MASTER

Look beyond what you see
a design for a psychiatric hospital

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Graduation studio ‘Transparency’

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# INTRODUCTION

## PSYCHIATRIC HOSPITAL
- What is psychiatry?
- The development of the psychiatric hospital
- Case study
- Twin phenomena
- Results

## DESIGN
- Location
- Starting point
- Integration into the Environment
- Program
- Route
- Form & Volume
- Floorplan
- Façade
- Gardens
- Detail

## CONCLUSION

## BIBLIOGRAPHY
The name of this Graduation Studio is ‘Transparency’, the main theme is named equally, namely transparency. The project started with reading the fictional book ‘The Circle’ by Dave Eggers. This book provides an interesting view on transparency and how transparency can change the behavior of people. The circle is a technological company. Everything that employees do can be seen and discussed by people via social media from the outer world. Although this is a fictional book, it still looks like the real world or what the real world might become in the future. Namely, endless control and reflection, while privacy is rather limited and this may lead to the loss of a personal life. This kind of transparency will sound very frightening for some people. Maybe there can be found a solution in architecture. The goal of this graduation studio is to find the right balance between architecture and transparency. This depends of course on what kind of building there will be designed. It is important that there is a certain tension between social and physiological and isolation and togetherness.

In the first part of this graduation project we had to write an essay about transparency, the theme for my graduation project derived from this essay. The title of the essay was ‘Masks’. This essay showed what the relation is between masks and transparency, and how these two themes should be used in architecture.

When people wear different masks in different daily situation it is possible that they get confused of when using which mask. This can let to too much pressure and they do not know anymore who they are or who they want to be. This can let to a mental illness, for example to a depression. People with a mental illness are still a shamed and do not want the world to know, that they are not alright.

The last weeks there is a lot going on about mental illnesses in the news. For example there will be an extra research on depression among teens and young females in the Netherlands. In the Netherlands one out of ten men and one out of five females will be affected by depression somewhere in their lives. More and more people face a mental illness somewhere in their lives, but why? That is a hard question to answer, maybe because of the increasing pressure from the world around them, maybe because nowadays there is more information about mental illnesses and how to cure them or maybe because we dare to talk more about the subject. Probably all of these answers have a little truth in them, but people who have a mental illness
still find it hard to talk about it. Alexandre Reynders did a research about this, for the KU Leuven, and asked random people if they think that world sees people with a mental illness as inferior or unreliable. Seven out of ten people from Flanders, Belgium, and the Netherlands think that this is true. So it is natural that people are also still ashamed when they have a mental illness.

To break this taboo the research question in this research will be ‘how should a psychiatric hospital be designed so it can protect and guide people and simultaneously be open to the outer world?’

This report is divided in two parts. The first part consists of a theoretical research. What is a psychiatric hospital and how did these develop during time? For this research there are used several literature sources. Than there will be a research on a case study and twin phenomena. The second part consists of the design process of a psychiatric hospital.
PSYCHIATRIC HOSPITAL
PSYCHIATRIC HOSPITAL
The origin of psychiatry
The first attempt to cure people from mental illness goes a long time back to the prehistoric times. Paul Broca did research on trepanation of, drilling holes in, the skulls from that time period. The holes show how people back then tried to release people from the evil spirits in their heads. The removed fragments of bones that were found near the skulls resemble good luck and protect the individual and their family from evil that the individual had escaped (Clower & Finger, 2001).

In the beginning of the 8th century the first hospitals for mental illnesses were founded by Arabic scholars. In Europe the first hospital for mental illnesses was founded 500 years later in the 13th century. The development of the modern psychiatric hospitals started in the 17th and 18th century. The first time that the word psychiatry was used, was by Professor Johann Christian Reil in his paper ‘On the term of medicine and its branches, especially with regard to the rectification of the topic in psychiatry’ in 1808.

But where does the word psychiatry come from and what does it mean? The word psychiatry derives from the Greek words psyche, meaning soul or mind, and iatros, meaning physician. Psychiatry means literally medicine of the soul, it is part of medicine that studies mental illness.

At the end of 18th century Phillipe Pinel was the first one who wanted to improve the conditions of the patients in the psychiatric hospitals. He introduced a more humane treatment method for patients. This was the start of the development of psychiatry as we know it today. Nowadays psychiatry is a medical specialism that is focused on research, diagnosis and treatment of mental illnesses.
Types of mental illnesses
There are a lot of different types of mental illnesses, but what is the cause for these illnesses? There are three categories of the causes of mental illnesses, namely genetic, psychical, and environmental. In general the cause of a mental illness is a combination between the different categories. Some of the more common illnesses are: mood disorders depression and bipolar disorder, psychotic disorders Schizophrenia, eating disorders anorexia and bulimia, personality disorders borderline, obsessive-compulsive disorder, post-traumatic stress disorder and dementia.

The treatment
Many individuals learn how to cope or recover from a mental illness with a proper treatment. There are two treatment methods that are usually used in combination. The first method is the prescription of medication, for example antidepressants. Medication is never the only cure for a mental illness, it only suppresses the illness. The other method is therapy; this method is also divided in two categories. The first one is talk therapy; here the client talks with a psychiatrist about problems and possible solutions. It is also possible to have the talk therapy in a group, here clients share their stories with each other and maybe they can help one another. The second category is daily activities; here clients can do several activities to put their minds on something else and create structure in their life. Some examples of daily activities are music, art, sports, cooking and equestrian therapy.

