CHAPTER

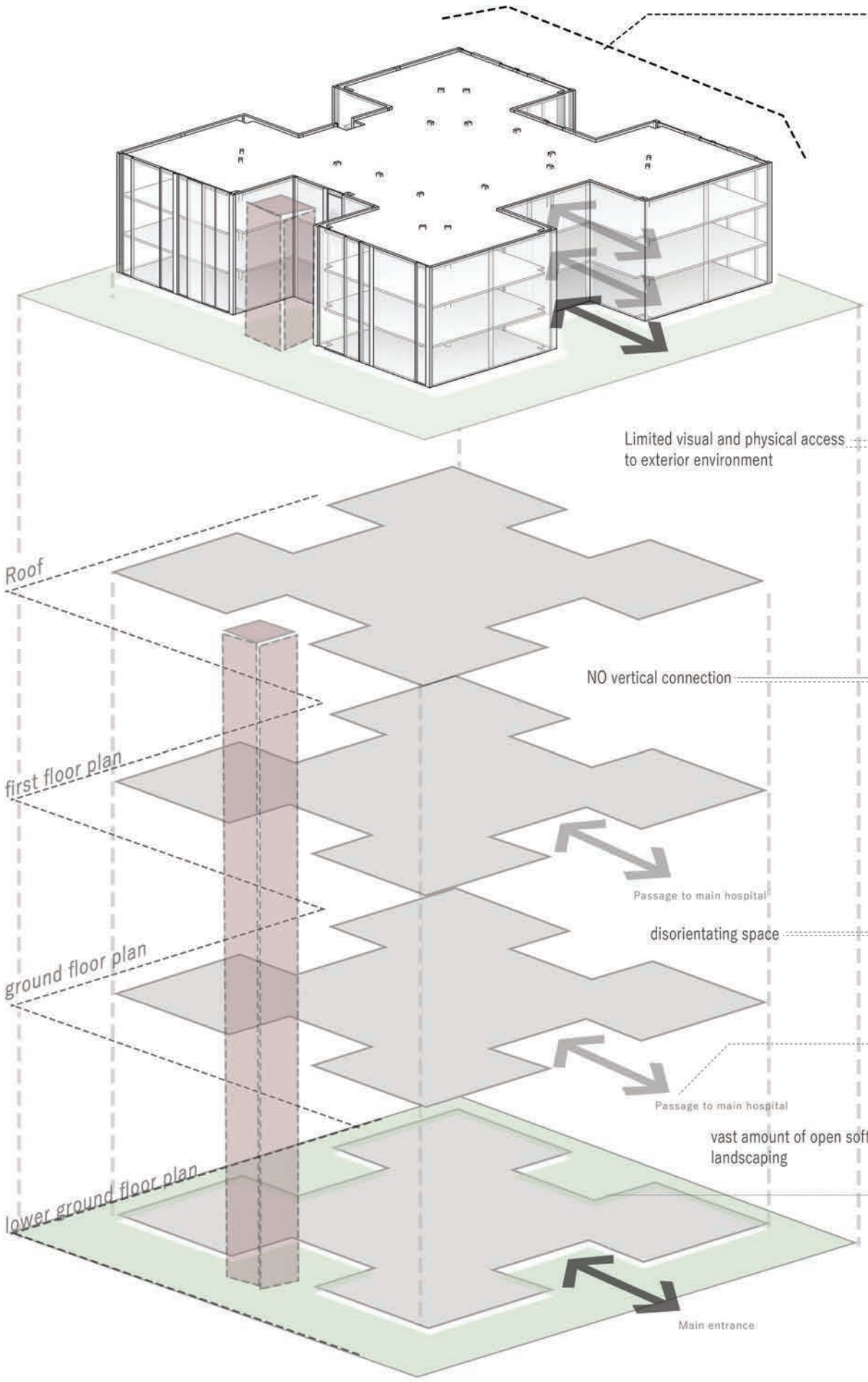
8

SPATIAL CONCEPTUALISATION

This chapter encapsulates the transformation of identified site potential into spatial conceptualisation. The strengths and weakness of both the site and the standard ward block were identified in the site analysis (Chapter 3). In this chapter they become elements of site potential - transformed and implemented in the design of the future extension. This is referred to as spatial conceptualisation. The identified design implementations, vague until now, are further explored in combination with examples. This chapter thus provides the first glimpse of what the cancer centre will be.

8.1 SITE POTENTIAL

EXISTING (STANDARD "WARD BLOCKS")



8.1.7
POTENTIAL FOR THE BUILDING TO SPILL OVER

The form of the building naturally suggests the potential of three balconies that encourage the possibility of incorporating nature into the building.

8.1.6
LAYER THAT SEPARATES THE INTERIOR- AND EXTERIOR ENVIRONMENTS

The opportunity exists to create a stronger connection between the interior- and exterior environments.

8.1.5
POTENTIAL TO CREATE A VISUAL CONNECTION BETWEEN THE DIFFERENT LEVELS AND TO MAXIMISE NATURAL LIGHT INFILTRATION

8.1.4
POTENTIAL TO ALLOW THE BUILDING TO FUNCTION AS A WHOLE ACROSS ALL THREE LEVELS

As the body is made up of different parts but still functions as a whole, so should the building and different programmes function together.

8.1.3
ESTABLISHING A VERTICAL CONNECTION BETWEEN THE THREE LEVELS

8.1.9
ASSIST WITH ORIENTATION

8.1.2
ESTABLISHING A HORIZONTAL CONNECTION WITH THE MAIN HOSPITAL

Establishing a connection with the main hospital (for shared programming) allows the future extension to make use of essential programmes such as theatre spaces, services and main administration facilities.

8.1.8
UTILISING THE GARDEN

The vast amount of open soft landscaping that surrounds the building could be transformed into gardens.

8.1.1
PINWHEEL PLAN_plan exploration

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8.2 SPATIAL CONCEPTUALIZATION

NEW DESIGN PROPOSAL (FUTURE EXTENTION)

8.2.7
THE INCORPORATION OF BALCONIES
The incorporation of balconies allows for the implementation of the pinwheel plan on all levels. Each space can thus spill out into a natural, more open space; creating an indirect connection between the inner- and outer environments.

