

**THE INFLUENCE OF TRADITIONAL ARCHITECTURE ON  
CONTEMPORARY CULTURE:**

A Proposed Hindu Cultural Centre for Durban

**BY NIRUPA GOPIDAYAL**

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A dissertation submitted to the School of Architecture, Housing and Planning  
University of KwaZulu-Natal, Howard College, Durban, in partial fulfilment  
towards the degree of Master of Architecture.

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## **DECLARATION**

I hereby declare that this dissertation is my own unaided work except where it has been otherwise acknowledged. It is being submitted to the School of Architecture, Housing and Planning, University of KwaZulu-Natal, Howard College campus, in partial fulfilment of the requirements towards the degree of Masters of Architecture. This dissertation has not been submitted before for any degree or examination at any other university.

Signed 30 August 2011

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Nirupa Gopidayal

## **ABSTRACT**

Religion is still a large driving force behind the manner in which people live today. Religion, especially the predominant practices that date back to our ancestors, is a driving force behind culture. It creates traditions that have been passed onto us consciously and subconsciously. Norms such as customs, rituals, routines and patterns are subconsciously inherited, contributing to the culture of a community. Together, religion and tradition influence and provide a base for culture. These two factors, when combined, create a structure in our lives which contributes towards finding meaning within our lives. A society with a strong sense of belonging has an affirmed identity in the urban environment, contributing to the sense of place found in the urban fabric by attaching meaning and memory. Thus an environment is created that combats the rapid pace movement of globalization.



## **DEDICATION**

I dedicate this dissertation to my amazing mother and father. Thank you instilling in me the value of education and thank you for the sacrifices you have made for my future.

Every day I am grateful for the opportunities you have provided me.

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## CHAPTER 1: INTRODUCTION

### 1.1 INTRODUCTION

#### 1.1.1 Background

The effect of culture on a city and its inhabitants is undeniable. Cultural diversity is one of South Africa's unique characteristics. Alexander discusses that "within the swaths of urban land the most important structure must come from the great variety of human groups and subcultures which can co-exist there" (Alexander, 1977: 43). A subculture is a "distinct cultural group within a larger culture" (Pocket Oxford dictionary, 8<sup>th</sup> edition, 1992). Research has shown that it is important for subculture to exist within culture as it assists in strengthening the character of individual human beings whilst strengthening the cultural identity of a place (Alexander, 1977: 42-50).

The city of Durban is a key example on how these different groups come together to create a culture in our city that is diverse and unique. One of the larger contributing groups to this character belongs to those following the Hindu belief, a religion with a deep connection to faith and embedded with tradition. This subculture has affected the development of the city for 150 years both in structure and in meaning.

*"Hinduism is a conglomeration of religious, philosophical, and cultural ideas and practices that originated in India, characterized by the belief in reincarnation, one absolute being of multiple manifestations, the law of cause and effect, following the path of righteousness, and the desire for liberation from the cycle of births and deaths"* (Subhamoy Das, [www.hinduism.about.com](http://www.hinduism.about.com), accessed 05/06/2010).

The religion of Hinduism is not only a theology but also rather a composition of mythology and philosophy. Unlike modern interpretations of other religions, Hinduism has never separated the secular aspect of religion from life. It is a combination of theology and factors such as culture, sociology, health, astrology and other aspects of life, creating a holistic approach to an age-old religion. Practices such as yoga and Ayurvedic medicine have become internationally known and practiced for their ability

to enhance the wellness of the body, mind and spirit. The practice of Hinduism has created a guiding principle that can be applied to all aspects of life, which many have found favourable in leading a fulfilled purposeful life. This holistic approach has seen the spread of Hinduism transform from a predominantly Indian following, to people of all races globally that are in search of meaning in their lives.

Along with the age old religion of Hinduism comes a strong sense of tradition that has been passed down from generation to generation. These traditional practices are part of the religion and govern the manner in which every day life is conducted, contributing to the holistic approach of the religion. The strong interweave of religion and tradition has influenced the culture of this society.

The Hindu communities of Durban have left large imprints on the cultural development of the city over time. The impact of the migration and establishment of a Hindu community has impacted the urban fabric by the construction of temples and shrines that began to develop soon after the arrival of the indentured labourers (Diesel & Maxwell, 1993: 5). The impact can also be seen in the culture of the city. For example, the Hindu culture of food contributes largely to the dynamic range of cuisine that can be found in the city, adding to the identity of Durban, as well as to the urban fabric by the development of spice markets etc. There are annual cultural events such as Diwali and the Festival of Chariots that have become part of the history of the city, giving meaning in the form of memory to the urban structure. These festivals have contributed to the spirit of the city as a whole by encourage participation of all, embracing the society of Durban.

### **1.1.2 Motivation**

Today the religion of Hinduism is practiced in the same manner as it was established over 150 years ago. However the Hindu society has grown and changed in this time with the development of the surrounding society, thus emerging as a complex society composed of a variety of characteristics with a new array of needs.

The modern society is a group contesting a double identity in the public sphere. The first identity is one that is very strongly linked to the traditions that were passed down by their ancestors as Hindu's who were transplanted from their country of origin India. The second identity is their affirmation as South Africans who embrace western culture and celebrate a contemporary lifestyle. It is the conflict of these identities that has created cracks in the strength of the identity of the group as a whole.

A large contributor to the loss of the cultural identity of a group is the notion of the lack of character of a place or placelessness that is created and enforced by internationalism. This is fast becoming a dominant factor in the manner in which our urban landscapes are established. Shopping malls and convenience stores are becoming the driving force behind the organization of communities. This has created an industry that only seeks to profit from fast paced construction thus contributing nothing to the urban fabric. However, as discussed by Pearson, there has been a recent trend of cultural pride in countries in Asia and Africa with the re-emergence of local identity (Pearson, 1994: 121). This is an attempt to slow this effect and reduce the alien nature of this global model.

This emergence has resulted in the developing world creating some of the best examples of modern architecture today as a blend of western technology and traditional principles. The product is architecture of authenticity that reflects culture and accommodates the needs of a society appropriately. As Hasan-Uddin Khan discusses, architecture rooted in cultures and traditions must extend them to reflect contemporary concerns and expectations (Pearson, 1994: 121). Khan believes that traditional models of the past can be transformed to act as a catalyst for the future. He describes tradition and modernity as "two sides of the same coin" (Pearson, 1994: 122) in that it is two factors that should be dealt with simultaneously to create a liveable environment, based on memory, common sense and experience whilst providing a foundation for invention (Pearson, 1994: 122).