What is equestrian therapy? It is a therapy method with horses. Horses have the ability to look beyond what they see, because their sensitivity they can feel what you are feeling. Maybe that feeling is different than you are showing to the outer world, you are wearing a mask. Most mental illnesses are connected to our emotions, for example sadness, anger, fear or joy. The first step in equestrian therapy is to identify, to experience and to cope with emotions. In talk therapy clients can deny or blame others for their problems, with equestrian therapy the horse will react on the emotions of the client. For example if a client is anxious, the horse may get skittish. Seeing the response of the horse, clients will see their emotions in a realistic way and they cannot deny them. Steps that follow in the therapy can be assignments to let the horse execute a command. The way the horse is executing the command can be also a solution for barriers in the life of a client.
The architecture of the psychiatric hospital has endured an enormous development in the last three centuries. From knowing very little about mental illnesses and how to treat them to understanding more and more what some mental illnesses contain and how to treat them. Still there are a lot of questions about what some mental illnesses are and what is the best way to treat them. This chapter contains the history of the psychiatric hospital.

Madhouse
In the medieval there was not a lot of information about mental illnesses. Though there was a difference between people that were living in a rural area and people that were living in de city with a mental illness. The people that were living in a rural area could live their life as all the other people. Of course they were the village idiot. But family members were taking care of them and they were accepted by the community. When people who were living in the city had a mental illness, others considered them as dangerous. So they were imprisoned in a madhouse. These madhouses consisted of small dark spaces around a courtyard, there was no treatment or care for these people. The founders of the madhouses were mostly rich citizens who considerd it as their Christian duty of charity to spend their money on the madhouses. The first madhouse in the Netherlands was the Reinier van Arkelhouse in Den Bosch, built in 1442.

Asylum
In the 18th century the Enlightenment influenced and inspired the thoughts about mental and physical illnesses. Illnesses were no longer only fate, but people started thinking about how to treat illnesses. In the Enlightenment nature was seen as the ideal. So people started to think that maybe the environment was the cause of illnesses was. So these people should be isolated from their environment for a while.

These ideas were the starting point for researches on the spreading of diseases. The results of these researches were almost always the same. The dense and smelly cities had the most diseases and the highest mortality rate. This was the beginning of the revolutionary hospital architecture. In hospitals the environment and behavior of patients could be managed. For hospitals was miasma the biggest cause of diseases. The remedy for diseases
was literally blowing away the harmful air, also for mental illnesses. This led to two types of hospital for physical diseases, the wheel with spokes and separate pavilions.

For insanity there was created another type of asylum, the ‘Carré Isolé’. Jacques Tenon en Bernard Poyet created a plan based on a closed square. The plan consisted of two courtyards surrounded by cells for the patients. The living facilities were in the center and connected the two courtyards with each other. Still there was not really a treatment or care for the patients.

Moral Treatment
At the end of the 18th century Philippe Pinel began to expound the idea of improving the conditions for patients in the asylums. He introduced humane ways of managing those who had a mental illness. William Tuke took up these ideas in England; he called this method the ‘moral treatment’. The comfort of the patients became important besides the healing power of nature.

Scherenberg
In the 18th century there was a lot of progress in the wellbeing of the insane in foreign countries. In the Netherlands did progress was not visible, here there were still madhouses with small cells and no humane care. This changed in the beginning of the 19th century. King Willem I reforms and improvements in education, prisons, poor relief and insane care. The aim of the asylum should be cure the insane. In 1824 Reinhart Scherenberg was asked to develop guidelines for a design for an asylum. Scherenberg was not an architect but wrote a lot about the poor relief and he was well known in The Hague. The perfect location for the asylum would be on dry ground and near water. For Scherenberg the main medicines, to treat the mental illness, were fresh air and exercise. Other requirements were the separation of men and women, the categorization in kind of patients and it should be possible to expand the building without harming the whole.

The plan of Scherenberg for the asylum has the shape of a half circle. The half circle is divided into two courtyards by the central building. The different departments and the central building are connected to each other by a colonnade. This colonnade served as a walkway during bad weather.
The different departments had their own wing of living units. The miasma theory characterized also the design of Scherenberg. The bedrooms had two windows in order to provide constant fresh air. This design by Scherenberg had to serve as a model asylum for others to build more of these types in the Netherlands.

Unfortunately, Scherenberg did not receive the promised Dutch State aid. So the plan was too expensive and was not executed. Nevertheless, his plans were the foundation for improvements in the insane legislation.

**Willem Arntsz Huis**

Prof. Dr. J.L.C. Schroeder van der Kolk became regent of the Willem Arntsz Huis in 1827. At that time the Willem Arntsz Huis was still an old madhouse with 27 cells. Schroeder van der Kolk fought against the imprisonment of insane. He wanted to give them a homely environment. So patients were bathed every day and could eat at a table. The asylum was also cleaned every day.

The first plans for the renovation came from architect Christiaan Kramm. The plan consisted out of demolition, redecoration and extension. After the renovation there should be room for 200 people with a mental illness. Men and women should be separated. There should be different departments for different social classes and for the restless and quiets. The result of the design was a rectangular floor plan that was divided into two courtyards by the central building. The central building contains punishment rooms, bakery, washhouse, a dining room and the bath house. Because of the phased acquisition of the surroundings, the design changed. The rebuilding became not that big and there was a smaller extension than had been planned in advance. However the housing was improved significantly. The separation between men and women and the different departments was also fully realized.