8.2.6
PERMEABLE SKIN THAT CREATES A CONTROLLABLE CONNECTION BETWEEN THE INTERIOR AND EXTERIOR ENVIRONMENTS
An extra "skin" in the form of balconies and louvers added to the façade of the building. This allows for control of ventilation, natural light, privacy, positive distraction and stimulation.

8.2.5
VERTICAL ELEMENTS
Creation of vertical elements to provide a sense of openness and visually connect the three horizontal plains as well as to allow natural light to filter in.

8.2.4
BUILDING FUNCTION AS A WHOLE
Programme identification has shown the need for both public and private spaces. As acoustics and the separation of public and private spaces must both be taken into consideration, the building's three levels are divided into pubic, semi-private and private areas.

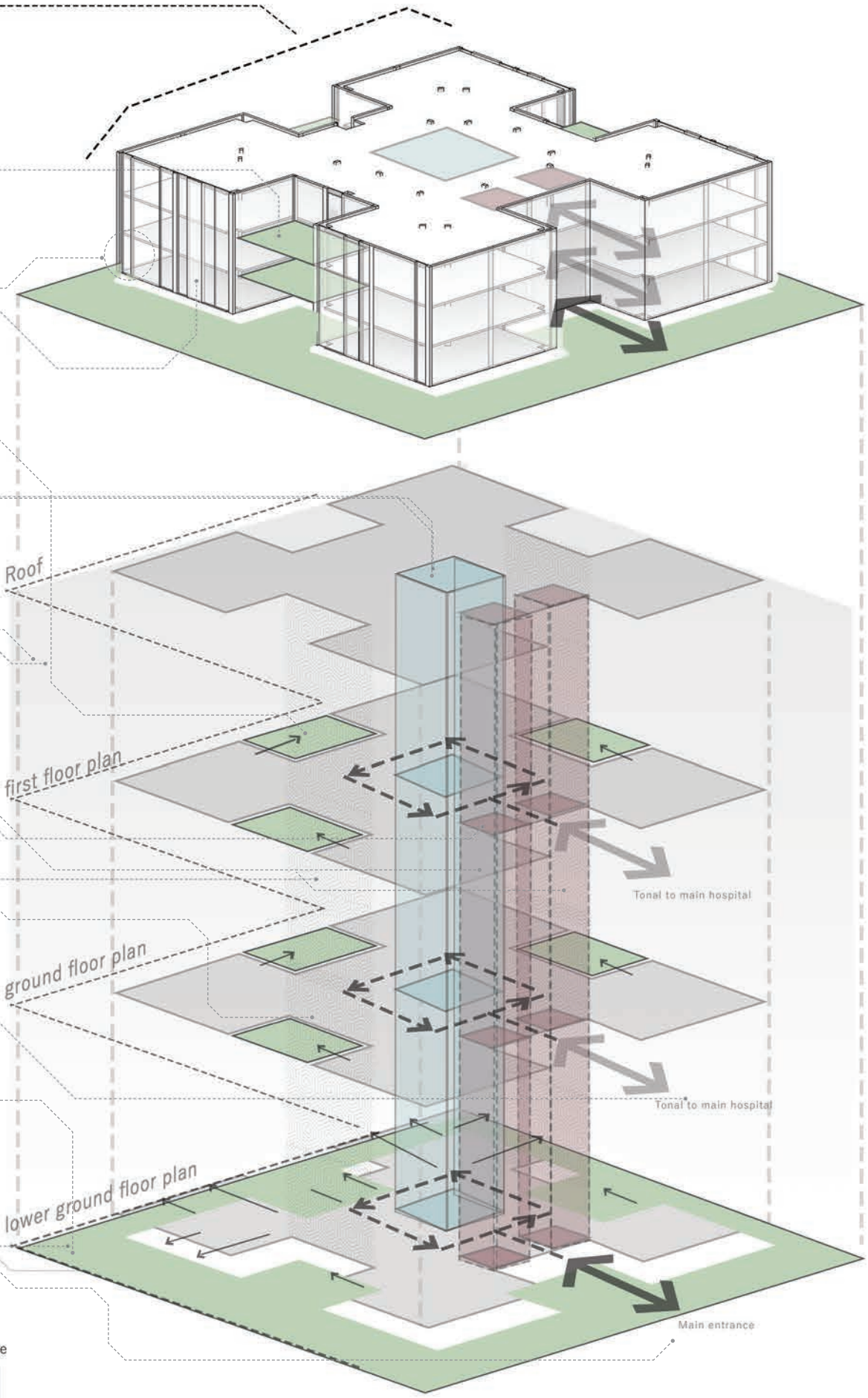
8.2.3
CREATION OF VERTICAL CIRCULATION
Vertical circulation is incorporated at the building entrance through a corridor effect with stairs to the left and elevators to the right. This design is repeated on each level.

8.2.9
LANDMARKS OF ORIENTATION

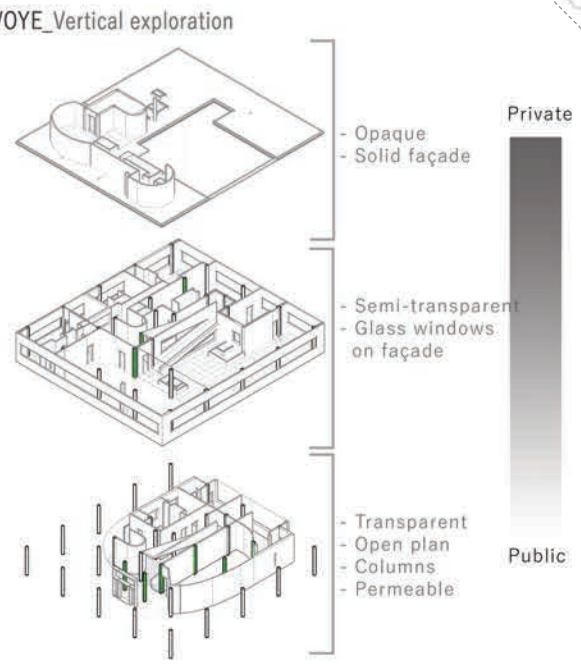
8.2.2
A HORIZONTAL CONNECTION TO MAIN BUILDING

8.2.8
THE CREATION OF A FLOURISHING GARDEN
The oncology centre is to be set within a flowering forest that incorporates walkways to provide tangible stimulation. The design of a visual threshold within the building frames and includes nature in the design and its experience.

