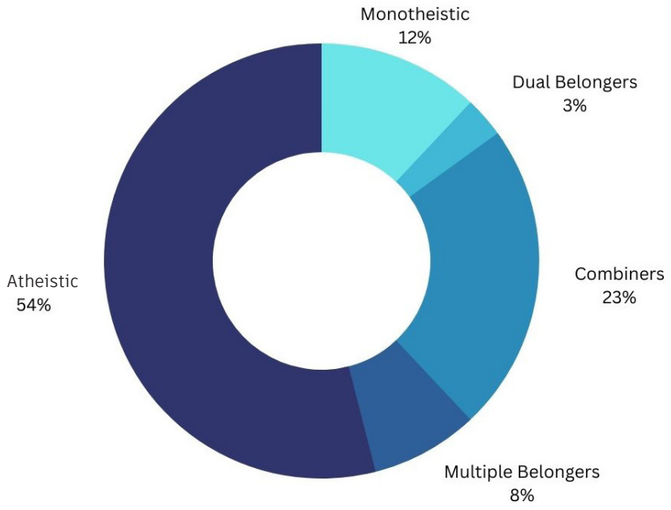


Figure 23. Diagram showing the spiritual orientation of the demographic in Netherlands

Three percent are dual belongers, meaning that they adhere to two or more religious traditions. Twelve percent adhere to only one tradition, which happens to be mostly Christianity, along which they integrate customs from one other tradition as well. Eight percent represent people that combine elements from different religions. Through this process of accepting and integrating more religions, the people become unaware of the origin of the religious customs that they use (Kalsky, 2017).

The CBS Statistic office in Netherlands reports that 55.4% of the population is irreligious, 19.8% Roman Catholic, 14.4% Protestant, 5.2% Muslim and 5.1% as other religions (Cbs, 2022).

Spiritual architecture does not only appeal to and impact the religious demographic, it also has an effect on agnostic spiritual people, which are open to the belief of the existence of the spirit beyond the body and the mind.

Thus, an example of architecture that elicits a contemplative and spiritual experience towards the user is the Salk Institute for biological studies, near La Jolla, California, U.S., which was designed by Louis Khan and built in 1960. Here, the architect uses the layout of the building and garden to take the observer through a course of elements that separate them from the real world.

Starting from the entrance, the threshold is represented by the garden which acts as a buffer leading towards an induced transcending experience. The central pathway through the garden leads to the synthetic and austere travertine paved courtyards. Here, the volumetric approach engages masses of buildings left and right that oppose the central void. The same void serves as an architectural frame to the Pacific Ocean. The absence of ornamentation, color and material stimuli leads the observer towards a contemplative state, alone with their own thoughts. What separates the courtyard from any other open space is the openness to the natural elements. Here, the observer can only perceive the limitless scale of the ocean and the sky.

"The river of life" is a small gutter which connects symmetrically to the travertine bench where one is invited to reflect onto the space. The same river seems to flow towards and into the ocean (Krinke, 2005).

Spirituality's roots also reach our connection to nature, and our innate need to experience natural environments. Gratitude and humility, characteristics of the transcendent state, are all encompassed and contained by the truth in form which is provided by biophilia and biomimicry, through following shapes and formations that carry on the natural order. At the same time, this design approach opens the individual towards connecting with the world, in an egoless, self transcendent perspective. Moreover, considering biophilia in the design process entails engaging all the human senses as a part of the experience for the user.

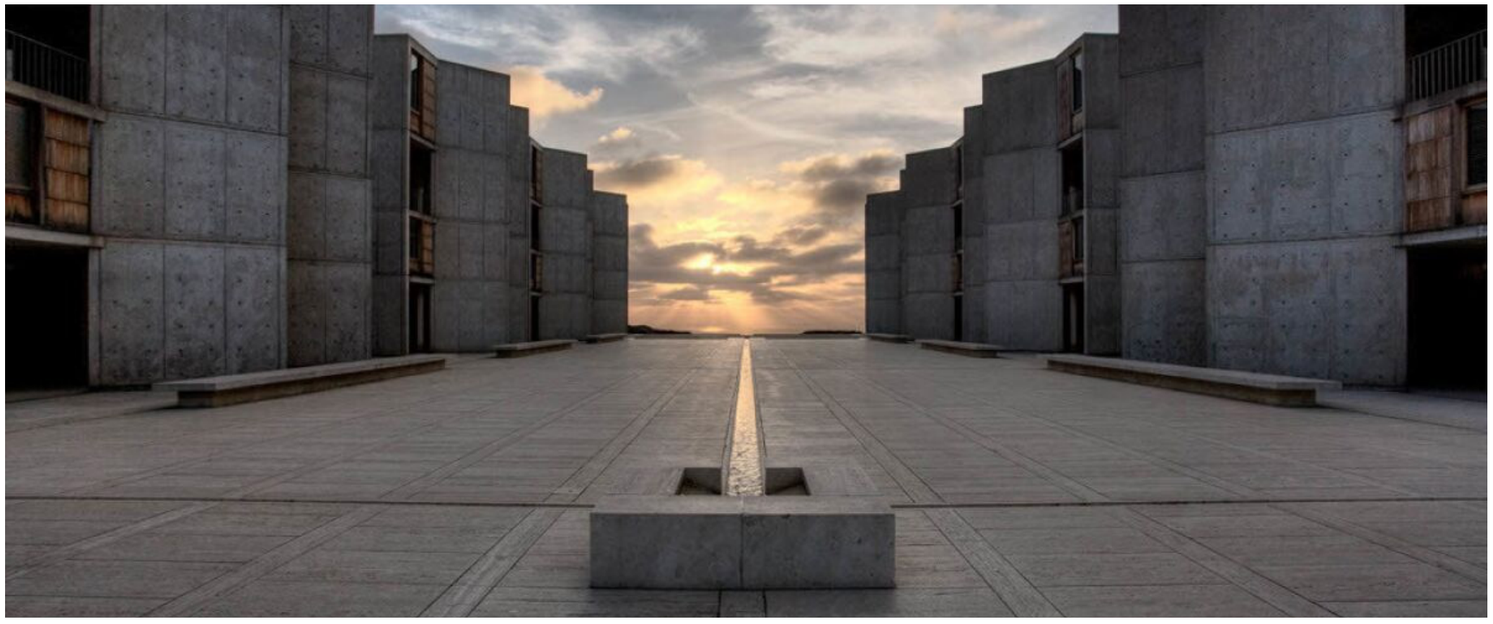


Figure 24. Salk Institute near La Jolla, California , U.S., 1960, By Louis Kahn

Within the scope of experiencing spirituality, there is a branch of psychiatry that deals with the connection between therapy, spirituality and nature, called nature-based therapy(NBT).

Nature can be regarded as an embodiment of the spiritual. Here, unlike the spiritual experiences based on detaching the body from the environment, the individual achieves expansion of their consciousness through deeply connecting with earthly, physical, wild and sensual experiences. Thus, the ethereal association is joined with the representation of the divine.

Research uncovered three constructs of embodied spirituality in nature: interconnectedness, nature mirroring the authentic, and nature's "greater than" quality. These three constructs are interlinked with patient personal experiences of: a deep sense of belonging, self discovery, and the expansion of the personal perspective (Naor & Mayseless, 2020).

Robert Birch creates a beautiful parallel between the natural environment and architecture that uses biophilic design in a subtle way. Here, the connection in between a forest trail and a church was created. The succession of trees is mimicked by the repetition of the columns. The ceiling, which receives a high amount of light, can be seen as a metaphor for the trees that are reaching towards light, which in the case of a spiritual setting translates to the celestial realm (Birch & Sinclair, 2013).

The same biophilic features are present in works of famous architects such as Antoni Gaudi, which uses natural forms in order to emphasize architectural elements. These forms allude to the natural order found in local fauna. The same order can be reproduced by following a few guidelines that break down the natural experience into a simulated environment that borrows clues from nature.

Botanic motifs, such as patterns found in plants and

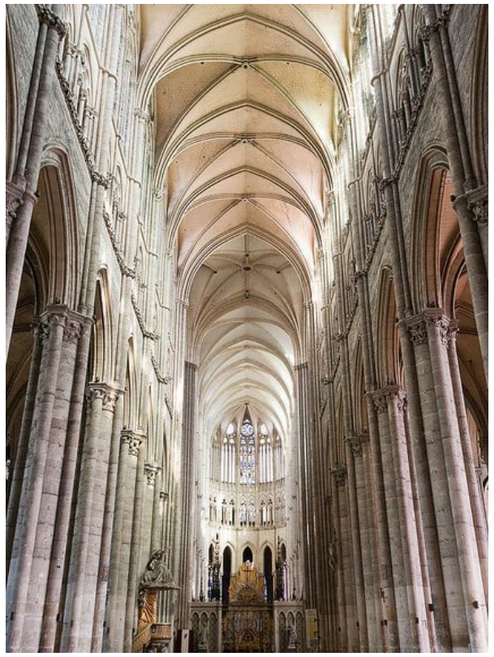


Figure 25. Cathédrale Notre-Dame d'Amiens, France, 1270

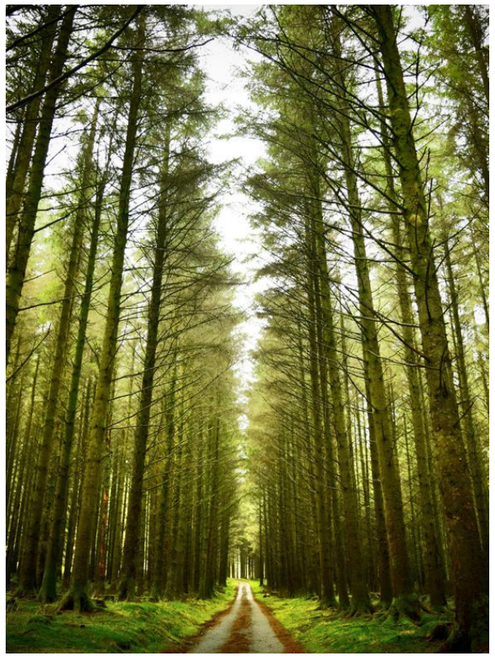


Figure 26. Forest trail, showing the similarity between tree crowns in nature and vaulted ceilings in architecture

trees, are part of the ecosystem of biophilic design. Both the leafs and the trunks are to be considered as design elements. These can be implemented in the form of tubular or support structures that emphasize the vertical axis and act as a metaphor for ascension and harmony. Succeeding the botanic motifs, the environment of medical institutions can also be improved through using spiral and oval shapes. These are elements found in nature that can suggest smoothness and natural flow within a space.

The same concept can be translated not only at the level of the floor plan, but also in a three dimensional manner, through using arches, domes and vaulted ceilings. These elements borrow the design language of natural formations such as beehive, shells, cliffs and nest-like forms. Focusing on separate design elements is important in the design process, but the experience of the user often comes from looking at the ensemble. Thus, underlying orders of architectural elements become visible through the use of ratios, scale and hierarchies. In the natural realm, flowers often exhibit order through fractal-like ratios found in their petals (Fremantle,2013).

