4. THEORETICAL APPROACH

4.1 INTRODUCTION

The concept for this project will be based on theories about the link between human being, architecture and human senses.

The idea would be to create a building that will stimulate one's senses. Different textures, colours, the contrast between light and shadows will invite persons to touch and experience a form of rehabilitation with only moving through the building. (Figure 30 indicates a concept of the use movement through the building.)

4.2 THE HUMAN EXPERIENCE

Papanek (1995: 76) states that "architecture has to be experienced by all senses, rather than just sight. The visual image may provide us with pictorial information, yet beauty is never skin deep."

Syntesthia (the use of senses) sets out to allow us to enjoy an environment through senses that we would necessarily associate with particular information inherent to us which gives confidence. Senses can be characterised as an active detective system, constantly seeking out information from the environment. (Bloomer & Moore, 1997:27)

According to Lynch: "We touch, listen and measure the world with our entire bodily existence and the experiential world becomes organised and articulated around the centre of the body" (Lynch, 1983:7)

" Trapped in structures of minimalism, modernism or coldly-coloured post-modernism, architecture and interior design have long hesitated to embrace the trend toward tactility. Unfortunately, this means that the public has yes to encounter buildings made to stimulate their senses"

- quote Eveline Merkx

Figure 82. First cocept sketch

Maurice Merleau-Ponty said: "All consciousness is perceptual...The perceived world is the always presupposed foundation of all rationality, all value and all existence." What he means with this statement is that the core of every human being's existence is perceptual experience.

What is derived from Lynch and Merleau-Ponty's theory is that the core of every human being's knowledge is concentrated around basic forms of senses.

We perceive everything through our senses and we cannot really know anything without perceiving it. The knowledge core referred to would be example: cold and warm; light and dark; smooth and rough; different colours and the list goes on.

4.3 CEREBRAL PALSY AND ENVIRONMENTAL PERCEPTION

Parents of disabled children, especially Cerebral palsy children tend to over protect their children because of their severe vulnerability. Overprotecting could deprive disabled children from the basic forms of play, education and perception of natural elements.

"Do not underestimate the value of touch." were the words of a very experienced therapist at Hew Hope School, when asked what can be done to give these children education through enjoyment. (interview, 2009)

Learning a skill is not founded on verbal teaching but rather on the transference of skill from the muscles of the master directly to the muscles of the apprentice through the act of sensory perception and mimesis.

Hegel states that: "It's sensations of colour, shape and texture that we rely upon for simple beliefs of existence."_(Singer,1983:89)

4.4 MOVEMENT AND PERCEPTION

For any human to fully develop their senses, movement needs to be involved, as in the case of Architecture.

Merleau-Ponty describes movement as the 'thousand natural miracles' my body accomplished as it 'obey[ed] the requirements of this little drama'. (Springer,2005:55)

Tom Porter (Porter, 1997:26) states: "Our perceived experience of interior and exterior architectural space is primary a sensual event involving movement."

This experience Tom Porter speaks about is being exaggerated by the movement of disabled people.

Vivian Sobchack (springer, 2005:55) implies that when disabled persons are moving, the attention will be refocusing from 'elsewhere' to a very concrete bodily and spatial 'here'.

Movement, however, can not be possible without sufficient design, and when dealing with disabled children the access and movement through the building would form the core of the design.

Un-accommodated designs in the child's everyday life could prevent him/her to experience the normal activities that are crucial in the play development phase of all children.

Because movement is linked to sensory development, more emphasis would be placed in movement to rehabilitate, and movement through spaces to experience the architecture.

Figure 83. play through touch

Figure 84. Difficulty of movement

4.5 MOVEMENT IN BUILDINGS

According to the white paper on disability of South Africa 2002, rehabilitation is the word used to describe ways of helping people with disabilities to become fully participating members of society, with access to all the benefits and opportunities of that society.

This means that disabled people should have access to such benefits as early childhood development opportunities, education and training opportunities, job opportunities, and community development programmes.

Access to appropriate rehabilitation services can make the difference between leading an isolated and economically dependent life and leading an economically independent life and playing an active role in society.

The physical manifesto of architecture accommodates human activity. However, the arrangement and organization of the elements of form and space will determine how architecture might promote endeavours, elicit responses, and communicate meaning (Ching, 1942:10)

To create a product where everyone could participate, one need to look at design principles that accommodate all persons.