8.2.1
IMPLEMENTATION OF PINWHEEL PLAN



VILLA SAVOYE_Vertical exploration



Poster 8 Site Potential & Spatial Conceptualisation (Author, 2016)

8.2.1 IMPLEMENTATION OF A PINWHEE

The pinwheel unit was designed by a unique collaboration of architects and students in Thailand and USA(The Bangkok Experience, 2012). The pinwheel experiments with different ways of how what is perceived as a static square building could rather be divided in to smaller private static spaces that then flow out into public spaces. The plan resembles the plan of the proposed Oncology Centre. It allows for further exploration into ways in which the building could be defined, as well as how spaces could be created and the flow of the building. As the original building stands static and live, inwards through the implementation of the pinwheel plan will allow spaces to live out in a clockwise direction opening up spaces.

PLAN ITERATIONS

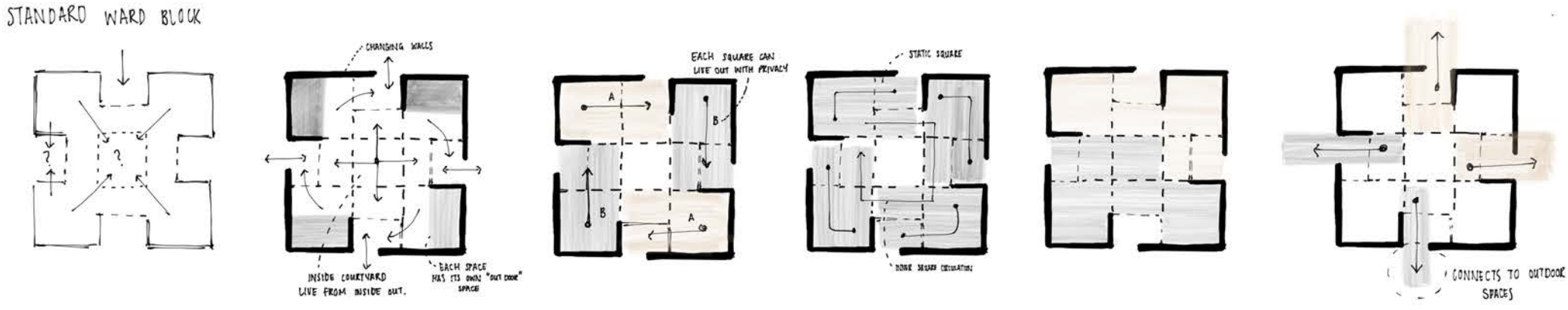


Diagram 8.1 Pinwheel plan iterations (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- supports attention restoration theory;
- provides positive distraction;
- uses exterior natural environments to create healthier interior environments.

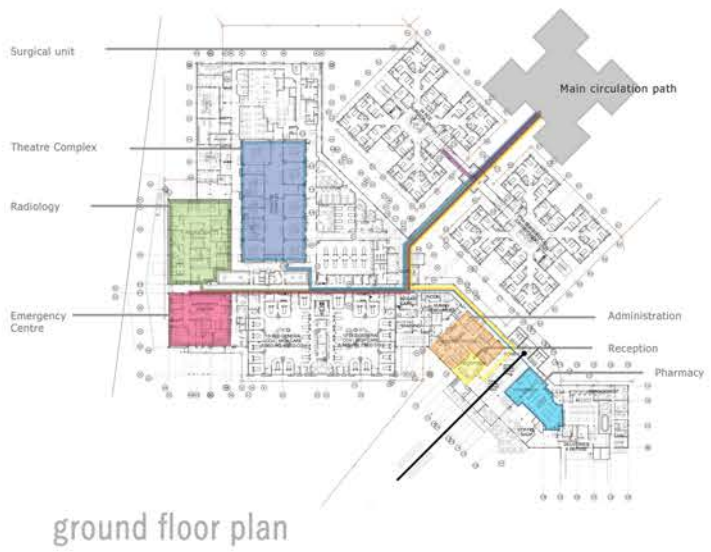
8.2.2 HORIZONTAL CONNECTION TO MAIN BUILDING

As the cancer centre and main hospital share programming, the connection between them must be clear and effective.

Main entrance
Cancer patients will use the main entrance to the hospital (on the ground level). They access hospital reception, the pharmacy and administration as would any other patient. Following this they change levels (to the lower ground floor) via a passage that leads to the entrance of the cancer centre.

The same passages that connect Block 7 with Blocks 5 and 6 are used for horizontal circulation between the cancer centre and Block 7. These passages also connect with the main hospital and the layout is repeated on the ground- and first floors. The passages are for the use of medical staff and for the transportation of patients when treatment is needed within the main hospital.

lower ground floor plan



ground floor plan

first floor plan

Diagram 8.2 Connection with main building (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- provides additional medical facilities;
- provides complementary programs.

8.2.3 CREATION OF A VERTICAL CIRCUL

The existing 'standard ward blocks' were built with no vertical circulation, one had to follow a horizontal passage all the way to the main building, and then in the main building take elevator or stairs to the next level and then move back along the a horizontal passage to reach the to the next floor. In the new cancer centre vertical circulation is incorporated at the building entrance through a corridor effect with stairs to the left and elevators to the right. This design is repeated on each level. For dramatic effect, the vertical circulation shaft is to be transparent - creating a vertical connection between the inside and outside. A glass façade that reveals vertical movement draws the eye upwards from the moment one approaches the building.