*"...we have to know from where we are coming to know where we are going..."*

(Correa, 1996: 3)

Religion is a still a large driving force behind the manner in which people live today. Religion, especially the predominant practices that date back to our ancestors, creates traditions that have been passed onto us consciously and subconsciously. Norms such as customs, rituals, routines and patterns are subconsciously inherited, contributing to the culture of a community. Together, religion and tradition influence and provide a base for culture. These two factors, when combined, create structure in our lives which contributes towards finding meaning in our lives. A society with a strong sense of belonging has an affirmed identity in the urban environment, contributing to the sense of place found in the urban fabric by attaching meaning and memory.

## 1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

### 1.2.1 Definition of the Problem

Globally, the subject of tradition has become considerably influential on the built environment and the manner in which we conduct our lives. By addressing the goals that our ancestors valued, an architectural response is created that is rich in character and that serves the needs of a society appropriately without compromising their individual identity and comfort. However, the translations of the principles that arise from these issues have been lost in our modern cities. The nature of globalization has manipulated this effect.

Globalization and rapid urbanization has resulted in creating an urban environment that is fragmented in form and character. This has contributed to a sense of placelessness that can be found in the urban environment and a society weak in identity. Urbanization has placed emphasis on guiding principles such as technological advancement and wealth. The result is that traditional architecture has been forgotten or has not evolved in decades to facilitate the needs of the modern community.

The problem found within the modern Hindu community is that of separation due to the rapid evolution. The manner in which the followers of the Hindu faith affirm their



identity with regards to religion remains constant, however the needs and desires of this society have changed noticeably.

Thus the question is raised of how a suitable architectural response, that links together culture and tradition, can assist in reaffirming the identity of a group of individuals whilst strengthening the overall cultural diversity of our city.

### **1.2.2 Aims & Objectives**

The aim of the proposal is to create a canvas for the expression of identity, uniqueness and individuality of a society within a larger public group. This will assist in combating the fragmentation of a society by celebrating tradition and culture whilst utilising an everyday component of life: religion. Religion and tradition are global phenomenon that impact and influence people regardless of race, gender, age or economic status. The aim is to further enhance the cultural diversity of the city of Durban therefore bettering the relations between people whilst creating a notch in the memory of the city.

The idea is to create a facility that is rich in tradition and culture that welcomes and embraces the modern Hindu community and their specific needs, contributing to the quality of their lifestyle, as well as towards the creation of social awareness in the surrounding society about Hinduism. The facility shall embody a unique identity that will contribute to and enrich the urban fabric as a whole by creating a sense of place to which the members of the community may belong.

The objective is to create a facility that includes a multitude of functions that encourage the holistic nature of Hinduism by providing elements that are a vital part of the religion as a whole in order to better to the lifestyle of the modern Hindu community such as a yoga facility, and facilities for education on the culture religion and languages. The idea is to create a multifunction facility in which the emphasis is on not on the religion, but on the culture of Hinduism, thus creating an environment in which any member of the society might find their sense of belonging thus affirming their identity.

### 1.3 SETTING OUT THE SCOPE

#### 1.3.1 Delimitation of the Research Problem

The initial problem the proposal intends to deal with is the pressing issue of 'placelessness' in the urban environment and the effect that this has had upon the inhabitants of the city. We are a nation composed of a variety of individuals that contribute actively to the cultural diversity our country is known for. The people of South Africa are proud of this diversity, which needs to be reflected in the built environment. The proposal intends to undertake this problem by investigating the relationship between religion and tradition and the effect these elements have upon culture.

The proposal will not attempt to redefine the concepts of religion or tradition and the link to culture, but rather to examine the ideas for the richness of age-old establishment, and to utilize and reinterpret these concepts to enrich the urban environment. This will assist in establishing an identity for the Hindu society in Durban, therefore providing a positive impact on the society of the city as a whole.

#### 1.3.2 Definition of Terms

##### *a) Religion:*

Religion describes one's personal belief system (often in a superhuman power such as a god) that often provides structure to one's life in the form traditions etc. Often a religion may provide a sense of meaning in life to those that prescribe to it.

*b) Tradition:*

Traditions can be the customs or beliefs passed on from one generation to the next by oral tradition, the use of artwork or pictures etc. Traditions can be created by religious practices, or even by social interaction.

*c) Culture:*

On a large scale, culture can be defined as the activities in subjects such as art and literature. On a more personal scale, culture is the logic behind how people live and the manner in which they do things. Culture is an element that is in constant evolution and can be affected by external aspects such as politics, economics and religion.

*d) Cultural diversity:*

Cultural diversity is the interaction and co-existence of a variety of cultures within a common region, often the result of urbanization in urban areas.

*e) Placelessness:*

Placelessness refers to the lack of a sense of place or character that is often found in the urban centres across the world. Often many urban centres today have a homogenous character that is largely due to the rapid push towards urbanization and globalization.

*f) Identity:*

Identity is the obvious expression of character and opinion. Identity can be affirmed by the reflection of one's beliefs in a group of individuals of similar beliefs.

*g) Holistic:*

The term holistic refers to the interconnected parts that, when joined, create the full image of an element such as religion.

*h) Hindu:*

A Hindu is a person that follows the beliefs and practices of the religion of Hinduism.

### **1.3.3 Stating the Assumptions**

The manner in which we conduct our lives on a daily basis is not something that is new to each individual of a society. Rather, the bases of the patterns we create in life have been instilled in us, either consciously or subconsciously. It is these patterns that we find reflected in others of similar beliefs therefore forging a connection, forming a unified group.

The assumption is that tradition is an important global unifying element. It is a unifying element that can be found in all people across the globe. It is a significant part and key principle in forming one's sense of identity in life and dictates the manner in which we carry ourselves from birth. By creating an understanding of tradition, a base is created for reinvention and reinterpretation in the contemporary world, using the principles that

have been proven to work, blended with the contemporary dependency on technology. This will create an environment that is rich in content and validity.