Schroeder van der Kolk managed to achieve fundamental improvements in an existing asylum. Therefore the Willem Arntsz Huis functioned for decades as a model asylum.
Krankzinnigenwet (insane law)
The commitment to improve the life of patients in an asylum by Schroeder van der Kolk led to the first insane law in 1841. All the asylums in the Netherlands were evaluated and the result was that most of them used be modernized. New asylums were barely built. Because of some certain financial concessions the government helped in expanding existing asylums. There were some requirements in the insane law for the asylums. The asylums should not be too big, a maximum of 200 beds. The asylum should be built in or close to the city. There should be a separation between men and women and different departments for different illnesses. Gardens got a covered walkway and any semblance of a prison should be avoided. All the asylums would come under state control. This was also the end of private asylums.

The requirements in the insane law resulted in an improvement of the life of the insane. But these requirements had also some disadvantages. The separation between different categories of patients made it not easy to renovate the asylums in the city in a proper way. Lots of useful space was lost to the hallways. The hallways were as narrow as possible.

Provinciaal Gesticht Meerenberg
Totally free of the density of the city was the new build asylum Provinciaal Gesticht Meerenberg. The asylum was build based on the requirements from the insane law in 1848. Nowadays the building from architect J.D. Zocher is considered to be a milestone in the architecture of the psychiatric hospital in the Netherlands. It had room for 300 patients.

Meerenberg was situated between the dunes and parklands. This location was a deliberate choice, because patients could be isolated from the society and the calming nature should distract them from confused thoughts. The plan for Meerenberg was structured according to the carré-corridor’ system. This means that there are four wings around a courtyard. The courtyard is divided in two by a central building. In this central building were the kitchens, living units for the employees, offices and the pharmacy. This division also separated men and women. On both sides of the central building were the departments for the patients form the first and second class of society. The wings perpendicular on the wings for the first and second class were the departments for the patients from the third class of society. And the last
wing had space for the workshops and storage rooms.

Short after completion of the asylum was a need for an extension. There were must more chronic patients than they had taken into account. In the extension they should be able to accommodate 200 extra patients. The treatment methods of the ‘moral treatment’ should still be possible after the expansion, this called for a major extension. Architect A. van der Linden designed the extension with the same base, the ‘carré-corridor’ system, as Zocher did the first design. Van der Linden created two extra wings; this made it possible to create more division between the classes of patients. There was now room also room for a fourth and fifth class of society. After this was completed the asylum had room for 500 patients divided over 24 departments and every department had its own garden for the patients.

The Pavilion Asylum

The introduction of the insane law in 1841 was a new era for the mental health services. Before the introduction of the insane law the insane were seen as criminals, a danger for the society. After the introduction of the insane law there was made a division between cells and asylums. The insane patients should get a proper treatment to provide them a life as normal as possible. The asylums were able to improve the living conditions with small interventions. For example food was served warm and at the table and not in bucket chained to the wall.

At the end of the 19th century most new build asylums were founded outside the city. The reason for this was that most of the asylums in the city could not be extended because there was no space for this. The land outside the city was also significantly cheaper than the land in the city. And most insane had a small change to recover and reintegrate in the society. So an asylum in a rural area would provide at least a healthy and humane living space.

Replace the insane from the city to the rural area was a big improvement. This was certainly the case for the first generation of pavilion asylums. There were small departments that simulate a family environment. In a later stage big asylums would consists out of several pavilions. There would be a separation in classes of society, gender, and the type of illness. All these pavilions would become an asylum itself.
In 1884 the asylum Veldwijk with the pavilion system was built in Ermelo. It became a model asylum that in contrast to the asylum Meerenberg was widely used as a base for other new build asylums. Architect E.G. Wentink made the first design for the asylum. There was a strict division between living units for men, women, quiet and restless patients and a division in classes of society. The first design was very symmetric created at the center was the main building. At the left side were the living units for the women and at the right the living units for the men. Behind the main building were the kitchen, church, cells for restless patients and a building for patients with infectious diseases. It was also easy make extensions because building a new pavilion did not affect the life of other patients. After Veldwijk there were built a lot of other asylums with the pavilion system in the Netherlands.

The Sanatorium
What not succeeded in the decades before succeeded between the two world wars; the asylum was released from its negative image. There was created a new type of asylum; the sanatorium. The sanatorium marked an important shift in the psychiatry. It was a new kind of hospital for wealthy mental patients. The sanatorium was meant for a new category of patients, neurotics. They could go there freely for the best possible treatment. This was possible because these patients were not a threat for the society and most of the time they were aware of their illness.

Not only was the type sanatorium a milestone in the psychiatry also the architecture of the building. The aim was to create luxury buildings. The rooms should be light and there should be balconies. It was important that the neurotics would forget their illness as soon as possible. Also important was the green environment that would contribute to the recovery of neurotics.

The end of the twenties was a period of reforming. Active work therapy and relaxation became very important for the recovery of the patients. A patient should not be an isolated ill person, but a social creature that had a disrupted relation with the society and should be re-educated.