EXAMPLES

Figure 8.1 Vertical stairs (Houzz, 2011)

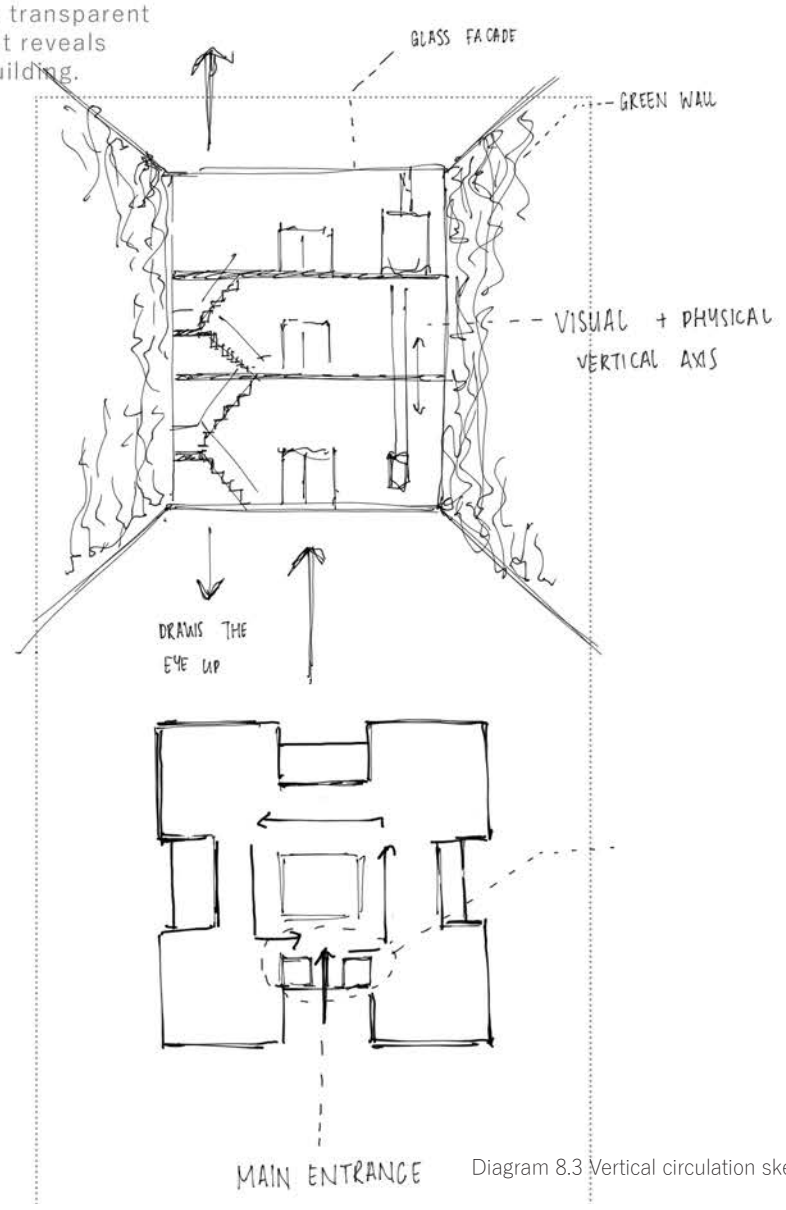


Diagram 8.3 Vertical circulation sketches (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- helps with orientation;
- creates a vertical axis;
- allows the building to function indepent of larger hospital complex.

8.2.4 PRIVATE TO PUBLIC

Programme identification has shown the need for both public and private spaces. As acoustics and the separation of public and private spaces must both be taken into consideration, the building's three levels are divided into pubic, semi-private and private areas.

The lower ground floor flows naturally outwards as it is surrounded by soft landscaping. The level that houses the main entrance similarly lends itself to being a more public space. The ground floor, as it gains height, facilitates both views to the exterior and an increase in privacy. The first floor, being at an even greater height, provides more extensive views and achieves a further increase in privacy.

EXAMPLES

by Le corbusier (Houix. 2013)

Villa Savoye , (Houix, 2013) as influential precedent for vertical exploration.
The Villa uses a gradient from public orientation on ground floor to that of private on 3rd floor.
If this same strategy were to be applied, this form would correlate well and be in harmony with design of the original building which suggests that it is intended to be as such.

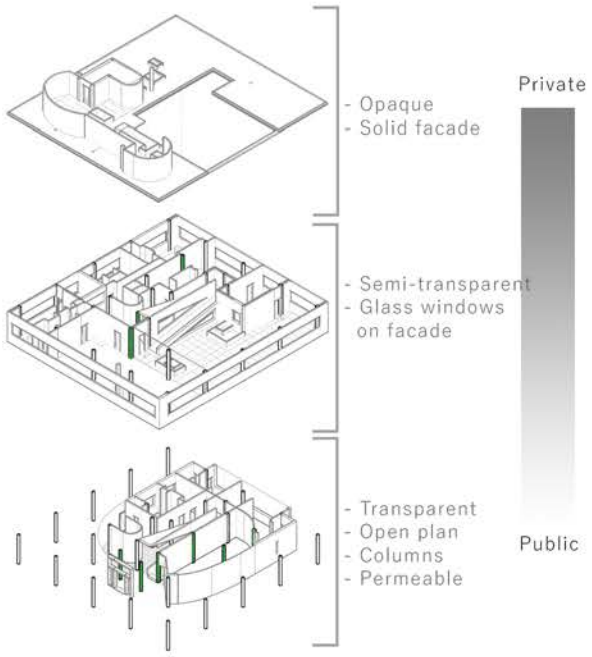


Figure 8.2 Villa Savoye (Noonjes, 2010)

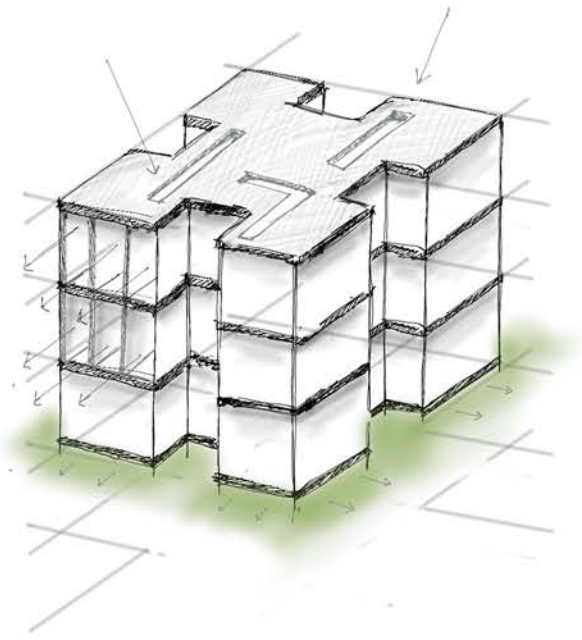


Diagram 8.4 Private to Public sketches (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

Lower Ground Floor
- Columns maximise space and encourage access to outdoor areas.
- A sense of openness is created and associated with more public spaces.