#### **1.3.4 Hypothesis**

It is of great importance that an understanding and acknowledgment of tradition in our nation is achieved. Embracing and learning from the lessons of our ancestors can add valuable substance that may be applied to all aspects of life, including that of enriching our living environment by creating meaning and adding to contemporary culture, thus counteracting the negative impact of urbanization. The counteraction of globalization will result in a nation in which the people have a stronger sense of identity, and the richness of our cultural diversity is strengthened. It is this richness that will stimulate the breaking down of social barriers between the groups of individuals, thus creating a stronger, unified and more understanding society.

#### **1.3.5 Key Questions**

The following questions need to be asked in order to fully comprehend the issues that the proposal will look to attend to.

Traditional development

- What is the meaning of tradition and how is it interpreted?
- How can the rich history of tradition in the country of South Africa be explored to aid in social change?
- Can the reinterpretation of tradition in a contemporary context assist in affirming the identity of a group in the South African context?

## Architectural response

- Can the facility serve as a catalyst for urban regeneration?
- How do the principles learnt from traditional architecture translate into an architectural response for the proposed facility?
- How have traditional principles been translated in international architecture so far?

### **1.3.6 Conceptual Framework**

The theoretical framework serves as a basis of the research conducted for the dissertation. The framework suggests a structure of thought process and analysis utilised for gathering the necessary research and for guiding the design process.

#### 1.3.6.1 Linkages Theory

Trancik (1986: 106) states that linkages theory can be described as the conceptual lines that are used to link one element to another. These may take the physical form of a multitude of objects that include streets, pedestrian routes, visual connections, etc. These objects physically link parts of the urban fabric together (Trancik, 1986: 106).

This theory is important to the research conducted as the facility aims to connect to the existing urban fabric to foster a symbiotic relation. The dissertation sees this as necessary to the facility in order to enrich and renew the urban fabric, encouraging positive growth. The aim of the research is to honour the traditions and heritage of a specific cultural group in order to create an amalgamation of tradition and modernity. Thus links are created conceptually between the past, present and future. The placement of the facility is significant in order to serve the greater Durban area, hence easy accessibility is important.

Thus the application of linkages theory involves a network of connections that links the urban fabric and establishes a structure for ordering spaces. The emphasis is placed on circulation and the larger urban effect rather than on the spatial organisation, as explained by the figure ground theory discussed by Trancik (1986).

#### 1.3.6.2 Blurring Boundaries

The dissertation aims to create a facility that encourages the natural cultural diversity found in the city. In order to accomplish this, the effect of the facility has to be on in which boundaries between social class, race, gender, age, religion etc. within our society are blurred.

In order to encourage this effect, the facility must cater to the Hindu community but must also have a draw for members from outside the cultural group. This may be achieved by containing a wide variety of functions that will have a large appeal across the society of Durban. The notion of blurred boundaries will be encouraged by creating spaces that are flexible in nature as to encourage the continuous reinvention of functions and users.

Boundaries between indoor and outdoor, public and private will be blurred in the facility to stimulate interaction. The design tools utilised to carry out this goal will be intermediary spaces or transition zones between defined spaces such as courtyards, pedestrian streets, public squares and resting spaces. These areas are communal spaces that naturally encourage social interaction and cross cultural pollination.

Gehl (2001: 9) discusses that it is in these spaces that a concentration of the character of the building, influenced by the users and physical planning, can be found. The use of materials and colour influence the image of the urban fabric, whilst careful planning and consideration of spaces influence the culture of a space. Thus the effect on the inhabitants may either be positive, where cross cultural pollination is stimulated, or negative upon the character of the urban fabric.

### 1.3.6.3 Social Constructivism

Constructivism is the term that describes knowledge as a process of construction. Basically, constructivism describes that knowledge is the process of constructing meanings (Salvesen, 2010: 10). As Gravett (2001: 19) discusses the construction of meaning can be built up from a personal point of view. However, it is often a social process that leads to a shared common meaning or knowledge. This is exemplified in the cultural expressions of a society such as their traditions or rituals. Thus knowledge is a process in which it is built up and submitted to transformations through time. Gravett (2001: 20) elaborates on the point of the process of knowledge by stating that the process does not occur in isolation. Rather, the process is influenced positively by the society in which the progression occurs.

### 1.3.6.4 Place Making

Place is more than just physical location and can be created by altering the physical setting, either that of a natural or man-made context. Memmott and Long (2002: 39) discuss that place can also be created by enacting special types of behaviour in a particular space in the environment resulting in the behaviour being associated with the space. Another method in which place can be created is by the association of knowledge, history, memory or emotion over time to a space. This interaction creates a sense of place or 'genius loci', a social phenomenon, which relies on the engagement of a space with society for its existence.

Place making can be said to be the act of building mental images and associations that will enhance the site and create a memory. Memory can have a resonating effect in a space over time. The art of place making should create niches for each generation to interpret and reinterpret the meaning of a space. It is this collective memory of a society and the social interchange amongst a group of people with greater or different experience that contributes to the culture and social intelligibility of a society (Fleming, 2007: 14).



#### 1.3.6.5 The Value of Tradition

As described by Maguire (Jencks & Kropf, 1997: 172), it is important to explore the vernacular concepts of designing a space to understand the principles and methods of achieving space as done before. The interpretation and application of these principals ensures the appropriateness of spaces and places.

Human beings built vernacular architecture for fellow human beings, therefore engaging with issues such as suitable human scale and thus combating the issue of placelessness, which can be found in the vast spans and great volumes of most modern architecture. Other issues that can be revealed in the study of the vernacular are factors such as the evolution of coherent forms embedded with character.

#### 1.3.6.6 Complexity and Contradiction in Architecture

The complexity of architecture is created by the basic use of the Vitruvian elements of *commodity, firmness and delight*, i.e. the structural stability, appropriate spatial accommodation and the attractive appearance. As Venturi (Jencks & Kropf, 1997: 42) discusses, these elements when combined with the use of modern structure, mechanical equipment and expression create contradiction in architecture. The use of the theory of complexity and contradiction creates a hybrid entity as an opposition to the purist products of Modern architecture that aims for vitality and validity.

*“ A valid architecture evokes many levels of meaning and combination of focus: its space and its elements become readable and workable in several ways at once”* (Jencks & Kropf, 1997: 41).