Representing one of the best examples of a sanatorium is the Noordersanatorium in Zuidlaren. This sanatorium was part of asylum
Dennenoord and built in 1935. Architect E. Reitsma designed the sanatorium in collaboration with J. Wetter, who was a medical director. The building was designed by the newest medical findings. There was a central tower functioning offices, examination and treatment rooms. Around this tower were situated four wings contained the rooms for the patients. There was also division in several kinds of patients and gender. It was important that the rooms for the patients received enough light, so these were situated at the south of the four wings. The facility rooms and isolation cells did not need much light, so these were situated in the north of the four wings. The intension of separating the sanatorium from the asylum Dennenoord was made because the board wanted that the neurotics would not be seen as insane. This intension failed, because the society did not distinguish the sanatorium form the asylum.

**Psychiatric hospital**

The Second World War was dark time in the history. Also for the psychiatric patients, they were a blot on the superior Aryan race. So they should be eliminated. They were sent as one of the first to the horrible concentration camps.

After the Second World War the mental health care tried to connect with the modern hospital. The intension was to create paramedical centers. The base for the idea was the pavilion asylum. An example of a new psychiatric hospital is the Sint-Franciscushof in Raalte. Architects L.A. van den Bosch en J. Hendriks made a design for this psychiatric hospital. The design contained clusters of buildings with the same function around an open space. They made a division between living, treat and recreation. The division of the living units was based on the kind of therapy patients needed and their age. It was important to create a family-like setting in the living units. Living implies in this privacy and security. The medical center contained the policlinic, treatment rooms, offices, pharmacy, and laboratory. The paramedical center for physical, creative therapy was connected to the living units. Patients could move sheltered from one to the other room. If patients wanted to go to the work therapy they had to go outside to walk to the other building, just as in the real society. The aim of the architects was to create a community which corresponds to the ‘normal’ society. A Disadvantage of the Sint-Franciscushof was that it situated on secluded plot and so there was no connection with the society of the outer world.
Scale reduction
During the sixties and seventies it was time for antipsychiatry. This meant that the focus was shift from the hospital to the patient in his own environment. The hospital care had undergone a metamorphosis; small-scale, human dimensions, security, and cosines became priorities.

An asylum should not be an asylum anymore, because the patients should stay closer to the society. The result, lots of the existing asylums were demolished and small-scale facilities were built. Small-scale was in line with security, natural, casual, and sheltered. To create more privacy in the big asylums the solution was to build so called ‘sociowoningen’ (social housing). Normal dwellings were built near the asylum. Living and treatment were separated, so the treatments were situated in the asylum and the living units just outside the site of the asylum. Unfortunately there were not built that many social houses, so most of the patients stayed in the asylums.

In the seventies collective living got more attention and made more specific treatment methods on a small group of people possible. Join a group was better for the patient than withdraw to their own room. So the group rooms in the living units were decorated cozy. This had some disadvantages; there was less attention for the individual. So the patients were depending on the group. This made it hard to function outside the group and find a place in the society again.

In the beginning of the eighties there was created a new living form for metal patients, sheltered housing. Here was also a division between living and treatment. The aim was to minimize the therapeutic guidance and rehabilitate the patient in society. Sheltered housing was meant for a temporary stay, so the rooms were of modest dimensions and without luxury. A disadvantage of the sheltered housing was that patients had to come up with daily activities themselves.

Multifunctional Units
In the nineties the focus still lies on small-scale, socialization, and normalization. The multifunctional units became the new way of housing in the mental healthcare. These units were built in an urban area and in these units were all kind of treatment possible. Patients did not have to come up with their own daily activities, but they were kept busy constantly. The
multifunctional units had often a connection with a general hospital. It was maintaining relations in the field of consultative psychiatry, somatic care and general services. In the Netherlands also known as PAAZ, a separated department in a hospital.

At the end of the 20th century there was made a start with the big cleanup of old psychiatric hospitals. The original structure of the hospitals was lost almost everywhere. For example the pavilion structure. Because the knowledge about mental illnesses and its therapies grew, there came more and more buildings so psychiatric sites were overcrowded. Some others were renovated, for example the Sint-Franciscushof. The psychiatric hospital was transformed into a facility for ambulatory care.

In the beginning of the 21st century the government gradually withdraws and they only have supervisors that pay attention on the quality, accessibility and affordability of care. Finally it stands out an evolution that is in line with the origin of the modern psychiatric hospital. This refers to the essence of its architecture; the positive effects of design on the well-being of patients as well as staff.
Helsingør Psychiatric Hospital
The Helsingør Psychiatric Hospital is designed by JDS Architects and BIG - Bjarke Ingels Group. The building is built in 2006 in Denmark. In the design the architects tried to design a project that strives ‘to be AND not to be’ a psychiatric hospital. They wanted to avoid stereotypes; like a traditional hallway with rooms on both sides and easy-cleaning materials. The psychiatric hospital is situated next to a somatic hospital and there is a hallway that is connecting the 2 buildings together.

The program consists of 2 main parts, the living and the treatment program. They designed the two programs separately and afterwards they melt them together. For the design for the living program they used a clover structure. So every patient’s room was situated towards its own part of the landscape. Every wing of the clover has the same program, the patient’s room, offices, collective space, and patios. The treatment program is situated at the first floor there are therapy rooms, rooms for daily activities, offices, and waiting areas.