Ground Floor
- Its elevation allows for increased privacy.
- Glass windows create a connection to the outside, yet provide for strict mechanical ventilation.
- Walls create spaces for private treatments and therapies - creating a less open space and a more personal environment.

First Floor
- Its elevation allows for further increased privacy.
- Balconies are provided for different programmes and private rooms on this floor have their own balconies.
- Glass windows create a connection to the outside, yet provide for strict mechanical ventilation.
- Louvres on the façade provide additional control over the interior environment.

8.2.5 VERTICAL ELEMENTS

The exisitng building consists of three main horizontal plains with a 2 500mm floor to ceiling height. In such a big space, this creates a very confined volume. There is no connection between the different floors, as no vertical elements or circulation is present.This disconnect led to the creation of vertical voids within the space. These voids contain vertical elements to provide a sense of openness and visually connect the three horizontal plains.

EXAMPLES

KARUIZAWA MUSEUM COMPLEX

by Yasui Hideo Atelier, in Karuizawa, Japan (ArchDaily, 2013)

Figure 8.3 Karuizawa Museum (ArchDaily, 2013)

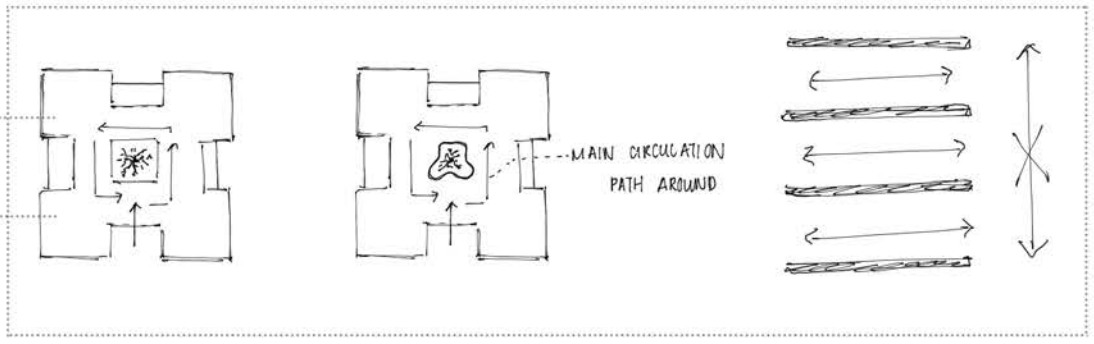
COURTESY OF NATURE

by Johan Selbing &Anouk Vogel (NL)(Phillips, 2013)

Figure 8.4 Courtesy of Nature (Phillips, 2013)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- allows infiltration of natural lighting;
- creates the potential to bring nature into the interior environment;
- creates a vertical visual axis.



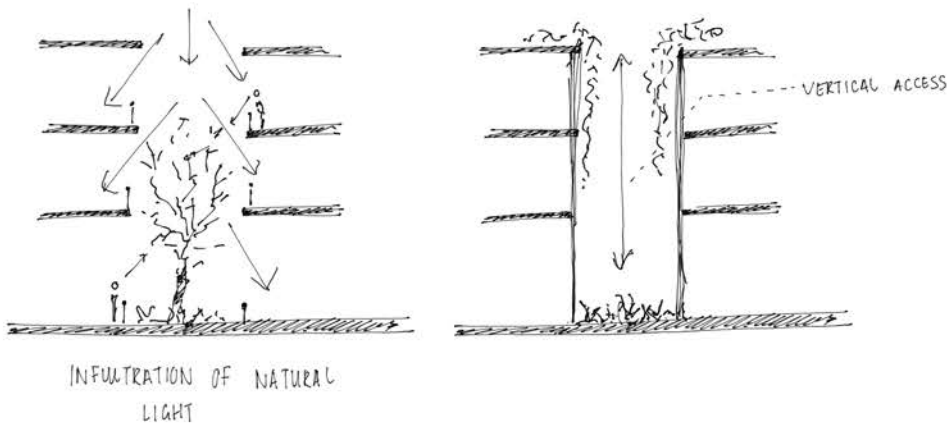


Diagram 8.5 Vertical elements sketches (Author, 2016

EXAMPLES

ISRAELI CANCER CENTRE

by Ron Arad Architects, in Heamek Hospital, Afula (Rosenfield, 2016)

*"The design uses **overhanging and cantilevered shading elements** to enhance the **interplay** of **light & shadow, privacy & public** access, and the **blurring of traditional building boundaries**. This design also aims to maximise the environmental efficiency of the building envelope, as well as enjoy the extensive new planting of trees and vegetation which form an integral part of the project."* - Ron Arad

Figure 8.5 Israeli Cancer Centre (Rosenfield, 2016)

7×18 HOUSE

by AHL architects associates (ArchDaily, 2014)

This design utilises natural light and ventilation, which contributes to daytime energy savings. The intensity of sunlight can be controlled through fillets to the front of the building and on the roof (ArchDaily, 2014).

The façade incorporates a system of vertical steel fins combined with steel leaves (3mm thick). The privacy purposes of rooms determine the density and interference of this "two-way wave of steel leaves". The glass façade is retrograded in the interior - creating a barrier and avoiding direct sunlight in summer, whilst allowing winter sunlight to penetrate spaces (ArchDaily, 2014).