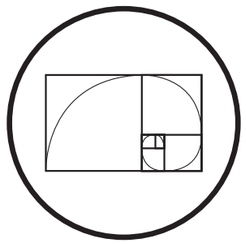
Conclusion

In conclusion, if the patient's relationship with spirituality is rendered beneficial to their psychological and physiological health, their environment can contribute a positive outcome for their treatment. The environment will serve as a medium between the inpatient and the care-giver, where spatial elements such as layout, light and materiality will be assembled as a spiritually-supportive space. Although it can be argued that a spiritual person can meditate anywhere, one could imagine the difference between meditating in a loud, distracting environment, versus a calm, soothing and spiritual environment.

Concluding design guidelines - Spirituality

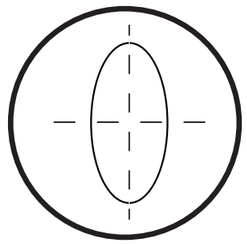
Botanical motifs

Botanical patterns, botanical details in columns, ceilings and walls.



Ratio

The use of the golden ratio and proportions in floor plan and facade organization.

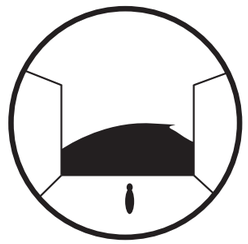


Oval shapes

The use of shapes derived from ellipses, 2D or 3D: circular, ellipsoid, arches, domes, vaulted ceilings.

Mass vs void

The visual hierarchy of the built mass vs the void of the open spaces.



Framing the view

Architecture used as a tool for directionality, framing the view towards the surrounding environment.

Biomimicry

The use of biologically-derived forms, such as tubular shapes, organic patterns and fractal structures.

Observations from the Yulius psychiatric facility

During the research period, a site visit was conducted on the location at the Yulius clinic, in Hendrik-Ido-Ambacht, a facility for people with mental health disorders, designed by Gortemaker Algra Feenstra architects, in 2010.

This facility offers residential functions as well as treatment and activities for the users. Interviews with staff were conducted in order to understand the way the facility operates, the advantages of the layout, as well as the problems that the users deal with on a daily basis. Observations of the daily activities of the patients emphasized their relationship with the space, as well as factors that negatively influence their recovery. Both of the methods revealed crucial data about the “planned” vs “experienced” reality of psychiatric care architecture.

Observations

In terms of personal observations, several instances were noted in order to capture the first impression of the facility. The first space that visitors enter, which is the main hall, is where the majority of the active residents will spend time during the day. That could be attributed to the fact that the hall is connected to all the hallways, which allows the patients to easily reach the staff and vice versa.

Besides the convenience of seeing people passing through, the main hall also acted as the social core of the building. For patients that are eager to talk, it was easy to strike conversation with residents walking by, or new visitors entering the building. But it also benefited the patients that still needed to have the visual stimuli, without the need to engage in conversations with the others. In other words, it is a space of observation, as well as social cohesion.
The scale of the building, although two story high, was impressive, housing 61 apartments, accompanied by multiple activity rooms and staff rooms.

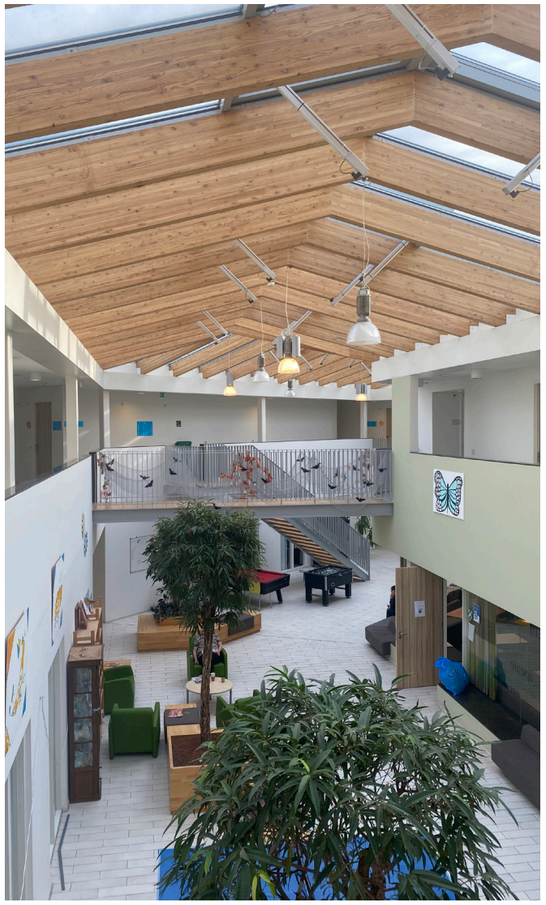


Figure 27. Entrance atrium, public space

Throughout the whole floor plan of the building, daylight was a key element that was present and emphasized, which brightened the atmosphere of the building. Although the general feeling of the facility was warm and inviting, the simple white corridors, without any color accents gave the impression of an institutional, sterile and cold building.

Figure 28. Interior halls showing how natural light enters the building

While daylight was brought into almost all the rooms, through windows either at the end of the hallway, or the two atrium interior gardens, some of the most important spaces were left with little to no daylight. The spaces in question are the three common activity rooms, canteen, as well as functional spaces. Ultimately this feature created the need to use artificial light during the day in order to make up for the lack of natural daylight.

Figure 29. Common room, showing the lack of natural daylight in one of the most frequented spaces

Interviews

Right from the start, it was clear that the staff of the facility were passionate people that are naturally inclined towards nurturing the people. Working in such an environment requires a considerable amount of determination and compassion. The amount of constant needs of the patients was interfering with the daily tasks of the staff, but nevertheless, there was always an attempt to meet the needs of the people. This observation leads to one of the first and main problems within the system of healthcare. The lack of professionally trained personnel means that a few employees have to deal with a multitude of extra tasks during their schedule.

Besides this shortage, the coordinator of the facility mentioned another crucial issue. The current state of the health care sector will not allow for future buildings dedicated to psychiatric care, due to lack of support in terms of government funding. This lack of funding will in turn translate to either a shift in perspective on how future health care buildings will be designed, or a constantly diminishing size for future healthcare buildings. These scaled down institutions will not only not be able to accommodate as many patients, but will also sacrifice the amount of functions needed for a healthy and healing environment. This will lead to buildings that are stripped down to their core program, only containing functions that will generate income.

Setting a strong vision for the building is of substantial importance in the process of healing the patients. However, the vision has to be rooted in research and a legitimate understanding of the user.

Initially, the Yulius building was designed for temporary living, which meant including elements such as hard furniture that create discomfort. In turn, it was expected that the result would be people moving out, which ultimately was a false impression. Designing for the discomfort of the patients, in order to push them towards moving out and into their own apartments is not a viable path. People left the facility at the moment when they felt ready, not when they were intended to do so, which resulted in a decreased quality of life for the patients that lived in the building long-term.

The requests received by the staff from the patients are worth taking into consideration. Residents mention the need to customize their apartments in order to make it feel more like their own rather than a rented space. Here, the need for creating a home, rather than just a house is expressed. Personalizing the room with one's own belongings infers the atmosphere of home, thus it is up to the architect to design a space which allows for change to happen and embraces individuality.

Figure 30. Picture of a bedroom showing how a patient personalized their living room

Although comfort is important, safety should be the first concern. Thus, within the discussion on safety relative to the living environment, the members of the staff had a few suggestions. Open spaces allow the staff to be visible and respond to the needs of patients, thus they should be used to their full potential.

These open spaces can sometimes be inconvenient for some users in terms of the multitude of activities happening at the same time. Thus, the building should be designed in order to mindfully adjust the amount of stimuli in the environment. All public functions of the building must feel inviting, regardless of the diverse amount of people that use them. Here, common spaces are some of the motivators of the people. Their effect is overall good for encouraging people to have independence in their choice, while still keeping them active.

Figure 31. The art room, one of the common spaces for the patients

Although group bonding activities and projects were intriguing to the patients, food was one of the main motivators of the people. Thus, it could be beneficial if in the future buildings, rooms such as the canteen are placed along the way of other needed functions, in order to create engagement. Each day, the residents would gather before every meal and wait patiently for their turn at the canteen. The eating area was not only a place to feed the residents, but also one of social interaction and exposure.

Not all functions had the same shared interest for the patients. For instance, the greenhouse was kept in shape and tended by two residents, while other residents would enjoy using the gym offered by the facility, but the presence of greenery was appreciated and enjoyed by the majority.
Once in a while, the patients are taken for a walk on a forest trail, which they perceive as soothing and calming. Other residents had day jobs where they worked with animals, fruits and vegetables. The presence of animals was also one of the motivators for the people. Ultimately, each patient filled their day in their own way, but whatever activity they were willing to do was born out of interest and passion. Thus, it is important to help patients find purpose in their life by offering them as many possible activities as possible. The simple and perhaps mondaine activities for the general public might be regarded as unimportant, but for the patients it could be the gateway towards opening them to the community and healing.

Figure 32. Greenhouse

Figure 33. Exterior of the psychiatric facility

One of the first and most important elements of the building is the shared atrium space, marked as “A”, where all the corridors intersect at the point where the two wings of the facility connect.

This space is not only used for social interaction, but it also works as a way of ensuring that the patients are safe since there are no security cameras.
The aspect of social interaction is also carried out in the courtyards, marked by “C”, which are adjacent to four living rooms, marked by “L”, which serve the needs of the patients, functioning as a gathering space, an art room, cooking room and silent room. Besides the atrium, marked by “A”, which connects all the hallways, there is the kitchen, marked by “K”.

Since the footprint of the building is so large, light is brought through the central atrium, as well as two inner courtyards.

However, in spaces where light does not reach from these openings, there is light coming from the hallways. All the corridors in the building are continued until the level of the facade, meaning that there is incoming natural light from all sides of the building.

Conclusion

As a whole, the facility serves as an important the step towards creating patient-centered design. The possibility of creating a future facility in the Netherlands on the same scale as the Yulius facility is very low, but this location still serves as an important example of how “planned“ vs “experienced“ design works. The Yulius facility demonstrated how the building is not used to its full potential. Thus, the design of future psychiatric buildings should be tailored, promote comfort, safety and inclusion for the patients, and be able to respond to the current needs of the psychiatric landscape.

Figure 34. YULIUS central space - atrium, shown on the plan as view 1

Figure 35. YULIUS silent room overlooking an interior courtyard, shown on the plan as view 2

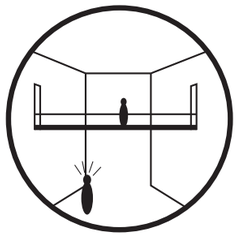
Figure 36. Ground floor plan, Yulius, showing the functions and organization

Figure 37. First floor plan, Yulius, showing the network of open hallways

Concluding design guidelines - Yulius

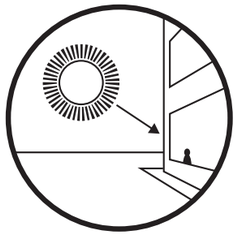
No hard furniture

Not using hard, uncomfortable furniture designed for short term patients.



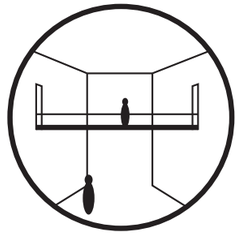
Reduced stimuli

Environments which account for stimuli sensitive patients.



Natural daylight

Building in a way in which natural daylight is captured and refracted in the interior spaces.

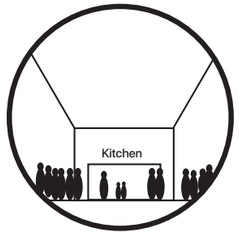


Visibility

Using spaces such as an atrium in order to create safety through the visual connection between the staff and the patients.