The Principles of Universal Design were developed by The Centre for Universal Design in collaboration with a consortium of universal design researchers and practitioners from across the United States.

The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities

Universal Design recognises the changes that everyone experiences during his or her lifetime, taking all people - young, old, tall, short, and persons with various disabilities - into consideration.

“Certain people in the communities whom we have not allowed to join with us in the dance; who have not celebrated life, who has never really been allowed to play in the ultimate game, which has not experienced leisure.” (kok, 1994:14) What Kok implies with this is that certain architecture in South Africa has separated the disabled people from the rest of society and thus preventing them to fully participate in a mainstream economic and business world.

Alvar Aalto reminds us of the social architecture and that responsible architects should design buildings that are of no harm to any user, nor should they be unsuitable for people. (Aalto, 1940:15)

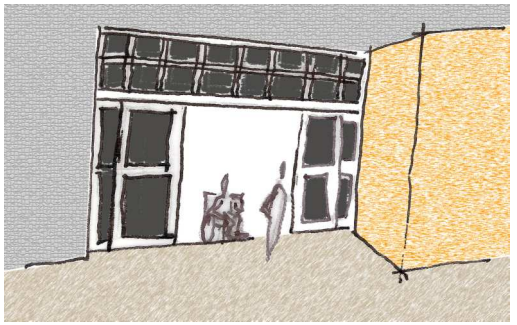


Figure 85. Accessibility in buildings should aim to be the same for both able and disabled people

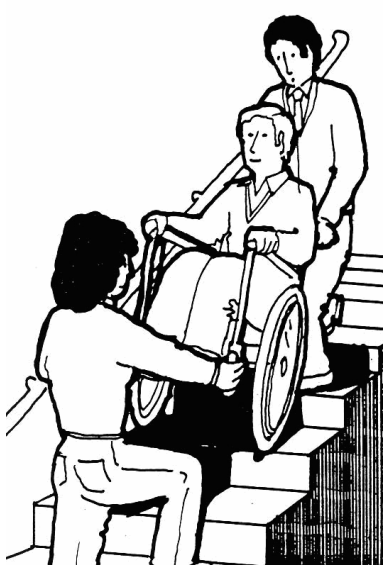


Figure 86. Typical situation to be avoided in buildings

4.6 DESIGN PRINCIPLES

The design principles are being derived from the 3 basic forms of Cerebral Palsy: Spastic, Dyskinetic and Ataxic Cerebral Palsy.

4.6.1 MOVEMENT

Spastic Cerebral Palsy is directly linked to the difficulty of movement.
The movement in the building will automatically be emphasised because of the use of ramps, slowness of the action and the economic design of movements. Movement will allow the visitor to experience different textures and spaces.
Unnecessary level changes, corners and turns should be avoided.

Figure 87. Movement

4.6.2 ORDER

Dyskinetic Cerebral Palsy can be linked to the unorganized and disorderly movements. The idea here would be to create order in design. Again, the easy flowing of movement would contribute to order in how the building would be experienced. Order in placement of different spaces and accommodation would be important here. A human scale should be used while designing the building. The children should adapt this building as their own.

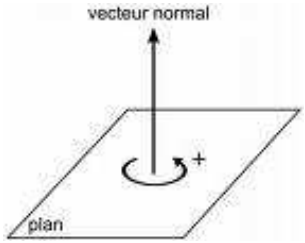


Figure 88. Order

Figure 89. Direction

4.6.3 BALANCE

Ataxic Cerebral Palsy causes problems with balance.
Balance could be brought forth in the design with the use of large overhangs, detail design of supporting structures.
A lightness of structure could be created to stand in contrast with the difficulty of balance in these children's everyday lives.