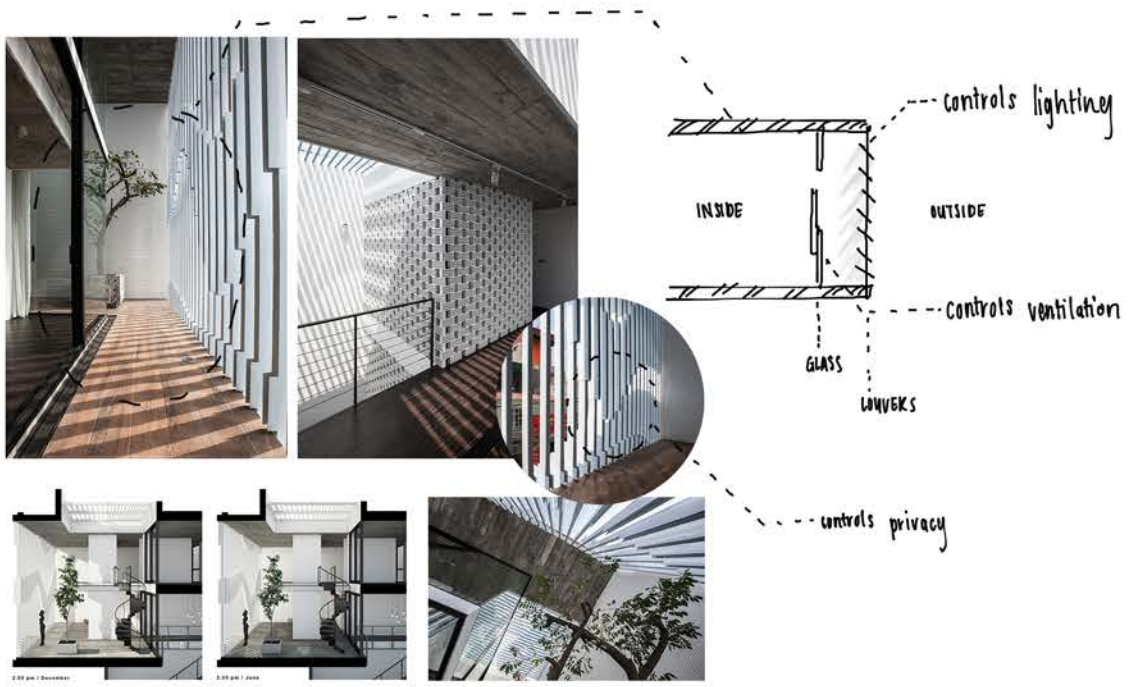


Figure 8.6 7x 18 House (ArchDaily, 2014)

Figure 8.7 Lighting studies (Detail Inspiration, 2011)

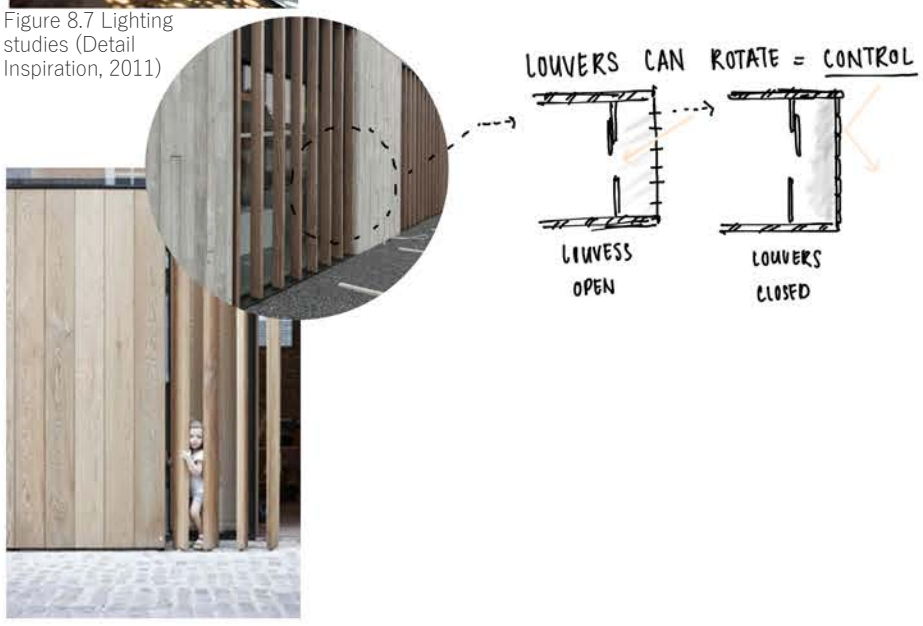


Figure 8.8 Louvers (d_raw, 2016)

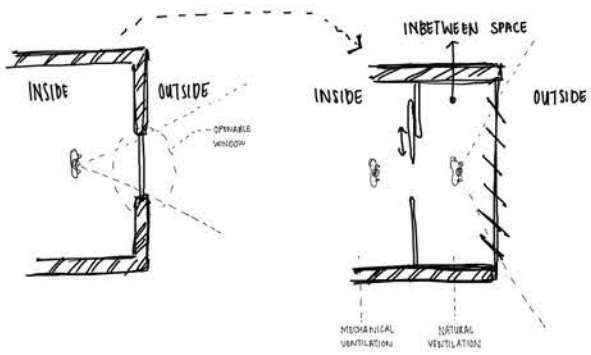


Diagram 8.6 Permeable skin sketches (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- allows control of the environment;
- creates privacy where needed;
- allows for the creation of different spaces with different qualities;
- allows for control of natural light;
- allows for control of natural ventilation.

8.2.7 THE INCORPORATION OF BALCON

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The incorporation of balconies allows for the implementation of the pinwheel plan on all levels. Each space can thus spill out into a natural, more open space; creating an indirect connection between the inner- and outer environments.

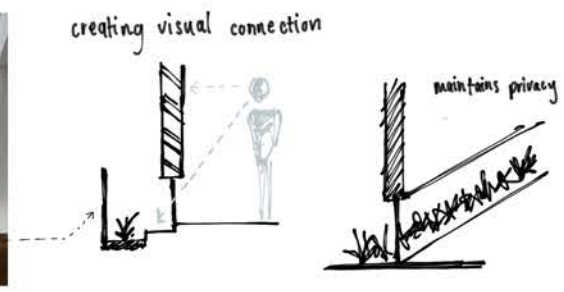
EXAMPLES

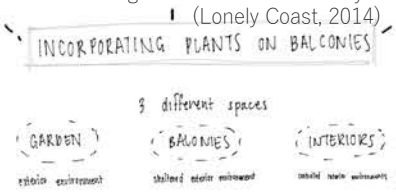
Figure 8.10 Garden Studies (Jessamine, 2013)

Figure 8.11 Garden Balcony 1 (A Kutch Life, 2013)