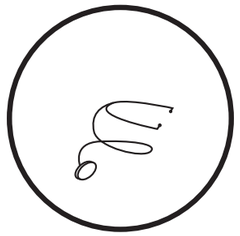
Forest trails

The proximity to forest trails which are found to be therapeutic for patients.



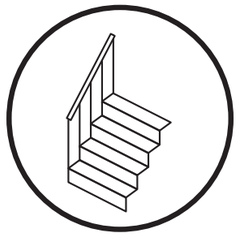
Food is a great motivator

Food is one of the primary needs of the patient, thus it can be used as an incentive to motivate the user to experience new settings along the way to the canteen.



Phisician's room

The presence of a physician's room contributes to the feeling of comfort for the patients, as well as stigmatizing the psychiatric unit by bringing outsiders in.

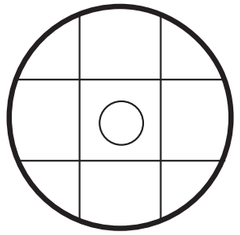


Active design

Design which motivates its user to walk instead of using elevators.

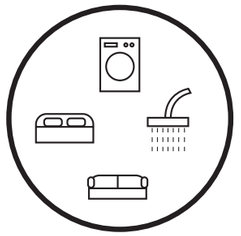
Interaction with animals

The interaction between inhabitants and animals is beneficial for their mental health.



Corridors connected to the core

The network of corridors meets at the heart of the building, where the core of the social activities is.



Apartments have all needed ammenities

The autonomy of the patients is encouraged by providing them with all the basic needed facilities such as, washing machines, private bathrooms and kitchens.

Observations from spiritual environments

In order to understand what are the physical features of spiritual spaces, a few locations were visited and recorded through pictures and notes. These architectural examples were chosen based on the findings uncovered during research. In short, spiritual spaces are found in spaces of worship, such as churches, but also in museums and art exhibitions, which mimic the experience for agnostic or non religious individuals.

Thus, four locations were recorded, three in The Hague, Netherlands and one in Rotterdam, Netherlands: The Voorlinden museum, Church Pastor van Ars by Aldo Van Eyck, Celestial vault by James Turell and St. Mary of the angels by Mecanoo.

Figure 38. Visited locations

Tea leaves - Giuseppe Penone (2008)

The art installation by Giuseppe Penone, finished in 2008, consists of a very unassuming room with dark brown walls. As one approaches the room, they start to observe that the walls are covered with gabions filled with leaves. The interesting aspect of this room is that the cages actually look soft from a distance, where one could regard it as a room padded with pillows, inspiring a calm feeling. In there, just like an echo coming from a distance, the smell of the leaves is filling the room in a subtle manner. The smell also varies with one's proximity relative to the walls, creating a sort of sensual gradient. Standing in the middle of the room just gives the visitors just a hint of aroma, a light smell of tea leaves. While getting closer to the wall, the observer starts to understand and perceive a more precise multitude of smells, even being able to imagine what it might taste like. As an overall experience, the room felt like a morning walk in the forest during autumn, when the smell of leaves and vegetation lingered in the air with the fog.

Figure 39. Gabion detail

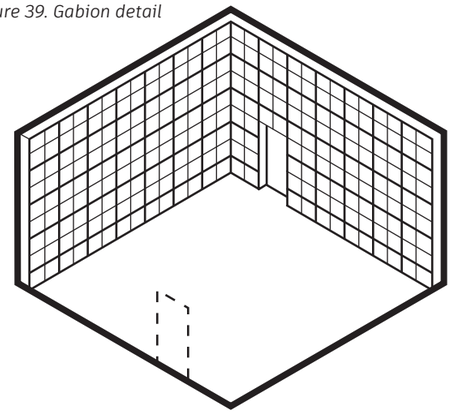
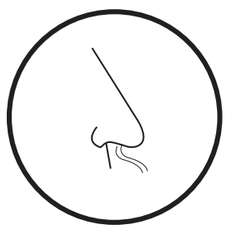
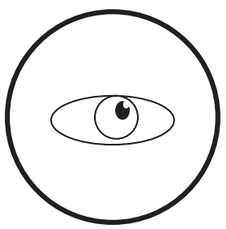


Figure 40. The atmosphere of the room



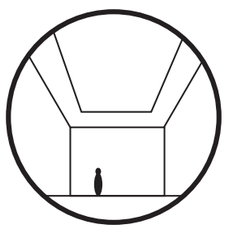
Employing smell

Heightening the sense of smell through stimuli that activates it.



Focusing on one sense

Narrowing down the sensorial experience to one sense.



Simple design no disrtactions

Abstraction of interiors helps emphasize the atmosphere of the space.

Figure 41. Closeup look at the gabions filled with tea leafs

Lymph structures - Giuseppe Penone (2007)

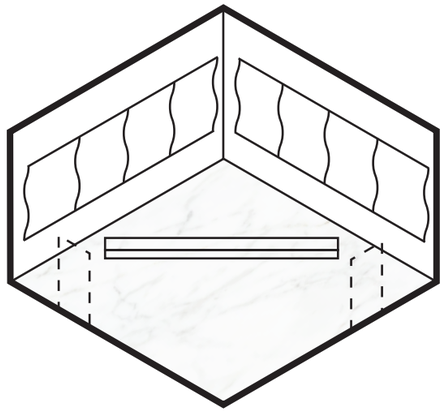
The artist, Giuseppe Penone, created an unassuming environment where the observer is forced to experience the space through the sense of touch.

The floor tiles were made of marble, which had variation in color and pattern, cleverly hiding the nervures in the surface. From afar, the floor seems to be flat and the space feels confusing, but as you venture into the center of the room, it feels as if you are climbing the peak of a mountain while being blindfolded. The nervures in the ground felt uncomfortable at times, which triggered the process of being aware of your surroundings and closely analyzing the environment. The creases on the floor, the coldness of the marble and the rough texture, all contributed to the realization that we are not grounded to our environment on a daily basis.

Taking off the shoes makes the visitor vulnerable but also open to experience the imprecise and ever changing surface of the ground.

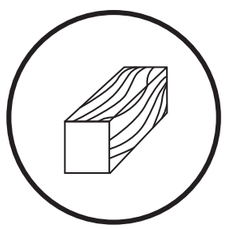
Figure 42. View showing the nervures of the floor tiles

Figure 43. The atmosphere of the room, showing how the marble hides the sculpted tiles



One surface multiple senses

One surface is able to transmit multiple sensation. In this instance, marble feels cold, rough and volumetric.



Material that hides the texture

In this example the pattern of the marble hides the surface volume from the viewpoint of the user.

Figure 44. Closeup look at the surface of the floor

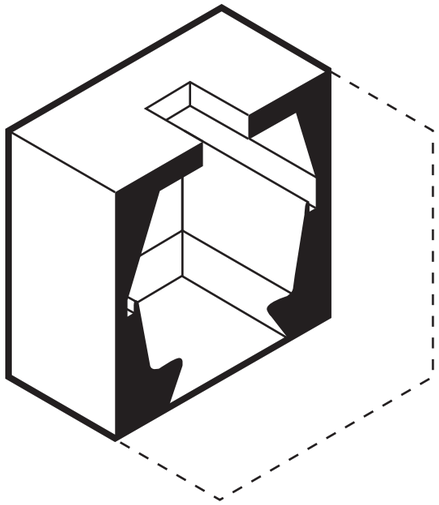
Skyspace - James Turrell (2016)

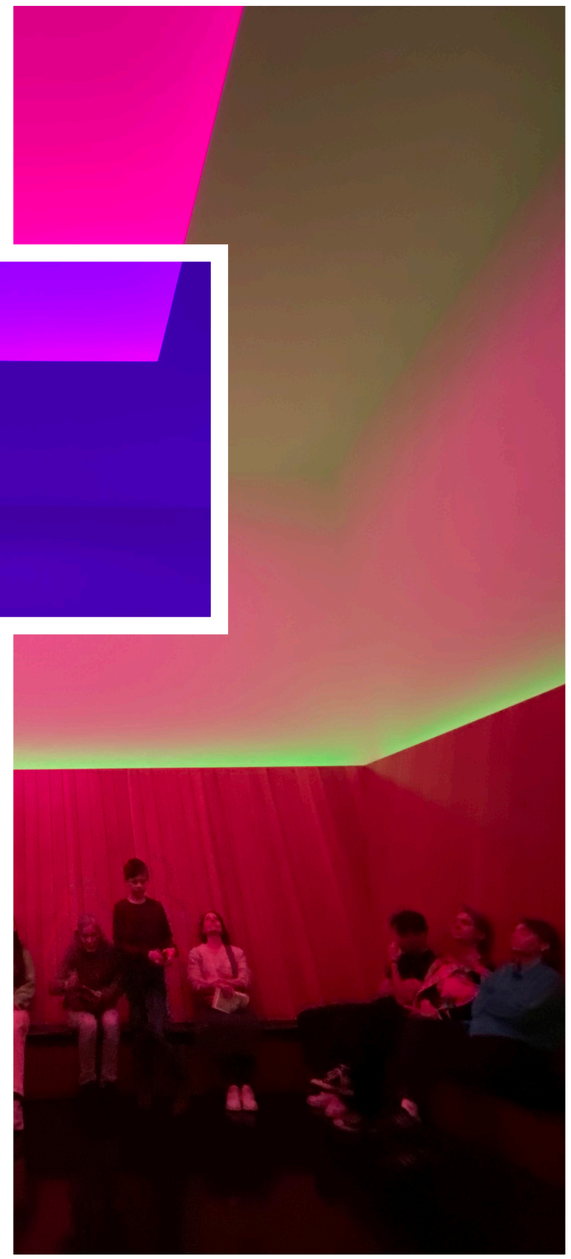
Upon entering this skyspace the, one notices the constantly changing colors of the artificial lights, hidden in plain sight, which work in pairs of two complementary hues. The striking contrast draws the attention of the observer to the top of the room. The title of the project describes the exact atmosphere emulated in the room: a calming, mesmerizing and hypnotizing skylight.

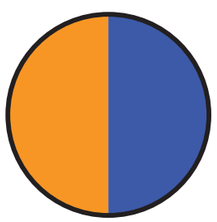
The space is arranged in the form of a square, with benches placed along the perimeter. The bench is made out of marble, which is smooth and cold to the touch. As the lights dim down the bench appears to be black, but when the light changes, the seating and flooring change color as well. One of the central but subtle themes of the installation is symmetry, which works closely with the harmony of the ever changing hues.
At a central level in the room, the two colors blend together and mix, creating a transition zone. The “capsule” like space could be considered to be an abstraction of a sphere, due to the fact that it simulates the feeling of a cocoon that wraps around the observer.

As a general observation of the experience, one feels the effects of the room as meditative, suitable for reflection and introspection. The visual stimulation is enough to distract one from their own thoughts, bringing them into a state where they lose the track of time.

What was striking about the experience is that despite the fact that the artist completely excluded the sense of sound from the experience, the amount of visual stimuli was enough to make the perceiver forget about the sense of hearing. The sight of the colors and the sense of touch are the two elements that make up the experience of the visitor.

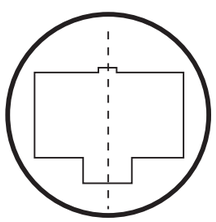






Complementary colors

The combination of complementary colors creates visual harmony.



synthesized form

The synthesized form acts as an immersive agent for the viewer.