The design concept consists of several twin phenomena. First the decentralized-centralized; effectively and rationally minimizing walking distance, and at the same time there should be autonomy and intimate spaces. So patients can feel themselves almost at home. Second freedom-control; some part of the hospital should keep an eye on patients for the good of self-protection, and at the same time patients should not feel claustrophobically or trapped. The third is openness-closure; the living area is open, and at the same time it gives the staff the opportunity to observe the patients. And the last twin phenomenon is privacy-sociability; there are rooms for socializing and meetings between people, and at the same time there rooms that provide seclusion and contemplation.
TWIN PHENOMENA

Aldo van Eyck, a Dutch architect, introduced a new notion into architectural thinking, the twin phenomena. In twin phenomena the opposites remain recognizable as opposites. He does not mean that they should be used in extremes. He wants to show that opposites can work together and do not immediately exclude one another. For example, the city is a big house and the house is a small city. This is a famous example of a twin phenomenon, large and small, that is used in the Burgerweeshuis (Orphanage) in Amsterdam.

Van Eyck describes that opposites can occur at two different levels; structure and form. To unite two opposites into a twin phenomenon at a structural level, there should be an in-between. This can be achieved by making an overlap between the opposites, for example one of the two as an extension. It is the point at which two different worlds interpenetrate. According to Van Eyck it is a place with multiple meaning in balance.

To unite two opposites into a twin phenomenon at the level of form can be realized in three ways. The first way is a link between two different interior spaces. The second is a twin phenomenon at a structural level; the total fusion of two different patterns to form a new and complex structure. And the last is relating part and whole.

According to Van Eyck it is not a matter of choosing between two elements, but uses them both in such a way that a right mutual effect is obtained. An architecture that aims to be humane should pay special attention to the forms and transitional places through which people meet, and these should invite them to stay. Van Eyck believes that architecture should give shape to space in the image of mind. He states that space in image of man is place, and time in occasion.
In an earlier research for the graduation studio, the Van Arskerk was researched. Here Van Eyck also used twin phenomena. For example the high-low phenomenon can be found in the the low crypt-like space, ecclesiastical space. And the high in gothic-like space, the street. Because of these twin phenomena the church becomes dynamic and spatially, but still the building is a whole. The research was about the transparency of the building, at first the church seems to be very closed and not transparent at all. After the research it seems that the church is transparent, but on the inside. So the contradiction between outside and inside is very clear. The outside is closed because it was not possible to make it transparent due to the size of the plot. The inside is open because of the gabs in the construction and the soft and intermediate transitions between the spaces. This makes the church transparent and gives it a clear structure.
RESULTS

The result of the research to the psychiatric hospital has provided a set of principles. These should be used in the design process of the psychiatric hospital. There are principles that have to do with the search for a location and principles that had to do with the building itself. These principles contribute to the function, experience, and interaction between the building, the users and the society.

Location
Bound to the society
Bound to nature
Multifunctional unit

Building
Small-scale living units (optionally in a big building)
Daily activities (for internal and external patients)
Twin phenomena (homely feel-not too cozy / decentralized-centralized / freedom-control / openness-closure / privacy-sociability)
Clear structured (open character)
Outdoor area (asylum garden/merge with the landscape)
Extra function also for people form the society (to break the taboo)
Guide and protection
Outdoor area
DESIGN
Location

Before the design process started there should be found a location. How to find a suitable location when there are so many possibilities? To make this choice easier there is chosen a location in the city Eindhoven. Because I already knew this city a little bit. From the principles that were provided in the research, the search for a location could begin. The principles that should be taken into account are; a location that is bounded to the society, and at the same time connected to nature. And the last principle is the multifunctional unit, so a hospital should be nearby.

There are three hospitals in Eindhoven, the Máxima Medical Center, Catharina Hospital and St. Anna Hospital. The Catharina Hospital is situated in a really dense area, so there is no space to build a psychiatric hospital. Near the Máxima Medical Center there is a really nice natural area, but the connection with the society is not possible. The location is on one side on the edge of the city and on the other side there are sports fields, so the psychiatric hospital would be very isolated from the society. The last hospital the St. Anna Hospital is situated near the Genneper parks, a natural area. So there is a quiet and peaceful natural area. There is also a neighborhood on
the edge of the park. Thus, there can be a connection to the society and to nature.

There are also some other advantages. The St. Anna Hospital is next to several sport facilities, a swimming pool, tennis courts, soccer fields, an ice skating rink and a sports center. So in the program for the psychiatric hospital the sport facilities can be left out. The psychiatric hospital could arrange something with the sport facilities; patients could go there for exercising and optionally have therapy sessions there. It also bounds the psychiatric hospital with the society, because here the patients can meet other people. The other advantage is that the location for the psychiatric hospital is also close to a retirement home. This could bind the psychiatric hospital also to the society. When patients are at the point of recovering that they can reintegrate into the society, they can join the daily activities in the retirement home. The first step to connect with new people again, but still a place where they will be protected from the big society.

The location is a spot in the Ton Smitspark. Here it is possible to integrate all the principles that came from the results of the research.
20. Residential area

20. Residential area

20. Residential area

20. Swimming pool 'De Tongelreep'
Starting point
The starting point for the design was a drawing of a mask. The mask came back in every part of the graduation studio, so also in the final design. Look beyond what you see! For the building it is the same as it is when you look at a person. When you look at someone you have already a first impression about the person. But is this the right impression? When you get to know the person a little, your first will impression probably changes. You are already looking beyond what you see. How better you get to know the person, how more you can look beyond what you saw at the first time. You have another view on the person.