Figure 8.12 Garden Balcony 2 (Lonely Coast, 2014)

Figure 8.13 Garden Balcony 3 (Thomas Phifer and Partners, 2016)





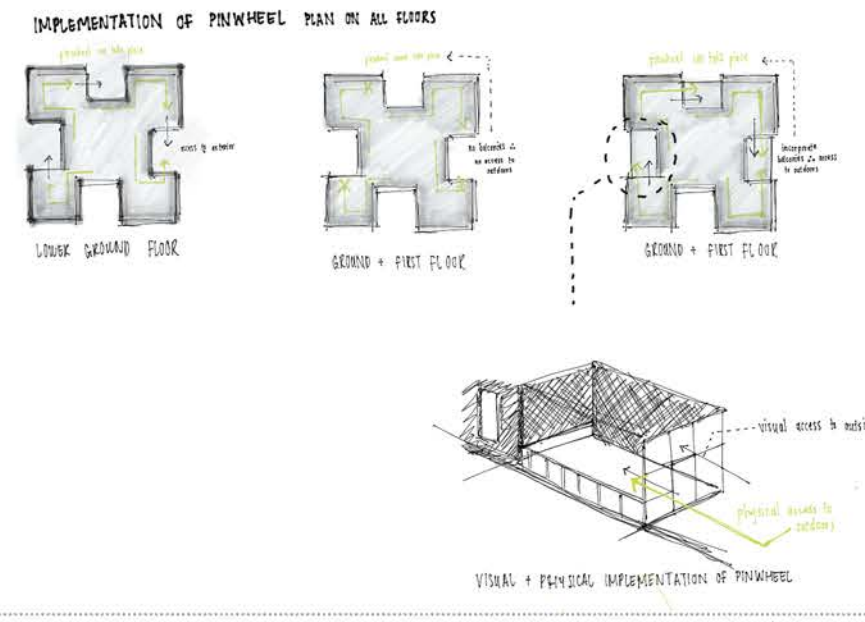


Diagram 8.7 Balcony sketches (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- creates a space between the exposed exterior environment and the "isolated" interior environments;
- helps create a connection with nature through detailing;
- allows spaces to spill over into controlled natural spaces;
- emphasises the pinwheel plan on all floors.

8.2.8 THE CREATION OF A FLOURISHING GARDEN

The oncology centre is to be set within a flowering forest that incorporates walkways to provide tangible stimulation. The design of a visual threshold within the building frames and includes nature in the design and its experience.

EXAMPLES

Figure 8.14 Garden 1 (Phillips , 2014)

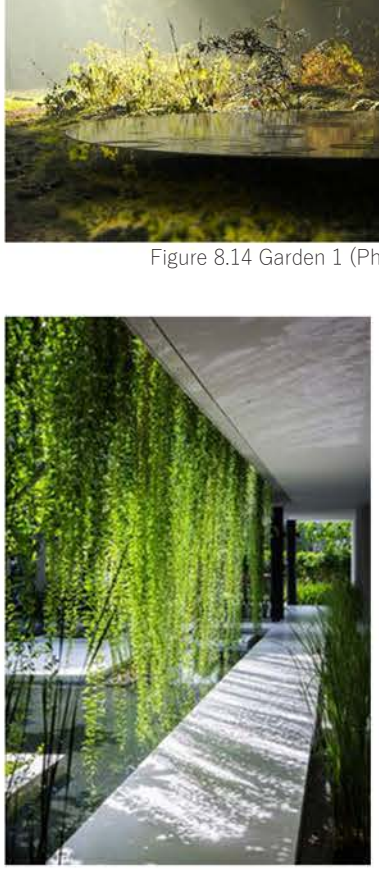


Figure 8.15 Garden 2 (ArchDaily, 2015)