Central light source

The central light source creates a atmospheric hierarchy in the space.

Figure 45. Interior atmosphere of the room, showing the changing color scheme

Passage - Antony Gormley (2016)

The first impression of the sculpture is that the shape resembles a cross. In fact, the outline of the sculpture was inspired by the body of the artist, representing a translation of the human anatomy into abstract shape. Steel is used as the only material for the sculpture, showing the raw nature of the material, which reacts with the environment through corrosion, giving a non constant material appearance. Every 90 degree angle is welded and emphasized, the whole piece expresses intentionality and honesty. The structure is closed at one end, offering the opportunity to the user to take a walk in the “tunnel” and venture into the unknown.

As one enters the sculpture, the longer they walk, there is lesser the light protrudes into the space, most of it being absorbed by the raw dark steel. Walking into the sculpture feels like entering into and being swallowed by an abyss which slowly wraps around you.

One experiences an overwhelming sense of tension and suspense, which is both comforting and terrifying. This journey implies accepting the feeling of losing control and trusting the process. The sculpture could be compared to a metaphor for sacrifice, where one is willing to navigate into darkness and hardship, in order to reach a goal. This goal is portrayed as a moment of peace and hopefulness, when at the end of the tunnel, after overcoming one’s fears, there is a slight glimmer of hope. The same shape which one encounters when they enter, appears in a dark gray outline and barely stands out in the complete darkness.

At that point, the viewer turns around to get to where they started, heading towards the familiar environment. What this experience reveals to the user is that the “reward” is only visible at the very end of the journey.

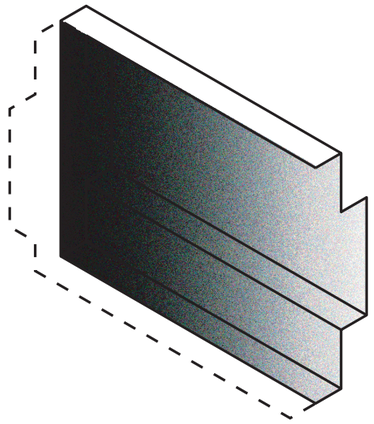
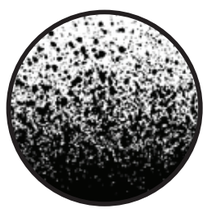


Figure 46. Entering the passage

Figure 47. View from the end while looking at the entrance

Raw materials

The raw steel shows the imperfections of the weathered surface and adds another level to the visual experience for the user.



Materials that absorb light

The steel absorbs light and immerses the viewer into the experience.

Controlled exposure

The experience of controlled exposure can allow the user to grow.

Figure 48. Silhouette

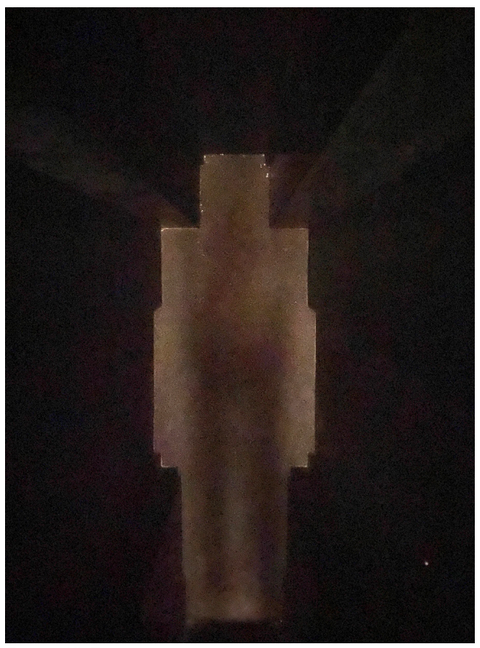


Figure 49. The silhouette of the passage that appears at the end

Swimming pool - Leandro Erlich (2016)

The “Swimming pool” is a popular example of a modern art installation, which could be deemed as an average attention grabbing piece, but there is more to the experience than meets the eye. Here, there are three components that make up the experience of the visitor.
Firstly, the most obvious element, the deep blue color that is usually associated with pools. Second, there is a direct source of light coming from above the pool. Third, the top surface of the space, a thin layer of water on top of glass, which is in constant movement, displaying gradual waves. Looking from the bottom of the pool, towards the top and vice versa, the visual connection to the visitors above the pool is warped by the small waves in the water, which filters and refracts the light.

The water also leaves an imprint onto the walls and floor of the pool, creating patterns that change. The space feels calming and quiet, open and inviting, despite the size of the room. Here, the deep blue acts as a catalyst for creating an illusion of openness in a small room. One might attribute the experience of inner peace to feeling as if they are alone in a calm ocean.

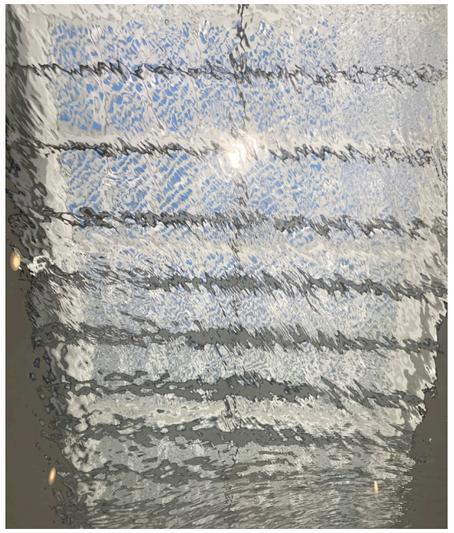


Figure 50. View through the ceiling of the pool

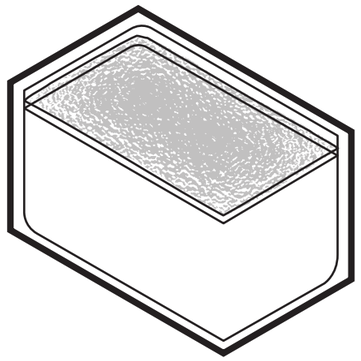
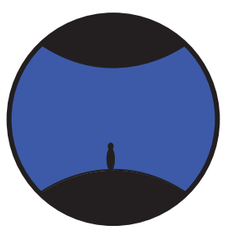
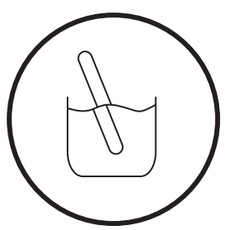


Figure 51. Entering the pool



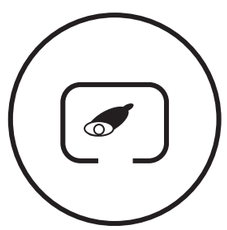
Colors that expand the space

Colors such as blue have the capacity of expanding a space that would otherwise feel claustrophobic.



Water distors objects

Water can be used to distort objects and environments.



Rounded walls hide small spaces

Rounded walls can hide a space that would feel claustrophobic.

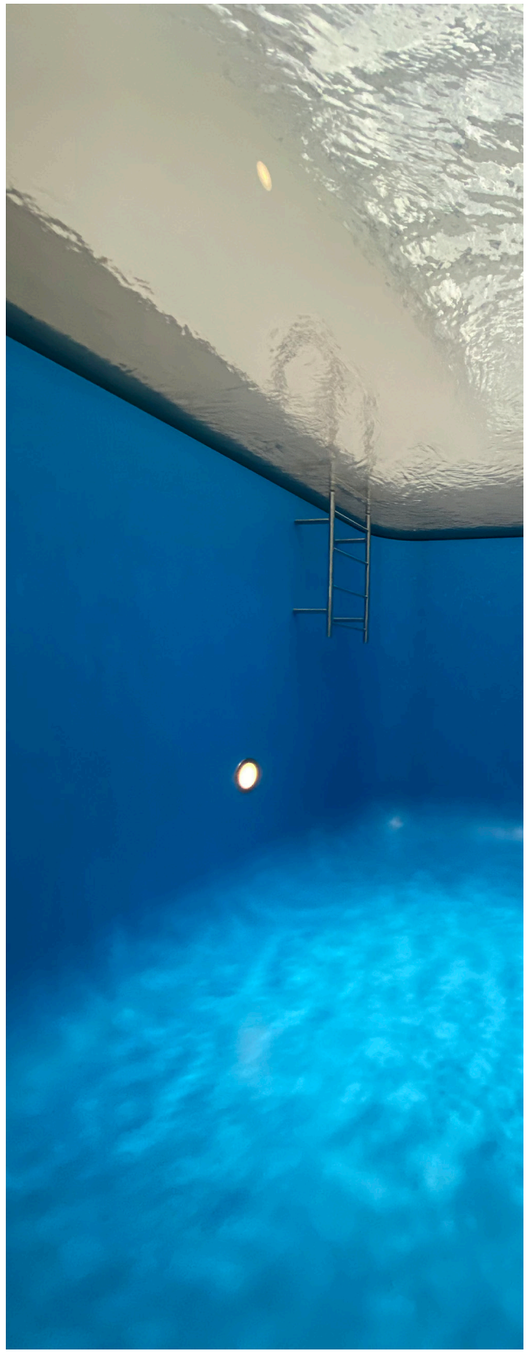


Figure 52. The atmosphere inside the pool

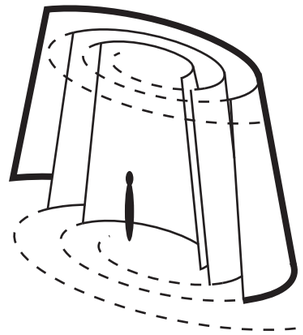
Open ended - Richard Serra (2008)

Upon viewing the sculpture for the first time, the structure feels imposing and overwhelming. This element comes as a result of the scale that the artist uses. The sculpture is about two and a half times as tall as the average human. This partially serves the purpose of creating an immersive experience for the user. Here, the experience is centered around creating confusion, the feeling of being lost, in the purpose of employing the inner need of wayfinding of the visitor.

Claustrophobia comes into play when taking into account the height and echo produced by the sculpture, inducing a dream-like state. The visitor is faced with the apparent feeling of a tall structure that is almost tipping over. Through this process of wayfinding, the user discovers that the spiraling layout of the installation works more like a labyrinth.

There is however, another level to the experience, which is the use of color and material. Richard Serra uses untreated raw steel, which is thick and corroded. This offers a ranging color palette of cold earth tones that vary the surface of the walls.