These complexities and contradictions can be demonstrated by the use of factors such as traditional planning concepts as well as modern planning concepts, hybrid spaces rather than pure, richness of meaning rather than clarity of meaning, conventional meaning of space and contemporary meaning of space, etc.

## CHAPTER 2: RESEARCH METHODS AND MATERIALS

### 2.1 Introduction

The research conducted for this dissertation is aimed at developing the philosophical foundations for the design of cultural lifestyle centre for the Hindu community within the diverse city of Durban. The relevance of this section to the proposal will be to explore the methods in which useful information will be collected in order to provide a guide, which will directly inform the design process of the proposed facility. Precedent studies and case studies will be conducted on international and local examples respectively. The cross examination of these examples will uncover certain conditions and characteristics which will create a foundation of sound knowledge aimed at outlining information relevant to the research problem.

### 2.2 Research Methods

The informative process of the proposal will include both primary and secondary data. Primary data will include the use of interviews and general discussions with people a variety of informative people. This data will be evaluated against a list of practical research methods to form a base which will in turn inform the research and design process.

The research methods will include:

- A Questionnaire
- Physical Interviews (formal and informal)
- Participant Observation

Secondary research will consist of a review of concepts and theories that will be in the format of a comprehensive literature review in which topics that inform the resolution of the problem statement will form the bulk and thus inform the design process.

### **2.3 Research Materials**

The questionnaire has been derived in order to assist in creating an evaluation, from a personal point of view, of what the user deems valuable and necessary for their daily functioning within the built environment. The questions are aimed at emotional responses, i.e. the personal thoughts and feelings, of the user. This process is important and necessary to the architect as the space is intended for the needs of the user.

The process of absorbing and reinterpreting a traditional value is a personal one. Each interpretation may differ slightly according to the belief of the person involved. The questionnaire will utilise questions from a user orientated perspective to better understand the required needs for the facility.

- Observing Physical Traces

Other methods will include observation technique of recording and *observing physical traces*. This method will be used first as it is by nature unobtrusive. A study on the physical setting will be carried out without disturbing or disrupting the behaviour patterns of the users in order to assess the theories employed in creating the subjected space as well as the manner in which the users react towards their surroundings, consciously and subconsciously.

## **2.4 Conclusion**

The analysis of the data produced from these primary research methods can be used to deduce how the environment arrived at the state at which it is, what the design process on the part of the architect or builder was, how people actually utilise the space, their emotional responses to the design of the space, and the manner in which the space meets the requirements of the users. Through this process of analysis, one begins to understand the type of user that interacts with the place in terms of their culture and attachments.

The questionnaire will assist in drawing conclusions in terms of the requirements deemed necessary by users of the space in order to create an environment that serves the intended community best.

## **CHAPTER 3: THE ROLE OF CULTURE AND TRADITION IN SOCIETY**

### **3.1 INTRODUCTION**

The aim of the following chapter is to investigate the two major subjects of the topic statement: culture and tradition. The research will investigate the definitions attached to the subjects and thus, the effect acted upon society and the urban environment. The research also intends to investigate the manner in which the two subjects interrelate and influence each. However, first, an understanding of culture must be created.

### **3.2 CULTURAL INFLUENCE**

#### **3.2.1 What is culture?**

There are countless numbers of cultures and lifestyle patterns that are actively acted out every day across the diverse planet that we, as human beings, occupy. These patterns are intrinsic and a natural phenomenon amongst human beings that provide direction to their lives. This direction or cultural path is influenced by a variety of factors which include tradition, language, age, gender, race, socio-economic path or location. However, before understanding the effect these factors have upon society, the term 'culture' must first be defined.

Diller (2004: 4) describes culture as “...*the lens through which life is perceived...*”. This may be interpreted as the path of life that people choose to follow and the manner in which people express their identity. Thus as affirmed by Ganesh (2010: 18), culture becomes the reasoning and driving force that arranges our daily activities. Diller elaborates by stating that each culture generates a phenomenologically different experience of reality (Diller, 2004: 4). Therefore, the same situation will be experienced and interpreted in a unique manner that is influenced by the cultural background of the clients.

Another point raised by Diller on the subject is that culture is an evolutionary process which takes into consideration the challenges and situations that affect human life (Diller, 2004: 4). This evolutionary process is affected by the continuous factor of time and the constant adaptations that are required by human beings to survive. Ganesh discusses that another major factor that influences the evolutionary process of cultures has been the advancement in technology, which has in some cases produced new cultures (Ganesh, 2004: 18).

Hence culture provides structure and meaning to life. Belsey elaborates on this point by stating that culture is “...*the inscription in stories, rituals, customs, objects, and practices of the meanings in circulation at a specific time and place...*” (Belsey, 2002: 113). Characteristic elements such as dance or storytelling are forms of cultural expression, and serve to express the traditions and the heritage valued by a specific culture. This expression allows other cultures to relate and experience these valued characteristics of the particular culture. Thus as affirmed by Ganesh (2004: 19), across the globe cultural expression is used as a tool by cultures to distinguish ourselves from each other and by people as a manner of expressing their identity. In recent times, the issue of cultural identity has created much debate, especially in developing countries such as South Africa. As discussed by Ganesh (2010: 19), the question of as to what constitutes an African and, in turn, a South African identity is has begun to emerge.

Lynch (1960: 8) discusses that identity is the characteristic that differentiates one person from the next, indicating a sense of individuality. In terms of the built environment, identity refers to the understanding of the various elements that contribute towards the character of that specific place or the *genus loci* of an area.

Jencks (1996: 13) deliberates that architecture is the representation of the beliefs of people. He elaborates by stating that architecture provides insight into the manner in which people choose to live and is an indication of the society that occupies an area. Ganesh (2010: 19) affirms this point by stating that the buildings societies inhabit are the manifestations of the contemporary cultural societies to which they belong. Hence, those responsible for designing the built environment have a social responsibility to address the matter of cultural diversity. This is especially true in the South African

context. Architecture has the ability to unite different groups in society and enhance cultural ties.

Low (2008: 13) affirms this point and describes that culture and infrastructure are both basic needs that are essential for human existence. Thus when the two subjects are conceived in duality the functionality of aestheticism and economic circumstances are transcended. Rather, a built environment is created that is layered with meaning.