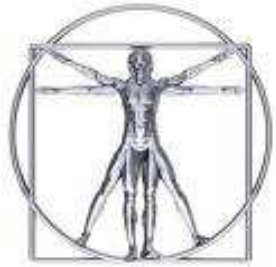


Figure 90. Proportional system

Figure 91. Balance

4.7 SPATIAL FRAMEWORK

4.7.1 LEGIBILITY

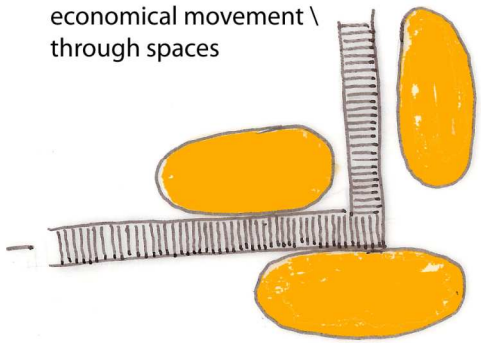
The legibility of the building's exterior and interior becomes very important when it comes to designing for Cerebral Palsied children. One of the aims of this project is to integrate legibility into the rehabilitation centre. The external facades visible from the economical belt will become even more important in presenting an acceptable front to the able bodied society.

The interior and spatial layout of the building will be significant in creating a design that is understood by all—an universal design. Because movement is a problem for people with Cerebral Palsy, orientation and order in the spatial design will be essential in economical movement through the building.

Figure 92. Skylight indicate the direction of movement

4.7.2 ACCESSIBILITY & MOVEMENT

Accessibility is the obvious criteria when designing for people in wheelchairs and people with mobility impairments. Accessibility could also play a part in the shape of the buildings to accommodate for possible ramps and lifts. This could provide opportunities for an inter-linking design which consists of 'terraces' in the building .



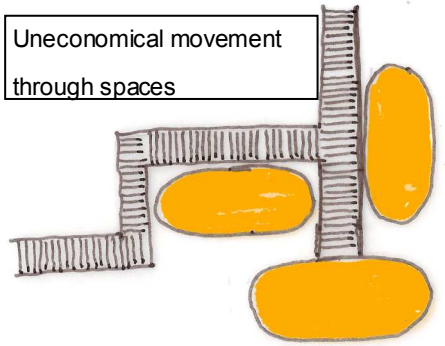


Figure 93. Concept of economical movement

4.7.3 THE VISUAL EXPERIENCE

The visual experience of a building becomes critically important when designing for disabled children. Texture and Color, for example floor surfaces and wall surfaces will be highlighted to capture the inhabitant's imagination and attention throughout his journey through the building.

The movement of cerebral Palsy people, as well as the able-body person who pushes his wheelchair or walks at his/her side, will be slow with lots of time to look around and absorb the aesthetics of the building. Thus, more emphases will be on the detail of the building.

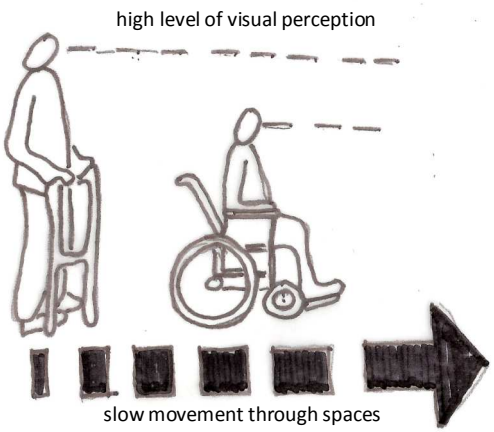


Figure 94. Visual experience of disabled person

4.7.4 MASS vs. OPEN SPACE

Rehabilitation will be done through enjoyment, thus open spaces will play a very important role in this Rehabilitation Centre. The mass to open space relation is important to create a balance between interior and exterior, and not produce a final product that will be seen as a hospital but rather one which children can relate to.

The spatial layout of interior spaces will create and define the open spaces on the outside of the building. The function of the interior spaces will determine the value of the exterior spaces and will separate it into private, semi-private and public open spaces.

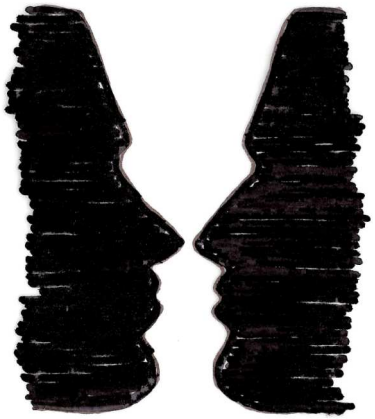


Figure 95. Figure ground model: the ambiguity of this reversible figure underlines the concept of space as a dynamic presence; the architect's eye;1997