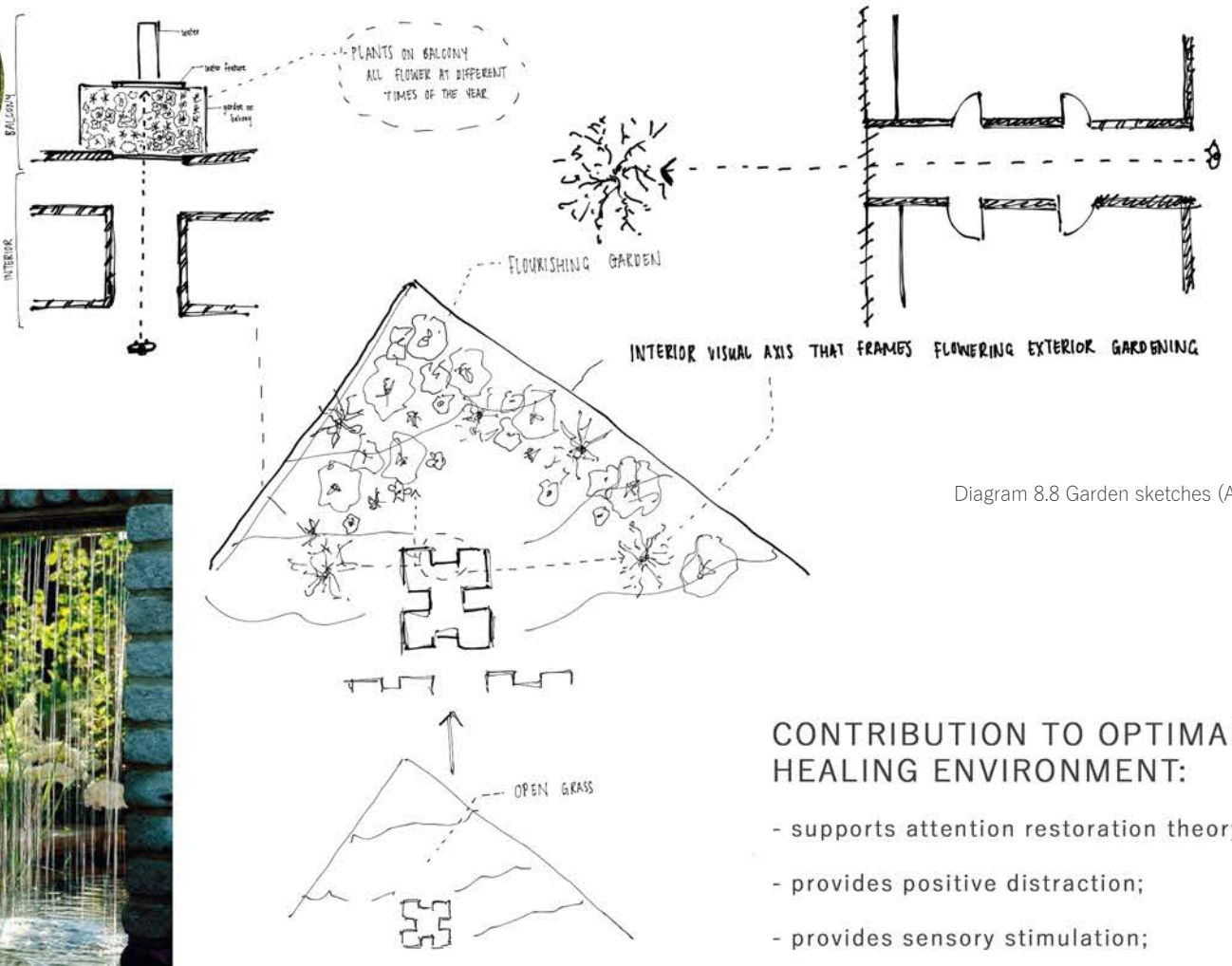


Diagram 8.8 Garden sketches (Author, 2016)

CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- supports attention restoration theory;
- provides positive distraction;
- provides sensory stimulation;
- enables the use of exterior natural environments in creating healthier interior environments.

8.2.9 LANDMARKS OF ORIENTATION

The identification of two distinct walls that are to be focal points - landmarks of orientation - helps prevent patients from becoming disorientated.

EXAMPLES

SKYHAUS

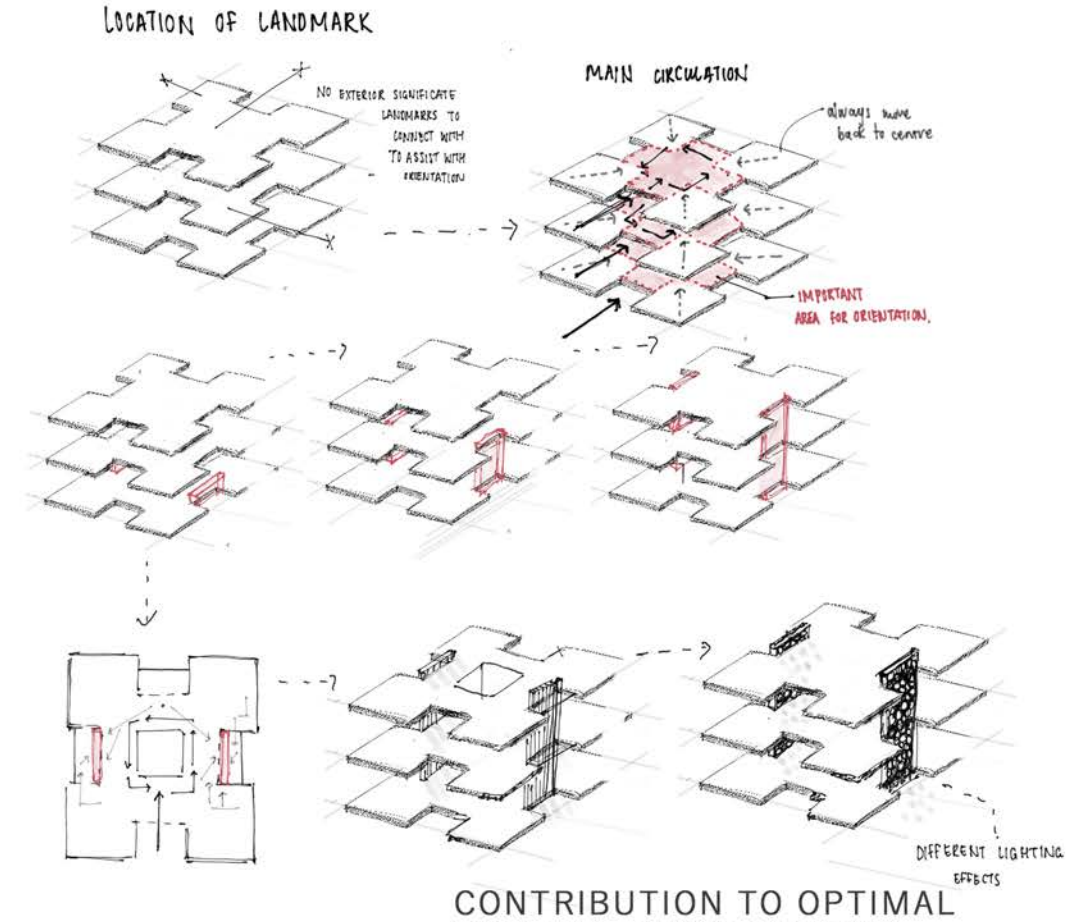
by Aidlin Darling Design

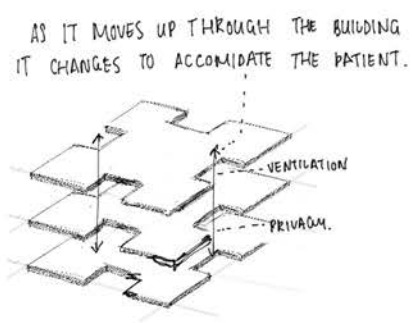
Figure 8.16 Skyhaus (Behance, 2015)

OPTICAL GLASS HOUSE

by Hiroshi Nakamura & NAP

Figure 8.17 Optical Glass House (Frearson, 2013)





CONTRIBUTION TO OPTIMAL HEALING ENVIRONMENT:

- supports attention restoration theory;
- provides positive distraction;
- provides sensory stimulation;
- changes to accommodate patients and their needs.

Diagram 8.9 Wall sketches (Author, 2016)

Conclusion

In this chapter, evidence-based theories start to become tangible in design. The identified design implementations suggest where both design- and technical focus must be derived from (c.f. Chapter 9 Design & Chapter 10 Technical).

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