### **3.2.2 Cultural Diversity and Multiculturalism**

Many societies across the globe are marked by difficult periods in their historical development. Since these periods of difficulty, most societies have moved forward. However, their historical pasts still continue to be contested in the public realm, leaving an undeniable mark upon society in the form of a public memory. As discussed by Ganesh (2010: 20), the societies of the modern era are simultaneously local and global; however the distinction between the two groups is becoming progressively blurred.

Kivisto (2002: 1) discusses that modern day societies embody two key characteristics. Firstly, today's societies are much more ethnically diverse than previously. Secondly, societies are continuously becoming more interconnected and interdependent. This co-existence and interconnection of multiple cultures in a location can be described as multiculturalism. Kivisto (2002: 189) notes that multiculturalism has become the contemporary, postmodern response to issues pertaining to identity and belonging.

Currently, the majority of the world's societies are being consumed by the phenomenon of globalisation. The easy access to communication and information has resulted in a global culture and detached societies. A possible resolution to this epidemic is to embrace cultures. As affirmed by Sandercock (1998: 109), cultural pluralism emphasises the acceptance and appreciation of all groups in society. Diller (2004: 4) discusses that cultural diversity is essentially the apparent differences that occur between groups of people with a defined and distinctive heritage. These differences are expressed in the public realm and form multiculturalism.

Multiculturalism has a public nature with the roots of the phenomenon embedded deep in political histories and realities, as can be seen in South Africa. Gutmann discusses that public buildings have a significant role in the formation of societies identity, thus public buildings within a multicultural society must portray and facilitate these identities. A concern that arises regarding public buildings and multiculturalism is that most democratic nations are dedicated to the notion of equal representation of identities in the public realm (Gutmann, 1994: 3). Thus often the concept of the building is lost. A different design resolution would be to manifest the single identity of one group and allow this cultural expression to interact with society, creating understanding and enhancing cultural diversity rather than focusing on creating a single space.



Figure 1: Millennium Park, Chicago  
(Source: <http://egov.cityofchicago.org>, date: 07/06/2011)

As discussed by Ganesh (2010: 22), cases of well-considered multicultural architecture can be seen in cities such as Chicago (fig 1). The city is a key urban centre composed of



a variety of social and cultural groups. A recent urban revitalisation project in the city saw the creation of a new multicultural urban centre. The project is composed of a number of smaller public urban spaces. The main space is the outdoor theatre known as the Jay Pitzker Pavilion places the focus of the project upon arts and social space.

The large scale urban design project portrays a new multicultural space that goes one step further by involving the public in the design. Major landmarks mark the space in the Crown Fountains. The two glass block towers host the images of various citizens of the city and are ever changing (fig 2). This approach by designer Jaume Plensa ensures that the citizens feel a sense of involvement with the space, whilst the ever changing nature of the projected faces upon the fountains ensures that the space maintains an unbiased nature.



Figure 2: Crown Fountain with images of local citizens being displayed  
(Source: <http://egov.cityofchicago.org>, date: 07/06/2011)

As discussed, one approach to handling multiculturalism is to remain unbiased as seen in the urban centre of Chicago. However, Kivisto (2002: 19) adopts the approach of an

ethnically defined multiculturalism. Kivisto describes that an alternative to a unified multicultural approach is to create the representation of a place, or a national identity (i.e. the specific culture of a society) as a form of culture, thus creating the notion of civic nationalism. Kivisto debates that this approach will result in a unified society, and instigate social change in contemporary societies (Kivisto, 2002: 19-20).

### 3.2.3 Urban Cultures

Ganesh (2010: 23) defines urban culture as the culture of the city. This implies a grouping of a variety of cultures that have adapted to their contextual surroundings and as a result have created a way of life that is specific to that particular place. The largest variations of cultural groups belong to the large metropolitan settlements, i.e. the cities of the world.

Monclus and Guardia (2006: 22) discuss that the cultural economy of a city is a business. The built environment and urban centres offer creative opportunities that have a draw effect on society. As Ganesh (2010: 23) affirms, the attraction of economic opportunities has resulted in an urban environment composed of an array of cultures.



Figure 3: Dense urban streets of Istanbul

(Source: [hande.wordpress.com/.../19/istanbul-street-food/](http://hande.wordpress.com/.../19/istanbul-street-food/), date: 07/06/2011)

This is exemplified in leading cities such as New York or London which hold no cultural or social barriers. However as Low (1989: xiv) describes, creating a built environment for a multicultural city is a challenge. The task at hand requires the necessity for a design that caters to the needs of a variety of people which alter as time progresses.

A key example of a city that houses an amalgamation of cultures much like New York or London is the city of Istanbul (fig 3). The city is founded upon a strong historical character. As Ganesh (2010: 24) elaborates, many different types of people co-exist in Istanbul. However the distinction between the groups is clearly visible and each culture has left a visible mark upon the urban fabric. Thus the culture of the group is unique as it is an amalgamation of many cultures.

The city of Istanbul is much alike most major cities of the world in that it hosts a variety of socio-economic groups. Yardimci (2001: 9) describes Istanbul's urban arrangement as diverse. The structure of the city reinforces the concept that culture and urbanism are linked. Yardimci (2009: 9) elaborates upon Istanbul by describing the urban environment as a strong stimulus of emotional disruption with a combination of time-spaces that suggest (or enforce) changing experiences. Hence in Istanbul the variety of cultures have remained and contributed to the character of the city over time, creating a unique urban culture.

The factor of time has been a pivotal role on the cultural development of societies and thus the urban environment. As affirmed by Lang (2005: 16-17) the changes that occur over a period of time to culture impact the growth of the urban development. Lang elaborates on the subject by stating that time affects that manner in which people perceive and conceive things, such as social status, public and private, in juxtaposition to the evolution of their cultures.

As discussed by Monclus and Guardia (2006: 22), cultures are realised through the built environment and the relationship with urban planning. Cultural urbanism is a concept that has developed over a long period of time. The table below explains the planning trends that have emerged over the 20<sup>th</sup> century (table 1). What is evident from the table

is that culture has become a more predominant and multi-faceted element of urban life, hence urban spaces have adjusted to suit.