Figure 48. Aerial view of the sculpture



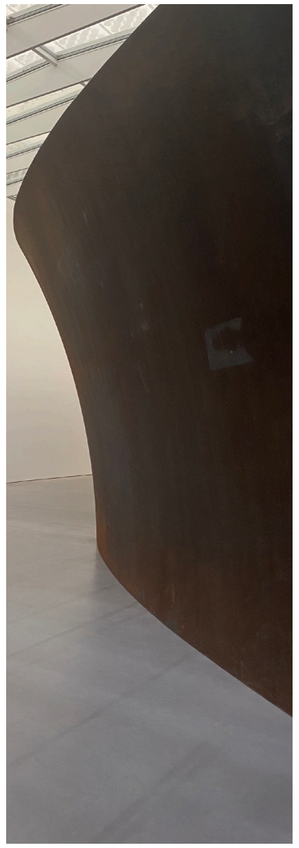


Figure 53. Curvature of the steel plates

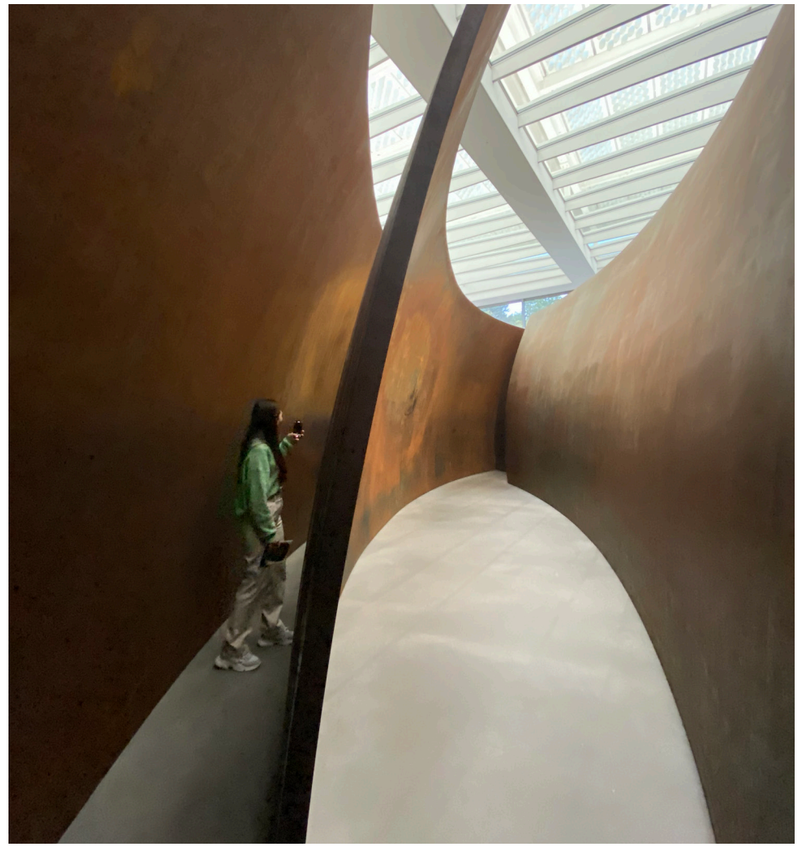


Figure 54. Interior of the maze, showing the scale

Scale

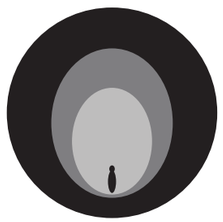
The scale of the environment relative to the viewer can create an imposing atmosphere.

Maze-like layout

A maze-like layout can create controlled fear exposure environment for the user.

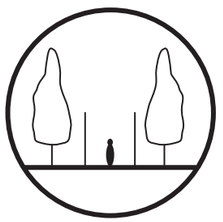
Controlled exposure

The experience of controlled exposure can allow the user to grow.



Feeling lost

A spiritual space can create the experience of feeling lost.



Partial isolation

The environment of the viewer is separated partially from the context.

Celestial vault - James Turell (1996)

The structure created by James Turell resides in the outskirts of the city of Hague, located in the proximity of the sea. What is striking about the installation is that the artist creates a unique experience for the user by using a minimal amount of elements and materials. The concept of the celestial vault can be reduced to the presence of two elements: the centerpiece seating place and a crater-like divot in the ground.

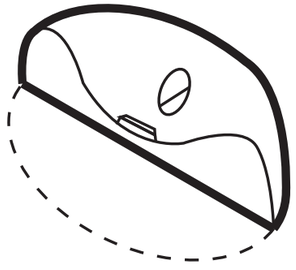
The centerpiece of the installation is accessed through a tunnel. Since the void of the installation is not accessible from above, but rather from below, the entrance takes the form of a tunnel that emerges the viewer into the piece. There is however a strange quality to the area, that comes as a result of having openness towards the sky, while separating the visitor from the surrounding area. Thus, the artist creates directness exclusively towards the sky. The bowl shape also simulates the atmosphere of a safe, nurturing environment where one is shielded from wind and direct interaction with the immediate context of the vault. The centerpiece of the sculpture is a bench that has a striking resemblance to a coffin, which creates a duality in perception: a space for daydreaming and observing which pushes the user towards deeper understanding of themselves.

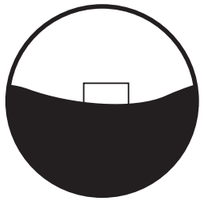
This duality is carried on in the use of the space, when the observer is met with completely different environments based on the time of day they are experiencing the vault. The vault is best experienced when laying down on the bench looking up at the sky, both during the day when the sun is out, as well as during the night, when one is stargazing. Lastly, what James Turell achieves with his sculpture is the presence of an invisible threshold that unconsciously creates a transition for the user, from the terrestrial realm towards a meditative, dreamlike realm where one is in awe of life and the beauty of nature.

Figure 55. Centerpiece of the vault

Figure 56. View of the vault from the central position

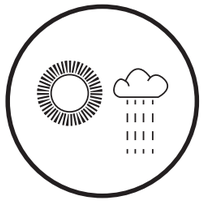
Figure 57. View from the edge of the vault





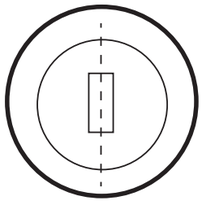
Abstract form

The form of a room or environment is presented as an abstract volume.



Emphasized natural conditions

A space or room that accentuates and emphasizes the conditions of a natural environment, for instance an open skylight.



Symmetry

The use of symmetrical organization.

Separating the user from the environment

The design of an environment that creates the atmosphere of separation for the user.

Using a remote location

A building or space that emphasizes it geographical location, outside the urban context.

Figure 58. Entering the vault

Pastor Van Ars Church - Aldo Van Eyck

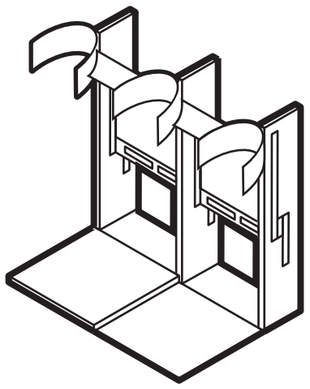
From the very beginning of the visit of Aldo Van Eyck's church, entering a building felt very much like entering a vault. The church has no outward facing windows except for the skylights, which creates a feeling of voluntary isolation and separation from the exterior world. One of the elements that contributes to this feeling is the lack of color and the palette of light and dark gray, which is a result of using cast on site concrete and blocks of concrete.

Throughout the whole building, there is a strong interplay in elements, which contrast each other. Light and dark is the first and most obvious of these elements, since the architect makes the visitor go through a journey of dimly lit spaces in order to reach the central and focal point of the building. Another contrasting element is the use of straight and curved sections of the building. The collection of all the features of the building makes the user really question the space. This process of questioning in turn sparks the process of introspection and looking within.

Architecturally, Aldo Van Eyck brings a unique perspective on religious architecture from a secular point of view. Through the lens of a non religious architect, a church should be stripped of unnecessary decoration and point the believer towards a state of peace and transcendence. This vision carried through in the use of the building, which to this day is used as intended by the architect.

Figure 59. Exterior appearance of the church with no exterior windows

Figure 60. Wheels of light, creating volume through light



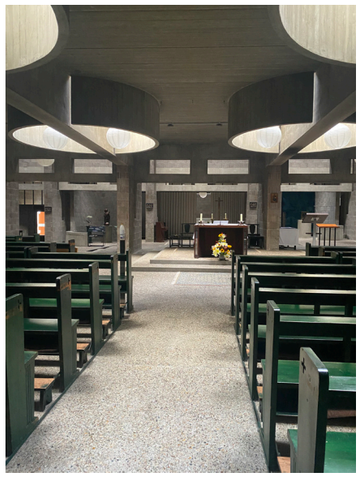
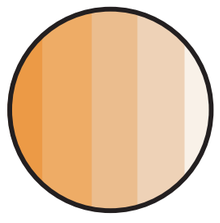


Figure 61. Asymmetry relative to the altar

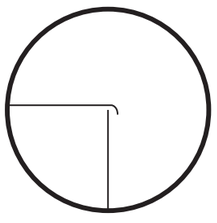
Figure 62. The central axis of the building

Figure 63. Material detail, concrete bricks



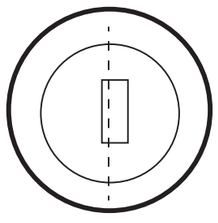
Monochrome palette

The use of a monochrome palette expressed through the quality of the materials.



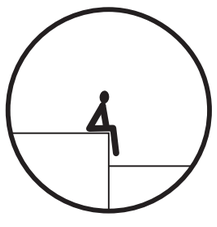
Subtle details

Subtle details that catch the attention of the viewer.



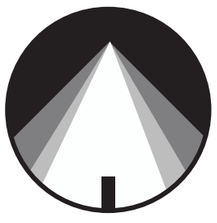
Asymmetry

The use of symmetrical organization.



Spaces for reflection

Spaces that allow the user to enter a mindset of contemplation.



Focal point through light & darkness

Light used to emphasize an architectural element of space through contrast.

The feeling of the building creating an introverted experience is present and clear all throughout the floor plans and the sections. The axonometric drawing shows how the connection to the outside world is only made through the “wheels of light“. The quality of secluding the visitor from their environment makes them turn inwards and reflect.

The layout of the building is almost theatrical, where the worshiper follows a sequence of movements in order to reach the service area. The contrast in this spaces not only consists of light and shadow, but also a very strong interplay of scale. This aspect is reflected in section A-A, where the central avenue is more than twice the size of the adjacent spaces, thus creating an imposing visual separation.

The architect enforces these clashing contrasts also in the floorplans. The order and symmetry of the roof plan is broken by the organization of the floorplan.