For the building this is the same. At first you will not recognize it as a mask, but when get to know the building this probably will change. When you take another point of view you will see the mask. You look beyond what you see, beyond the walls, windows and furniture.
Integration into the Environment

The location is the Ton Smitspark in Eindhoven. There are a couple of important factors to integrate the design into the consisting environment. First it is important to maintain the trees and bushes as much as possible. Another important factor is the build environment on the opposite side of the street. It is a quiet neighborhood; people enjoy the park when the weather is nice. It is important that they are not frightened of the psychiatric hospital and that they can still enjoy the park.

The starting point was the mask from here it is possible to create two passages. One for the water that is streams through the area and one for the pedestrians. The wide passages ensure the preservation of the relationship between the river and the park. By situating the building in a way that it is surrounded by nature it is possible to open the building to all sides. And therefore the area stays more accessible and less scary for people form the society.
The design has three main functions, the living units for the clients, the rooms for the therapy and the rooms for daily activities. The goal of the psychiatric hospital is to guide the clients by therapy during their rehabilitation process so they can be part of the society again.

The three main functions have also different views on the topic transparency. The functions can be categorized as public, semi-private and private. The most public function are the daily activities, this is the function that should connect the clients with the people from the outer world. The semi-private function is the living units. In the living units people live in groups of 8 people. They share a living room and kitchen, these parts can be public, so that they are forced to live together and do not close of themselves further from other people. The private parts of the living unit are the bedrooms and bathrooms. The most private function of this design are the therapy rooms, here they need the most protection, because they talk about themselves, maybe even stories that they do not want others to know. Besides these main functions there are also some secondary function, namely the entrance, reception, lobby and meeting rooms.
Route
One of the twin phenomena, that is important for the route in the building is control and freedom. As well as for the employees as for the clients it is important to have a clear structure. But it is also important that the clients have some freedom and that they do not feel trapped.

The concept for the route is the human brain. The brain has one main route the brain stem and from here there are a lot of junctions that lead to several functions of the brain. The route of the psychiatric hospital is structured by one central hallway (brain stem), employees have control over the clients. To this central hallway are several smaller hallways connected that guide people to several functions, freedom for the clients.
Form and Volume

The shape of the building is basically formed by the previous conceptual steps. The first design step was creating a grid which makes it easier to create a construction for the building. The next step was fitting the mask into the square meters that are needed and creating the passages through the plot. Based on the program and the route all the buildings for the different functions could be designed. The buildings were placed in a way that the most transparent functions would be the closest to the passages. The more closed functions were placed further to the center of the plan or are shielded by other buildings. In the drawing at the right page on the bottom left shows lots of small buildings and lots of hallways. This makes the plan disorganized and the green areas between the buildings are very narrow. After improving the first design several times the final form was found (image at the right page on the bottom right).

The volume was created based on the final form of the plan and the program. For example there should be six living units; in the final plan are three living units so there should be a first floor for the other three. This was also applied to the other functions where it was necessary.
Floorplan

At the next pages are the drawings of the floorplans. There is one main entrance, where people will enter the main hallway, where also the reception is situated. From here they can move through the building. There is also an entrance to the lunch café, people can enter this from the passage. Furthermore, patients can enter the gardens through the exits connected to the hallways. When patients crossed the river there are on both sides of the hallway the daily activity rooms and the therapy rooms. The living units are on the opposite side of the complex, because external patients do not have to go there.

The living units are divided in a collective space, eight private bed-/bathrooms, an office for the staff and a meeting room. Here the twin phenomenon openness – closure is used. The collective space has no walls; the space is divided by the kitchen and other furniture. In this way the staff can oversee the whole space. But patients should not feel themselves observed, because the office is not placed in the center. So they will not be confronted with the office every minute.
Facade

At the next pages are the drawings of the elevations. The façade is characterized by the concrete strip that accentuates the roof edge. Every function has its own façade materialization, so the concrete strip should make the complex into a whole. The materialization of the façade is bricks in three different colors. Bricks are used because a lot of buildings in Eindhoven are materialized with bricks and bricks are made from natural products. So this materialization fits in with the surroundings, both at the park and in the residential area.

The window openings in the facades are also different for each function. The daily activity rooms should be open so they have big windows and small rectangular windows. The therapy rooms should be closed so they have small rectangular windows, but these differ from heightened with the windows of the daily activity rooms. The living units have glassed façades and on where the bedrooms are small windows.

The main hallway is made out of concrete. Because the patients need protection the hallway is very closed and there are some intersection to remain contact with the outside. The bridge part of the hallway is an adverse of the closed hallway. It is made out of glass and here people can have a nice view over the water.
East elevation
1:300
North elevation
1:300
West elevation
1:300
South elevation
1:300
Gardens
The gardens are situated between the buildings. The gardens are a place for gathering and meeting. Because they are situated between the buildings they give the clients the feeling of security and privacy. Reminding the clients to their gardens at home, that also gives them the feeling of security and privacy. Besides that the gardens also provide daylighting to several parts of the building.

Every garden has its own identity. Some of them have a smooth modern division others more a messy natural division. There are some small ponds, seating places, grass, trees and shrubs.
**Detail**

There are two details on the building that will be discussed. The first one is the detail of the concrete strip. The concrete strip is ornamented with a repetition of figures. At first people will maybe not recognize what the figure is, but when they have a better look they probably recognize the mask. This ornament gives the clean façade a less clean appearance.