Ganesh (2010: 27) describes social and cultural structures as the backbone of the built environment. Lynch (1960: 8) affirms and elaborates on this statement by dissecting the culture of the built environment into three key components:

- *Identity*: the ability to distinguished as a separate entity from other elements
- *Structure*: the obvious spatial or pattern relation to the observer
- *Meaning*: the emotional reasoning or practical attachment

Thus as Lynch elaborates, cities should cater for multiculturalism within the urban environment which will in turn enhance the intensity of the multicultural character of society.

Period	Paradigms	Theorists and practitioners	Places, Plans and Exemplars
1900s– 1910s	City as a work of art	Daniel Burnham	The models of Paris and Vienna; city beautiful movement; Plan of Chicago; Plan for Canberra
1910s– 1950s	Cultural zonation	Harland Bartholomew Patrick Abercrombie	Civic-cultural centers; neighborhood civic facilities; city functional and post WW2 master plans
1960s– 1970s	Flagship facilities	Robert Moses	Lincoln Centre; JFK Centre; Sydney Opera House
1960s– 1970s	Cultures of communities	Jane Jacobs	Community arts facilities; heritage movement; community cultural development; social planning
1980s– 1990s	Culture in urban development	Progressive city administrations Pasqual Maragall Sharon Zukin	Cultural regeneration and cultural industries strategies; festival marketplaces; local economic development; European Capital of Culture; Barcelona; Bilbao; Baltimore; Glasgow; Manchester
1990s– 2000s	The creative city	Charles Landry Richard Florida Allen Scott	Arts and cultural planning strategies; urban design; cultural precincts; cultural tourism; Huddersfield; Helsinki; Berlin

Table 1: The table above represents the varying development of cultural urban design paradigms over the 20<sup>th</sup> century. (Source: Monclus and Guardia, 2006: p23)

### 3.2.4 Culture as a Stimulus for Urban Renewal

However, this approach is lacking in most of the urban centres across the world. The rapid pace nature of globalization has resulted in decaying urban centres that embody placelessness. The notion of placelessness is fast becoming a dominant factor in the



manner in which our urban landscapes are established. Shopping malls and convenience stores are becoming the driving force behind the organization of communities, creating a fast paced industry that only seeks to profit from their construction, contributing nothing to the meaning of the urban fabric.

However as discussed by Pearson (1994: 121), there has been a recent trend of cultural pride in countries across the world.

*“Investing in culture is a surefire route to urban regeneration.”*

(Powell, 2000: 202)



Figure 4: Guggenheim Museum, Bilbao Spain (Source: [http://www.pps.org/great\\_public\\_spaces/one?public\\_place\\_id=827](http://www.pps.org/great_public_spaces/one?public_place_id=827), date: 01/06/2011)

Powell (2000: 202) describes that the investment in a cultural centre may serve as a catalyst for large scale urban regeneration and thus combat placelessness and slow globalization. This is illustrated in the urban centres that have developed around major draw cards such as the Guggenheim Museum (Frank Gehry) in the Basque city of Bilbao, Spain (fig 4). Within the first year of opening, the museum drew crowds of 1.3 million visitors from areas within and outside of Spain. Thus, a previously decaying

industrial city was given a new life, transformed into a major tourist destination, and was provided with a renewal of identity (Powell, 2000: 202).



Figure 5: view from an adjacent street, looking towards museum  
(Source: [http://geographyfieldwork.com/ElRaval\\_photographs.htm](http://geographyfieldwork.com/ElRaval_photographs.htm), date: 01/06/2011)

A similar concept was applied by Richard Meier in the city of Barcelona. However, the effects were much stronger. Meier placed the Museum of Contemporary Art in the squalid Raval district, which in-turn revitalised the area into the city's cosmopolitan centre of art and culture (fig 5 & 6). Thus as discussed by Powell (2000: 202) the strategy of placing major cultural buildings in rundown neighbourhoods serves as a

successful catalyst for urban renewal and cultural renaissance. Hence, the definition of culture itself is redefined.



Figure 6: Museum of Contemporary Art in Raval

(Source: <http://www.muselia.com/barcelona/macba/131>, date: 01/06/2011)

A local example of this principle can be seen applied in the development of the cultural centre of Newton Johannesburg (fig 7). The driving concept was to create a new multicultural urban centre that would signify the transformation of the country of South Africa from a previous apartheid government into a new democratic country. After much analysis it was decided to place the urban project in the area of Johannesburg known as Soweto. Thus, the area was given a new lease of life and a new meaning.

The chosen site is approximately 15km from the city centre and is flanked by major traffic arterials. The site previously held the Old Johannesburg Electrical Power Station and is rich in historic landmarks buildings which served at the basis for the urban renewal project (<http://www.rudi.net/books/11957>). The end result is a cultural precinct that fosters the country's multiculturalist attitude whilst regenerating the immediate area. The decision to allow the historic landmarks to remain on the site is an observance



of the traditions and the heritage of the society. Thus the renewed spaces become part of a timeline, allowing the country's culture to develop naturally.



Figure 7: Public square in the Newtown Cultural Precinct, Johannesburg

(Source: <http://www.engineeringnews.co.za/article/coca-cola-builds-giant-crate-fan-in-newtown-2010-06-09>, date: 01/06/2011)

### 3.2.5 Cultural Expression and the Hybrid Entity

The previous precedents demonstrate that in developed nations culture is generally expressed in contemporary forms such as art, music or performance theatre. As discussed previously, this type of expression is devoid of any ethnic or religious generators and thus contributes towards a multicultural urban environment. This is well suited to these thriving urban environments as after years of development the society has become well adapted to a multiculturalist attitude as seen illustrated in cities such as New York.

Developing nations are much different. The recent trends in development have been sped up by a push towards globalization and placelessness in an attempt to rapidly urbanize these countries. However, these nations belong to a world that is rich in cultural identity which is expressed through regional cultural traditions and indigenous buildings composed of vernacular customs (Pearson, 1994: 121). Thus in countries such as Asia and Africa, this has been expressed in the re-emergence of local identity which draws from a strong heritage.

The re-emergence has resulted in the developing world creating some of the best examples of modern architecture today as a blend of western technology and traditional principles. The result is hybrid architecture of authenticity that reflects culture and accommodates the needs of a society.