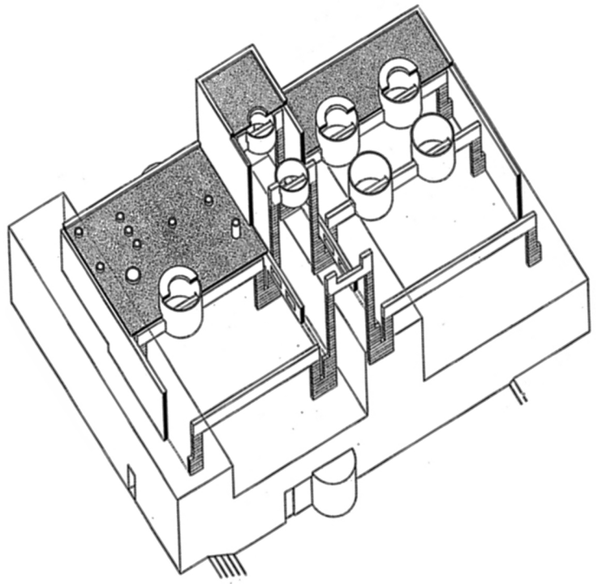
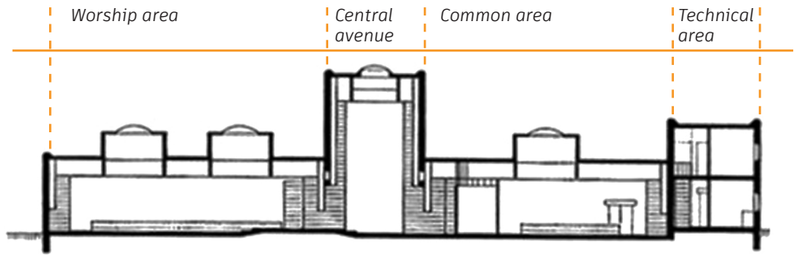


Figure 64. Axonometric drawing showing the placement of the windows and program separation



Section A-A, across the longitudinal axis, showing contrast in heights and program distinction

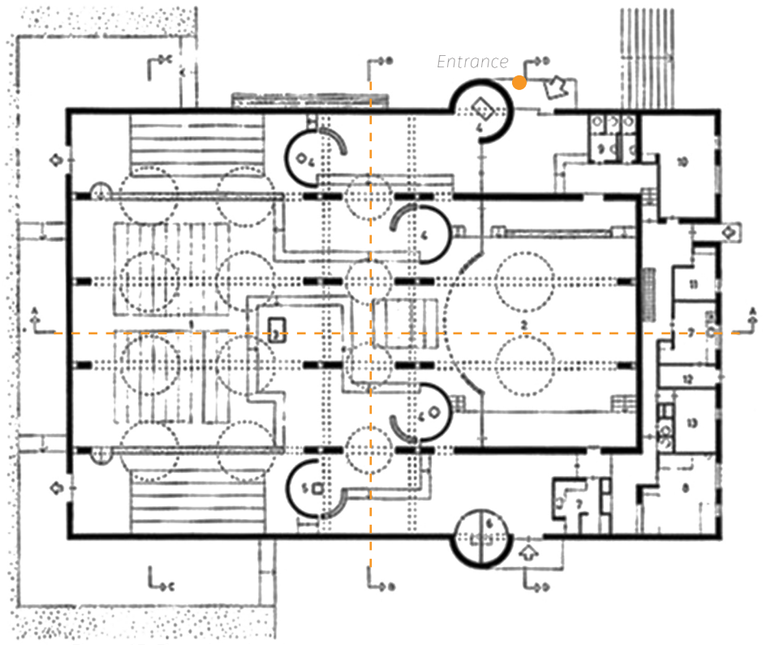


Figure 65. Floorplan showing the position of the central axes

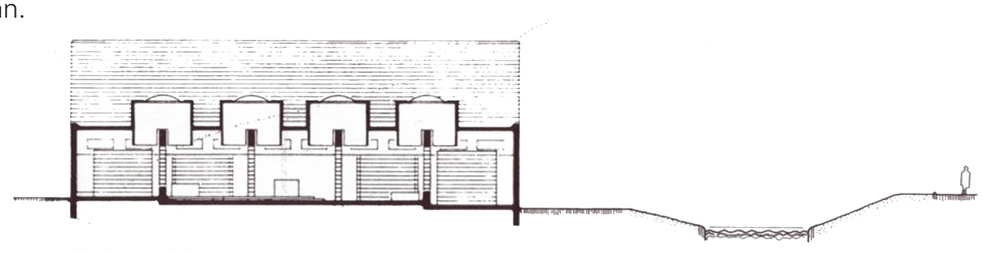


Figure 66. Section C-C, showing the scale of the worship area

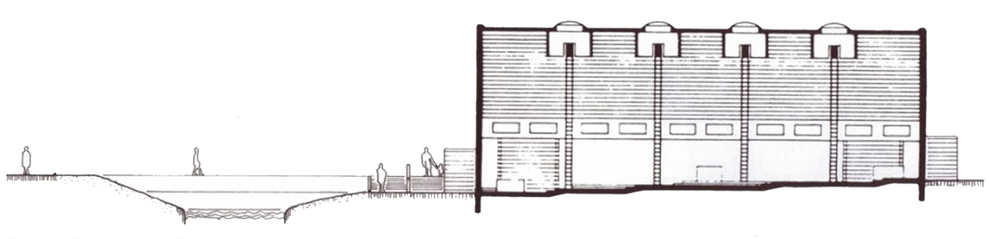


Figure 67. Section B-B, showing the scale of the central avenue separating the two

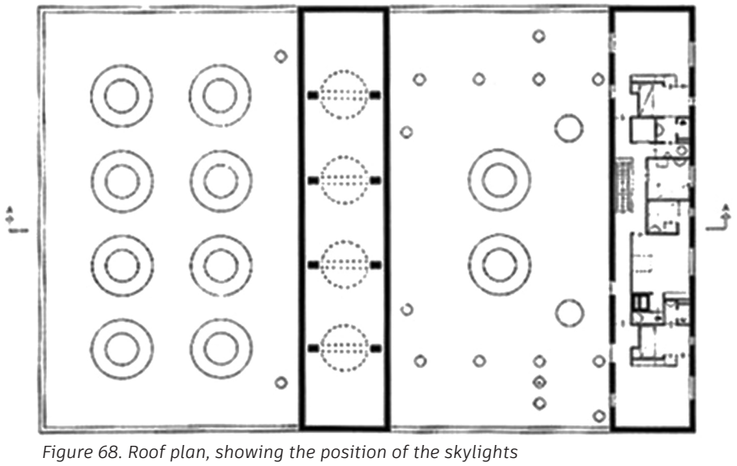


Figure 68. Roof plan, showing the position of the skylights

St Mary of the Angels Chapel - Mecanoo

The Chapel St. Mary of the Angels is very resemblant of Le Corbusier's Notre Dame du Haut, through the arrangement of the roof structure. The first obvious element of the building is the very strong color scheme, where the two complementary colors, yellow and blue are used very intentionally. The blue "ribbon" wall makes the space feel bigger than it is in reality. The shape of the roof is curved which filters the light coming from the exterior and creates gradients of yellow, giving the building an hermetic feeling.

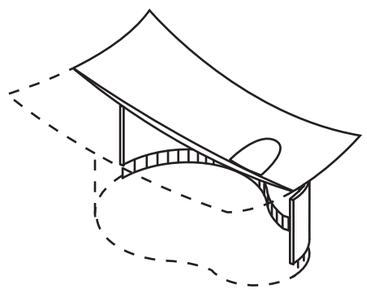
The envelope of the building is irregular and wavy, there are no straight lines or sharp corners, a feature which makes the building feel both organic and safe. Through the placement of the windows above and below the blue "ribbon", there is an indirect connection to the exterior, which creates the feeling of a very intimate and subtitled connection to the environment, while still fostering the feeling of an introspective space. The constantly changing encapsulated environment induces a sentiment of questioning and introspection. The walls feel like an endless calm sea that surrounds the individual, where the ceiling is a very warm and soothing sun that slowly creeps in.

Right above the altar there is a skylight. The reflections of the portal window spread the warm light into the space, while creating a visual focus on the center of the church.

There are very strong contrasts in the building: verticality is suggested on a macro scale when looking at the building as a whole, through the window

Figure 69. Exterior roof detail

frames, interior lights and benches; while horizontality happens on the micro scale, when all around, at eye level there is an infinitely wide opening through the blue paint.



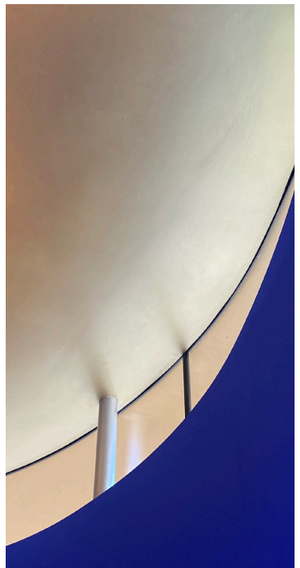


Figure 70. Window detail

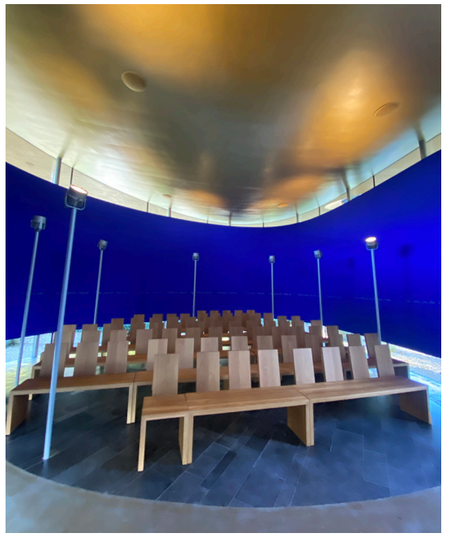
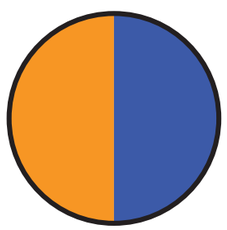


Figure 71. Interior seating area, arranged in a cluster

Figure 72. Materiality of the chapel

Figure 73. Exterior view of the chapel

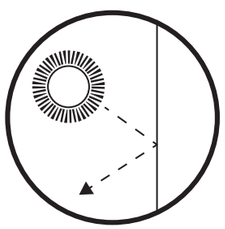


Complementary colors

The combination of complementary colors creates visual harmony.

Comforting small environment

A small environment that is on the brink of feeling claustrophobic, but feels comforting.

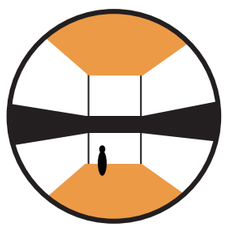


Atmospheric feeling though light reflection

Light reflecting and refracting from a surface creates an atmospheric feeling.

Curved walls feel enveloping

The layout of curved walls feel enveloping and comforting



Intimacy

The presence of an intimate and private atmosphere for the user.

The atmosphere of warmth is created through spotlights that illuminate the ceiling and reflect on the golden surface, giving the quality of light coming from a candle

The axis that cuts through the chapel in the transverse plane is a representation of the cycle of life. The fact that the ceremony of burial is a continuous process that is reflected in the design, shows how the architect materialized an abstract philosophy, more specifically the natural order of events, where that life moves on.

On the left side of the transverse axis, shown on the floor plan, is the altar skylight, which illuminates space where the ceremony takes place.