The second detail is the kind of bay window in the patient’s bedrooms. It is a cove in the façade, where the patient can sit and enjoy the outside view. There are some smaller windows in the cove, so the patients still have enough privacy. In the façade these bay window are not directly recognizable, because they have the same material as the façade. And from the side they have a window so that it seems that they are not directly part of the façade.
CONCLUSION
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The research question that was formulated in the beginning ‘how should a psychiatric hospital be designed so it can protect and guide people and simultaneously be open to the outer world?’ can now be answered. The answer on this question is the design of the psychiatric hospital.

The result of the research to the psychiatric hospital has provided principles. These are used in the design process and result in the design of the psychiatric hospital. The principles that have to do with the search for a location; bound to the society, a natural environment, multifunctional units (so a connection with a hospital). And there are principles that had to do with the building itself; small-scale departments, a clear structure of the plan, twin phenomena, gardens and a function that bounds with the society. These principles contribute to the function, experience, and interaction between the building, the users and the society. It still is just a translation to a design so this means that this design is not the only answer to the question. If ten people would have to answer the question by a design, there would be ten different answers. And it also does not mean that there is just one right answer.

The main aim of the building is to put the patient comes first. It is about protecting the patient from the society, but on the other side guide the patient back into the society. The result a building should break with the taboo around people with a mental illness. So there still is in contact with the society, and at the same time the building gives the patients their own place to recover from their mental illness.

The graduation project has been a really successful year, where I got to know myself better and I developed my skills as designer further. There was a little bump on the road, because at the beginning of this last design assignment I got stuck with the design. I moved that idea aside and started looking again at the previous assignments of the graduation project. What should be the leitmotif of the graduation project and that was the mask. Remember always ‘look beyond what you see,’ it will give you a much nicer view on the society.
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LOOK BEYOND WHAT YOU SEE
a design for a psychiatric hospital
A.E.G GÄHLER - 0825177

ABSTRACT

The name of this Graduation Studio is 'Transparency', the main theme is named equally, namely transparency. It started with transparency in a frightening way, the camera. That will control the human life. The main question of the studio was 'what could be the role for architecture in a world of increasing transparency?' What is the right balance between architecture and transparency?

This graduation research is based on the human masks, the deeply rooted masks. These are not visible at first sight. When people wear different masks in different daily situation it is possible that they get confused of when using which mask. This can let to too much pressure and they do not know anymore who they are or who they want to be. This can let to a mental illness, for example to a depression. People with a mental illness are still a shamed and do not want the world to know, that they are not alright. To break this taboo the research question in this research will be 'how should a psychiatric hospital be designed so it can protect and guide people and simultaneously be open to the outer world?'.

After researching what a psychiatric hospital is and how it developed during time a case study was researched. The case study was the Helsingør Psychiatric Hospital in Denmark. In the design the architects tried to design a project that strives 'to be AND not to be' a psychiatric hospital. Here for they used twin phenomena; such as centralized-decentralized, openness-closure, privacy-sociability, and freedom-control. Aldo van Eyck, a Dutch architect, introduced the twin phenomena. In twin phenomena the opposites remain recognizable as opposites. He wants to show that opposites can work together and do not immediately exclude one another. In the Pastoor van Arskerk Van Eyck also used twin phenomena. For example the high-low phenomenon can be found in the the low crypt-like space, ecclesiastical space. And the high in gothic-like space, the street. Because of these twin phenomena the church becomes dynamic and spatially, but still the building is a whole. The result of the research to the psychiatric hospital has provided a set of principles. These should be used in the design process of the psychiatric hospital. The principles are divided in two categories; the location and the building.

After the research the design process could start. The location for the project is the Ton Smitspark in Eindhoven, the Netherlands. The design follows several steps, from concept to final design. The starting point of the design was a mask. The second step was the integration into the environment, two passages arise; one for water and one for pedestrians. This step was followed by the program and the rout through the building. And from here the first designs were created. The design answers to the set of principles that was created after the research.

The answer on the research question is the design of the psychiatric hospital. The main aim of the building is to put the patient comes first. It is about protecting the patient from the society, but on the other side guide the patient back into the society. The result, a building that should break with the taboo around people with a mental illness. The leitmotif of the graduation project was the mask. Remember always 'look beyond what you see', it will give you a much nicer view on the society.
Introduction
The name of this Graduation Studio is ‘Transparency,’ the main theme is named equally, namely transparency. It started with transparency in a frightening way, the camera. That will control the human life. The main question of the studio was ‘what could be the role for architecture in a world of increasing transparency?’ What is the right balance between architecture and transparency?

This graduation research is based on the human masks, the deeply rooted masks. These are not visible at first sight. When people wear different masks in different daily situation it is possible that they get confused of when using which mask. This can let to too much pressure and they do not know anymore who they are or who they want to be. This can let to a mental illness, for example to a depression. People with a mental illness are still a shamed and do not want the world to know, that they are not alright. To break this taboo the research question in this research will be ‘how should a psychiatric hospital be designed so it can protect and guide people and simultaneously be open to the outer world?’

Research
The research about the psychiatric hospital is done by a literature study. The attempt to cure people from mental illness goes a long time back to the prehistoric times. But the first time that people talked about psychiatry is not that long ago. Professor Johann Christian Reil used the word psychiatry for the first time in his paper ‘On the term of medicine and its branches, especially with regard to the rectification of the topic in psychiatry’ in 1808. The word psychiatry derives from the Greek words psyche, meaning soul or mind, and iatros, meaning physician. Psychiatry means literally medicine of the soul.