As Hassan-Uddin Khan discusses, architecture that is rooted in cultures and traditions must extend these meanings to reflect contemporary concerns and expectations (Pearson, 1994: 121). Khan believes that traditional models of the past can be transformed to act as a catalyst for the future. He describes tradition and modernity as *“two sides of the same coin”* (Pearson, 1994: 122). Thus the two factors should be dealt with simultaneously to create a liveable environment, based on memory, common sense and experience, providing a foundation for invention (Pearson, 1994: 122).



Figure 8: Detail wall of Prédio Abreu Santos e Rocha  
(Source: <http://75.co.za/palapala/2010/06/15>, date: 08/06/2011)

The work of Mozambique architect Pancho Guedes embodies these principles. His work manifests an African influence on modernism in that he creates buildings with a strong contextual approach and strong ties to cultural generators. As seen in buildings such as Prédio Abreu Santos e Rocha (fig 8 & 9), Guedes draws strongly on the tradition of applied relief, textures inspired by nature, as well as African spatial characteristics. These generators can often be seen demonstrated in vernacular home design in Africa.



Figure 9: Prédio Abreu Santos e Rocha, Maputo by Pancho Guedes  
(Source: <http://www.chien-andalou.com>, date: 08/06/2011)

Another example is the Beijing National Stadium in China (Herzog & de Meuron). The building was designed for the 2008 Olympic Games and has created a dynamic form that is recognizable worldwide (fig 10).



Figure 10: Beijing National Stadium  
(Source: [http://www.arup.com/Projects/Chinese\\_National\\_Stadium.aspx](http://www.arup.com/Projects/Chinese_National_Stadium.aspx), date: 08/06/2011)

The form of the building is conceived on two shapes. The main stadium shape is circular which represents heaven in Chinese philosophy. The adjacent National Aquatics Centre is the shape of a square is the symbol for earth. The most striking feature of the stadium however is the structural form which is more commonly describe as the birds nest which has been inspired by traditional ‘crazed’ Chinese pottery (fig 11) ([http://www.arup.com/Projects/Chinese\\_National\\_Stadium.aspx](http://www.arup.com/Projects/Chinese_National_Stadium.aspx)). ‘Crazed’ refers to a unique cracked glazed effect that was commonly utilised in traditional Chinese pottery.



Figure 11: 'Crazed' Chinese pottery

(Source: <http://www.aliexpress.com/fm-store/603595/210459078/cups.html>, date: 08/06/2011)

The response of creating an amalgamation of tradition and modernity is important as this is a form of cultural expression in the public realm. Cultural expression is important to societies in urban environments as it serves to bind communities of homogeneous character together, thus creating subcultures.

Alexander states that “*within the swaths of urban land the most important structure must come from the great variety of human groups and subcultures which can co-exist there*” (Alexander, 1977: 43). Research has shown that the cultural identity of an area is made up of small groups of subcultures. A subculture is a “distinct cultural group within a larger culture” (Pocket Oxford dictionary, 8<sup>th</sup> edition, 1992).

The subcultures are groupings of people of homogenous character. Research has proven that as human beings we are more likely to develop a strong personal character amongst people of similar beliefs due to the comfort factor.





Figure 12: Streets of Brooklyn, New York

(Source: <http://www.streetsblog.org/2009/06/05/summer-streets-coming-to-brooklyn-this-weekend/>, date: 06/06/2011)

The homogenous groups form part of a larger grouping of heterogeneous character, for example the neighbourhoods of the Bronx, Queens and Harlem in New York (fig 12). Alexander goes on to explain that it is important for subculture to exist within culture as they assist in strengthening the character of individual human beings whilst strengthening the character of a place, contributing to the overall culture (Alexander, 1977: 42-50). Alexander explains that the space in-between the groups, usually non-residential, are public spaces that allow people from various grouping to interact and experience alternative cultures (Alexander, 1977: 42-50). Sharing promotes the understanding and tolerance in the space and therefore creates a space for personal growth. Therefore cultural diversity is enhanced and multiculturalism is encouraged.

### **3.2.6 The Notion of Tradition**

The issues, which develop from the topic statement of this research paper, are primarily about the effect of traditional architecture as one of the influencing factors on culture. As discussed previously, tradition is a form of cultural expression. However before investigating this effect, there must be an understanding of what is meant by traditional architecture.

First, a review of the meaning of the word ‘tradition’ is in order to create a better understanding of the issues that this research intends to investigate. The word ‘tradition’ is defined by the English dictionary as follows: a custom, opinion, or belief handed down to posterity based on experience and practice (Pocket Oxford dictionary, 8<sup>th</sup> edition, 1992). Traditions are principles that can have an ancient history, which has evolved and have been passed down in society over many years such as rituals or religious occasions. However, traditions can also be created over short periods of time to suit fashion.

As discussed by Buck (Buck, 2000: 5), traditions evolve slowly over years as they are passed down from one generation to the other. However the changes are gradual and barely noticeable, resulting in the present interpretation of the tradition being understood as historically correct to its origin.

Hence tradition can refer to:

1. The structure of heritage of a specific culture.
2. The customs instituted by society and the authorities which lead us, such as national anthems or public holidays.
3. The beliefs and customs that are instituted by religious groupings which may influence a society with regards to culture, customs, etc.

Simon Bronner (Asquith & Vellinga, 2006: 7), elaborates on the subject by stating that tradition is about expectation and social acceptance rather than the more publicised view that tradition is about constraints. Bronner agrees with Buck in that tradition is continuously evolving from generation to generation, however he raises the point that

all the while, there is an open commentary that is welcome on the subject, thus gathering fresh interpretations. The allowance of fresh interpretations allows for creativity. He discusses that once the interpretations have been socially accepted, they merge with the original notion of the tradition and therefore the idea of a dynamic tradition is created. Thus the concepts of creativity and tradition are intertwined, and embody the complex process of humans expressing themselves to others in ways that carry meaning and value (Asquith & Vellinga, 2006: 7).

Traditions serve as a precedent in our built environment and are a form of cultural expression in the public sphere. Hence, tradition is a continual social reference (Asquith & Vellinga, 2006: 24 - 25).