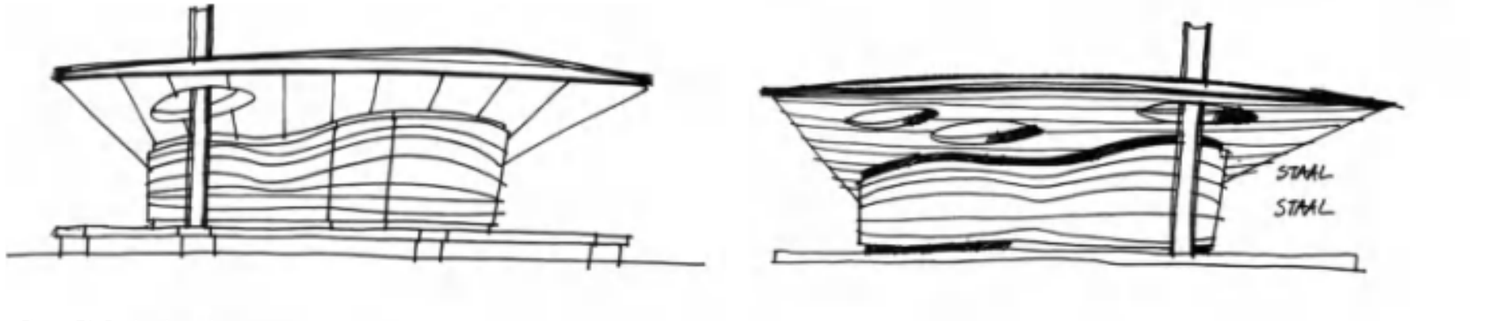


Figure 74. Design iterations

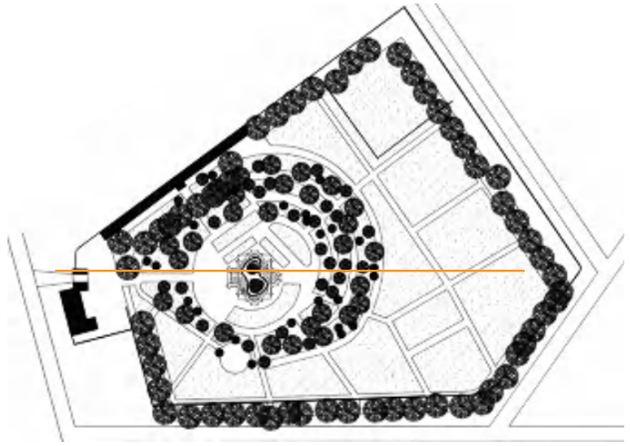


Figure 75. Site plan showing the position of the chapel relative to the cemetery space

Figure 76. Sequence of doors opening

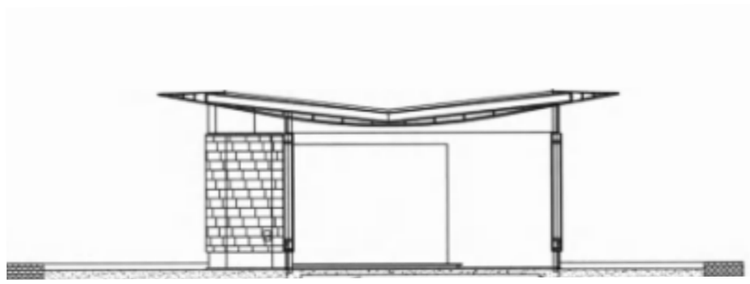


Figure 77. Transverse section

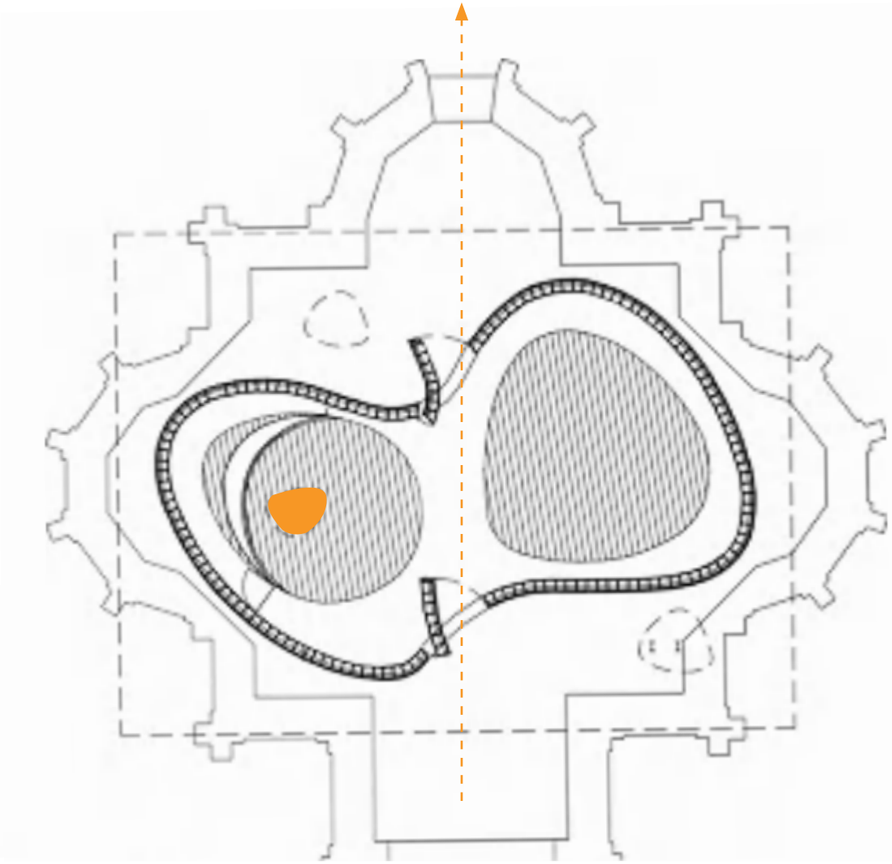


Figure 78. Floor plan showing how the doors are part of the facade

Interviewing a psychologist

Spirituality & Healing environment

Having a professional opinion on how to design for psychiatric patients is a crucial part of the research. Besides their experience with mental health, psychologists and psychiatrists also have a deep understanding of the mechanisms of the human psyche. Thus, an interview with the teacher and practicing psychologist Lavinia Tanculescu, expert in Jungian Psychology and Psychoanalysis, was conducted and recorded in terms of key highlights that can guide the research towards a holistic solution.

During the conversation with the psychologist, the discussion confirmed that the current environments for practice and healing in terms of psychotherapy, rarely support the holistic needs of the patient, and lack the implementation of the patient-centered care approach. More specifically, modern mental institutions require an improved and updated perspective when it comes to their functions, layout and appearance. The shift in the approach towards more holistic institutions will positively affect and engage the patients.
Apart from the physical components of the institution, according to her view, a few guidelines should be considered first. Patients will be subjected to one form of treatment at a time based on their diagnosis severity, thus, the institution should foster an environment that is flexible and responsive.

Based on the same severity criteria, there should be different parts of the building that treat different levels of psychiatric needs. In the early arrival state of the patient, they will require personnel support and therapy, in order to ground and bring them to a safe state. They will then be ready to be introduced to holistic forms of treatment. The introduction of alternative methods of treatment should only happen at the point where the patient is grounded and rational, in order to avoid causing further damage and worsening their psychological state.

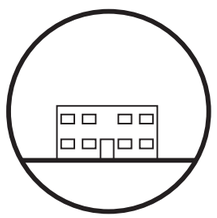
However, this statement can also be translated into architectural terms. In this case, the separation should not only be physical in terms of different functions for rooms, but also go beyond, affecting the layout both in height as well as horizontal area. Thus, the building should have different zones for different patients, where the general area caters to their most immediate needs at first, and holistic practices are employed at the time when the patient is considered to be ready for it.

Another important quality that was mentioned during the interview was the scale of the building, in terms of height. Here, the building should be rather spread out in terms of surface area, rather than being tall and narrow. Using such a design will assure that people with acrophobia will be able to enter the building.

On the same note, the building should be a representation of balance, which not only will appeal to the visual sense of both the patients and the staff, but will also ensure that no demographic will be excluded from access to treatment due to the nature of the design. The design of a psychiatric institution should focus on ameliorating the negative effects on its patients, which is achieved through making choices to create inclusion and comfort through the design. The sterile and uninviting feeling created by the archetypal institutional buildings for psychiatric wards should be avoided and masked by using warmer and more inviting settings, where patients can feel at ease.

Besides the building, the environment also plays an important role in the process of recovery. In this regard, water, greenery and light were mentioned as key psychologically supportive elements. Thus, the building should be in the vicinity of lakes, seas, or canals. Gardens, greenhouses and forests are a must have component for the patients, together with layouts that allow the building to capture as much daylight as possible.

Having discussed the basic approach towards the layout and framework of the institution, a few suggestions were mentioned relative to the subject of the lack of holistic practices. In terms of alternate practices, the following were suggested: quiet rooms, immersion rooms, multi sensorial rooms, sand play rooms, play spaces, single & group therapy rooms, art/ creative room, anger management room, testing rooms, theater room, specialist rooms/ physician rooms.

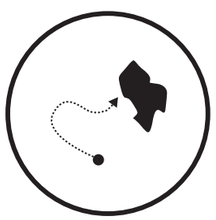


Low rise building

The use of a low rise building, with two to three levels max.

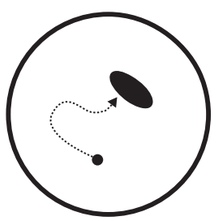
Immersive spaces

The presence of immersive spaces in a psychiatric facility.



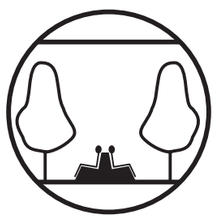
Proximity to nature

Proximity to natural landscape is important for the mental health of the patients.



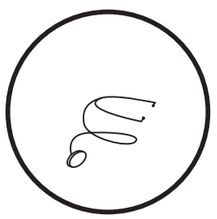
Proximity to water

Proximity to water bodies is important for the mental health of the patients.



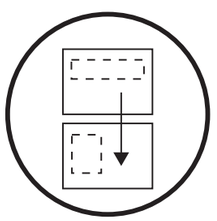
Interior garden

The presence of an interior garden for the users of the psychiatric facility.



Phisician's room

The presence of a physician's room contributes to the feeling of comfort for the patients, as well as stigmatizing the psychiatric unit by bringing outsiders in.



Flexible spaces

Flexibility within the layout that allows the building to respond to the current needs.

Visual distinction of functions

The distinction in functions is visually represented through diverse design elements.