The architecture of the psychiatric hospital has endured an enormous development in the last three centuries. From knowing very little about mental illnesses and how to treat them to understanding more and more what some mental illnesses contain and how to treat them. In the medieval there was not a lot of information about mental illnesses. When people who were living in the city had a mental illness, others considered them as dangerous. So they were imprisoned in a madhouse. These madhouses consisted of small dark spaces around a courtyard, there was no treatment or care for these people. In the 18th century the view on people with a mental illness changed. People started to think that maybe the environment was the cause of illnesses was. So these people should be isolated from their environment for a while. This thought resulted in a research on spreading of diseases. The outcome of research was the beginning of the revolutionary hospital architecture. In the beginning there did not change a lot in the way they took care of the patients, but patients were no longer seen as criminals. At the end of the 18th century Philippe Pinel began to expound the idea of improving the conditions for patients in the asylums. He introduced humane ways of managing those who had a mental illness. William Tuke took up these ideas in England; he called this method the ‘moral treatment’. The comfort of the patients became important besides the healing power of nature. In the centuries that followed the asylum changed from one big building to several small buildings with different departments. Also the location of the asylums changed a lot during the centuries, from in the city to in the middle of nature and finally back to the city close to the society. Still there are a lot of questions about what some mental illnesses are and what is the best way to treat them.

The case study that was researched was the Helsingør Psychiatric Hospital in Denmark. This was designed
by JDS Architects and BIG - Bjarke Ingels Group. In the design the architects tried to design a project that strives ‘to be AND not to be’ a psychiatric hospital. Here for they used twin phenomena; such as centralized-decentralized, openness-closure, privacy-sociability, and freedom-control. For example, privacy-sociability; there are rooms for socializing and meetings between people, and at the same time there are rooms that provide seclusion and contemplation. In twin phenomena the opposites remain recognizable as opposites. Aldo van Eyck, a Dutch architect, introduced the twin phenomena. He wants to show that opposites can work together and do not immediately exclude one another. Van Eyck used these twin phenomena also in his own designs. For example, the Pastoor van Arskerk, a church in Kijkduin near The Hague in the Netherlands. Here he used the high-low phenomenon, it can be found in the low crypt-like space, ecclesiastical space. And the high in gothic-like space, the street. Because of these twin phenomena the church becomes dynamic and spatially, but still the building is a whole.

The result of the research to the psychiatric hospital has provided a set of principles. These should be used in the design process of the psychiatric hospital. The principles are divided in two categories; the location and the building. For example, bound to the society and nature, small-scale living units, twin phenomena, an extra function (also for people from the society to break the taboo around mental illnesses) and outdoor areas. These principles contribute to the function, experience, and interaction between the building, the users and the society.

**Design**

After the research the design process started. The location for the project is the Ton Smitspark in Eindhoven, the Netherlands. It is a location in a park but close to a residential area. The design follows several steps, from concept to final design. The starting point of the design was a mask. The second step was the integration into the environment, two passages arise; one for water and one for pedestrians. This step was followed by the program. The program consists of three main functions, the living units for the patients, the rooms for the therapy and the rooms for daily activities. The three main functions have also different views on the topic transparency. The functions can be categorized as public (daily activities), semi-private (living units for the patients) and private (therapy rooms). Besides these main functions there are also some secondary function, namely the entrance, reception, lobby and meeting rooms. The next step is the route through the building. The concept for the route is the human brain. The brain has one main route the brain stem and from here there are a lot of junctions that lead to several functions of the brain. One of the twin phenomena, that is important for the route in the building is control and freedom. As well as for the employees as for the clients it is important to have a clear structure. But it is also important that the clients have some freedom and that they do not feel trapped.

The shape of the building is basically formed by the previous conceptual steps. The buildings were placed in a way that the most transparent functions would be the closest to the passages. The more closed functions were placed further to the center of the plan or are shielded by other buildings. Every function has its own identity in the façade. The materialization of the façade is bricks in three different colors. Bricks are used because a lot of buildings in Eindhoven are materialized with bricks and bricks are made from natural products. So this materialization fits in with the surroundings, both at the park and in the residential area. The window openings in the facades are also different for each function. The daily activity rooms should be open so they have big windows. The therapy rooms should be closed so they have small rectangular windows. The living units have glassed façades in the collective space and in the bedrooms there are smaller windows for privacy. The main hallway is made out of concrete. Because the patients need protection the hallway is very closed and there are some intersection to remain contact with the outside. The bridge part of the hallway is an adverse of the closed hallway, because it is situated higher than the rest of the main hallway. The design answers to the set of principles that was created after the research.

**Conclusion**

The answer on the research question ‘how should a psychiatric hospital be designed so it can protect and guide people and simultaneously be open to the outer world?’ is the design of the psychiatric hospital. The result of the research to the psychiatric hospital has provided principles. These are used in the design process and the result a psychiatric hospital. The main aim of the building is to put the patient comes first. It is about protecting the patient from the society, but on the other side guide the patient back into the society. The result, a building that should break with the taboo around people with a mental illness. The leitmotif of the graduation project was the mask. Remember always ‘look beyond what you see’, it will give you a much nicer view on the society.

**References**