Results

Design themes - Matrix

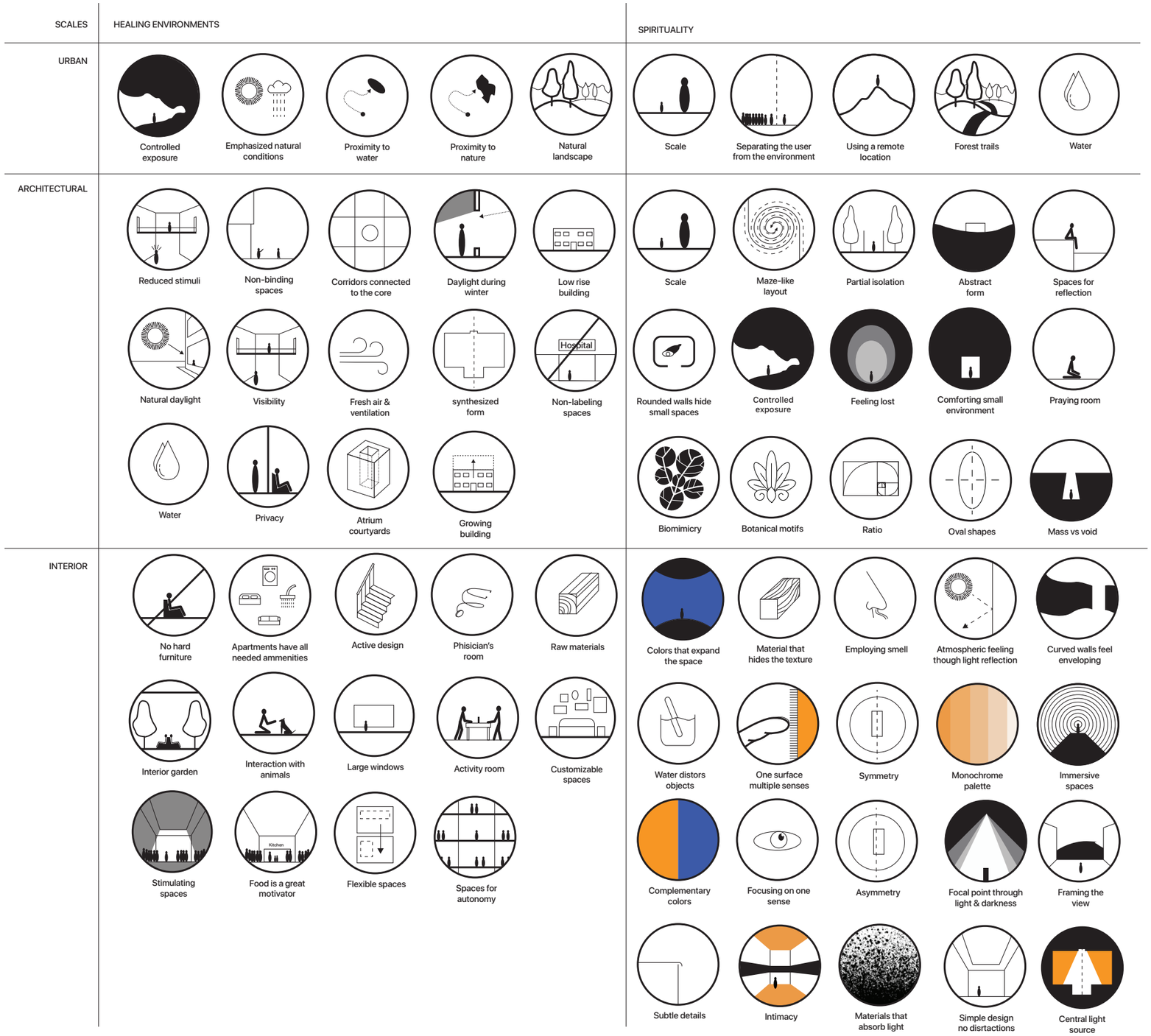


Figure 79. Design themes Matrix

The design matrix serves as a collection of all the data that was analyzed in the literature review and the fieldwork chapters. The design guidelines are split into two categories: Healing Environments and Spirituality, based on their spatial qualities and the type of atmosphere they elicit. This separation is based on the structure outlined in the methods chapter. The rows split the themes into three scales used in the building environment: Urban, architectural and interior.

This matrix is designed to help navigate and locate themes that tackle very specific parts of a healthcare building. The matrix will be used as a guiding tool during the design, rather than a strict set of rules, in order to avoid a rigid and conventional design. Each scale will be implemented by choosing the themes which are the most recurring at first, after which, additional elements can be incorporated in order to further elaborate the design. The goal of the matrix is to emphasize the quality of the design, thus, the relationship between the themes is more important than the amount of themes used.

Figure 80. Design themes Recommendations

Design themes recommendations

In order to apply the matrix, a few steps will need to be followed in order to narrow the themes down to the most important features. This way, a hierarchy will be established.

In order to establish this hierarchy, the process of the design will be conducted based on the way the user would approach the building based on the order in which their senses are activated. A study originating from the Frontiers in Psychology journal suggests that the visual stimuli, followed by the auditory stimuli are the most important sensorial inputs when it comes to users recognizing the meaning of architectural spaces (Fjeld et al. 2013). Following these two, one can assume by logical deduction that the olfactory sense will be engaged before the sense of touch, due to the fact that the odor of natural and man made materials travels through air and engages one's sense of smell before one reaches the physical surface of a building. Thus, the hierarchy is established as follows: sight, hearing, smell and touch. This order offers a method of applying the themes to a new design proposal. The sense of taste was not considered due to the fact that it is not often a part of the architectural experience.

Patient healing journey

The importance of the journey of the patient cannot be overlooked. This aspect of the healthcare system can be sometimes overlooked. During the conversations with the staff members of the Yulius facility, as well as the interview with the psychologist, a few important conditions were mentioned.

As a whole, the environment has to cater to the needs of the user, allowing them to grow and progress in a safe space where they can move at their own pace. Moreover, depending on the state of the patient, there are certain procedures and approaches that are suitable and cannot be interchanged.

Healing journey

Upon arrival, the first step towards caring for the patient is understanding the patient and their psychiatric needs through a process called testing.

After that, the treatment begins, with very rational approaches and grounding techniques. This way, the patient has a stable baseline status upon which other treatment types can be layered.

Moreover, the patient is now ready to encounter holistic care methods that are tailored to their interest and positive response.

Only when the patient responds well, can the topic of spirituality enter the plan of care. Here, the patient will have the opportunity to understand their own relationship with the world and possible higher powers.

With time, the patient is able to form psychically and psychologically healthy habits, learning techniques that allow them to thrive in their communities and live independently, outside the confines of the psychiatric facility.

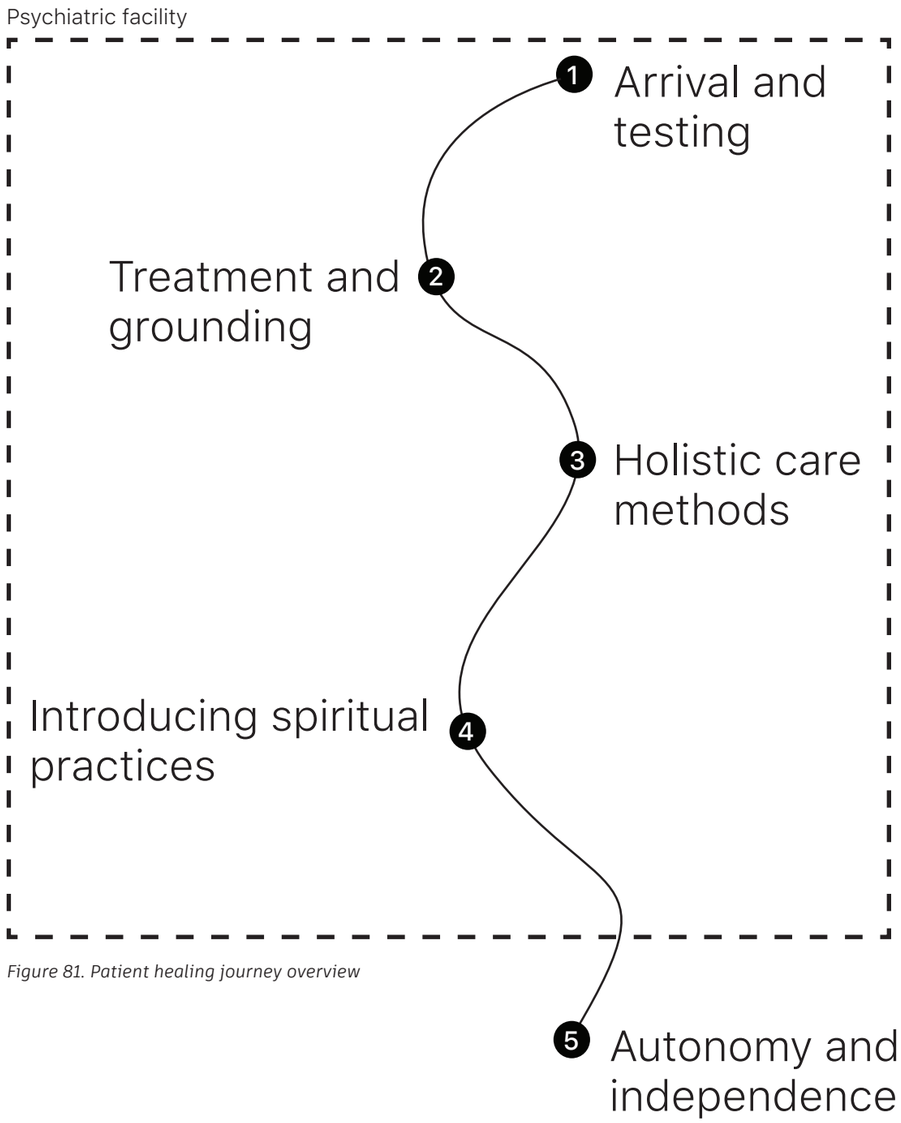


Figure 81. Patient healing journey overview

Conclusion & Discussion

Conclusion

As the current landscape of psychiatric treatment is in constant change and under threat in terms of resources, both financial and personnel. The future of psychiatric architecture will have to adapt to stricter demands and higher number of incoming patients. Architecture can respond to the issue by using different planning methods and rethinking the layouts and functions of psychiatric institutions. Another pathway is the implementation a flexible layout, which would assure that unused program can be replaced. In turn, these initiatives will result in an efficient building that is being used to its full potential, letting no space go to waste. This approach could solve the issue of the building not meeting the needs of the users. The design of psychiatric facilities and institutions is predicated on enforcing staff control over patients and diminishing their independence and control.

In order to guide the design of future psychiatric facilities, the beneficial elements that conclude the research findings of this report were recorded through design themes. The elements that address the needs of modern institutions are shown in the design themes matrix, answering the first and second research sub questions in the “Healing environments” column, while the third and fourth sub question are answered by the themes in the “Spirituality” column.

The main research question is answered by the patient healing journey, which outlines specific steps of recovery for patients admitted to a psychiatric facility. The healing environment should be used as the foundation for a new facility, followed by the inclusion spiritual elements. Both of these themes should be applied on all building scales, from the setting of the building, to the design of a room or detail.

There are however issues that relate with the method and approach to treating the patients, staff and professionals. The current western form of treatment is mainly based on the prescription of psychotropic medicine, which leads to issues such as addiction and overuse, leading the patients longing for alternative methods. Research suggests the benefits of holistic environments for healing and the use or practice of spirituality, but these approaches rarely translate into practice.

There is perhaps a reason there are not many examples of modern institutions that implement healing environments and spirituality. As illustrated in the theoretical framework, there is literature to suggest the connection between mental health, the benefits of the quality of the physical environment and spirituality, but very little evidence indicating the benefits of all combined. Literature has proven the need for change in the approach to building and operating psychiatric institutions, and the fieldwork outlined the quality of experiencing these environments, through photography and observations.

Although architects cannot change the structure of psychiatric treatment and the philosophy of the user, they can provide physical environments that allows them to grow and develop their self identity. They can also motivate people to rethink their preconceptions of stigmatized psychiatric facilities, which although are meant to heal, have been historically regarded as institutional and restrictive environments. Here, the two themes that guided the research, Healing environments and Spirituality, function as the catalyst for change. These themes can be implemented in terms of program, such as a room for physical activity or a meditation room, but also in general elements of the spaces, such as column details, engaging colors or material finishes. These elements are synthesized and delivered in the design themes matrix, which offers the collection of conclusions from all the research data, summarized into themes and organized by architectural scales.

Discussion

In terms of the limitations of the research, the search was focused on adults with mild forms of mental illness. Due to the implications associated with designing for severe mental illness, the facility would require a confined perimeter which would close the facility from the surrounding area.
Future research should investigate methods of combining healing environments and spirituality, with an emphasis on recording patient progress and experience within such a building. Here, interviews and surveys could contribute to a greater understanding of how the ecosystem of mental health care can change for future patients. Large scale controlled studies could offer a strong indication of whether the demographic of psychiatric patients might react positively to such treatment approaches and environments. Spiritual architecture can significantly contribute to the context of psychiatric architecture and improve the holistic qualities of the care environments, but more data is required in order to know exactly to which degree such spiritual attributes should be implemented. Regarding the impact of a person centered design, by applying this framework, psychiatric patients are offered the possibility of exploring their own pathway to healing, allowing them to find the best fitting method of treatment without having to switch between locations.

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