### **3.2.7 Tradition and Modernity: redefining the terminology**

In the built environment, the term tradition is often juxtaposed with the term modernity. The western ‘first world’ nations see tradition as a slide back into ‘backward’ lifestyles that are associated with poverty and unawareness (Pearson, 1994: 121). In the developing worlds, modernity is seen as a catch-up game that moves at a rapid pace towards industrialization, eradicating all traces of traditional values and lifestyles, which include regional forms of architecture (Abel, 2000: 114). However, the most apparent fact that arises from the scrutiny of the common perceptions of these terms is that they are out-dated, and in desperate need of redefinition.

The embodiment of tradition in architecture can be seen in the collective history of the building ways of a society that have been passed down across time. Bronner (Asquith & Vellinga, 2006: 28) elaborates that traditional architecture is not just the skill or procedure of construction of buildings, but rather the manner in which the knowledge of design and value is inherited, adapted and transmitted.

Reyner Banham agrees with this statement and discusses that “*tradition implies not monumental Queen Anne, but the stock of knowledge (including scientific knowledge)*



*which specialists assume as the ground of present practice and future progress” (Abel, 2000: 116).*

Traditional architecture emanates to suit the needs of a society at a time in history, and is often characterised by strong characteristics such as form, symbolism, planning, etc. Often, the vernacular approach of a society is included under the banner of traditional architecture (Abel, 2000: 114). This specifies architecture that characterises a region in aspects such as methods of construction and the source of materials as a vernacular response, yet is driven by historical value as the root of tradition.



Figure 13: Interior living room of a typical Japanese dwelling  
(Source: <http://www.kiarts.com/pages/interiors.html>, date: 02/06/2011)

Bronner discusses that tradition can be both the subject and the object of architecture in that traditions shape buildings and buildings symbolize traditions. The realisation of this statement is observed in the traditional architecture of the Japanese, especially in the design of the private dwelling (fig 13). Japanese customs and traditions shape the living environment in totality, from the aesthetics to the planning aspects. As the dwelling embodies a strong sense of tradition, the lifestyles of the Japanese people are affected and the continuity of tradition is ensured (Asquith & Vellinga, 2006: 24 - 25).

The traditional Japanese living space is a flexible space that may cater for a multitude of functions. Hence, the space is usually designed with the intention of high flexibility, and without any defining character that may create a static function. The employ of tatami-mat floors, wooden ceilings, and sliding shoji screens are utilised. These elements have over the years become the characterising elements of Japanese architecture. Thus, the traditions influenced the space, and in turn have created elements that are symbolic of traditional Japanese architecture (<http://www.kiarts.com>).

Often, contemporary architecture is solely concerned with form and aesthetics which creates an environment that refuses to cater to the humanistic needs of the society to which it is intended to serve. It has become the architecture of images that drive globalization and consumerism whilst encouraging global culture. This can be seen embodied in the urban centres of cities across the world where the realisation of these valueless principles has taken the form of glass and concrete high rise offices and apartment blocks.



Figure 13: Dubai city skyline  
(Source: <http://www.riazhaq.com/2009/08/july-in-dubai.html>, date: 08/06/2011)

In some cases, as demonstrated by most of the new developments in Dubai (fig 14), the subject of functionalism is discarded for the more pressing issues of the ‘wow’ factor.

The end result has been an environment that lacks character and that has alienated the culture of human beings as there are no recognisable human qualities to which we can relate to. There is no diversity, only the suffocating effect of monoculture. Thus raises the question of how society proceeds in order to restore the cultural exchange and heterogeneity into our societies. As Abel (Abel, 2000: 116) discusses, a valid expression of this necessary heterogeneity is to embrace a hybrid architecture that embodies the sieved values of modernity and tradition as a form of cultural expression.

The perception of modernity is that it is associated with western humankind, i.e. first world nations, and has a self-imposed image that distinctly separates and places itself in the complete opposition of nature. Modernity is often viewed in a negative light as the negative effects of globalization and rapid paced industrialization have out-shined the positive effects. Modern buildings that showcase placelessness and the rejection of functionality, often seen in the work of architects such as Zaha Hadid (fig 15); have become the image associated with the concept of modernity and modern architecture. The true essence of the modern movement has been ignored.



Figure 14: Architecture Foundation Building concept by Zaha Hadid  
(Source: <http://www.london-se1.co.uk/news/view/3144>, date: 02/06/2011)

The modern movement developed shortly after the end of the Second World War and represented a great change in a positive direction for culture. It embodied the freedom from oppression of fear. For the first time in many years, architecture was allowed to be expressive and open outward into the built environment. One of the greatest products from the push in this direction has been the incredible advancement in technology that has created a better living environment.



Figure 15: Shanghai Bank by Norman Foster (Source: <http://thewondrous.com/hong-kong-photos-10-superb-skyscrapers-of-hong-kong/>, date: 02/06/2011)

As discussed previously, the way forward for society from here on is to create an amalgamation of tradition and modernity. An example of this is demonstrated in the Shanghai Bank in Honk Kong by Norman Foster (fig 16). At first glance this building may appear as a technology driven resolution. However, after careful examination of the culture of the society of the location, it is certain that Foster has captured the tradition of the society in his approach. This has been illustrated in the strong structural solution of the building, abstracted from traditional Chinese architecture in which the structural supports are emphasised (fig 17).



Figure 16: Typical Chinese architecture (Source: <http://archclub.blogspot.com/2008/07/well-i-was-going-to-put-together-little.html>, date: 02/06/2011)



Tradition is often associated with Eastern humankind and can be seen embodied in the eastern philosophical and religious systems such as Hinduism, Buddhism, Zen and Taoism. As Capra (Abel, 2000: 117 -118) discusses, the most significant characteristic of the Eastern world is the awareness of the unity and mutual interrelation of all things and events, the experience of all phenomena in the world as the manifestation of basic singleness. All things are seen as inter-reliant and attached parts of the whole, i.e. as different expressions of the same ultimate reality. The Eastern traditions make reference to the holistic concept consistently in their lifestyles. It is called Brahman in Hinduism, Dharmakaya in Buddhism, and Tao in Taoism (Abel, 2000: 118).

Capra's argument is the realisation that the eastern world does not make harsh static decisions between contrasting views such as good and bad. The eastern world embraces a dynamic relation in which both aspects are incorporated into one view and provide a dynamic balance by influencing each other. This is demonstrated in the principles of the Ying-Yang (fig 18). The sign represents independently of each other, which represents the two sides of the same coin approach discussed previously by Hassan-Uddin Khan.

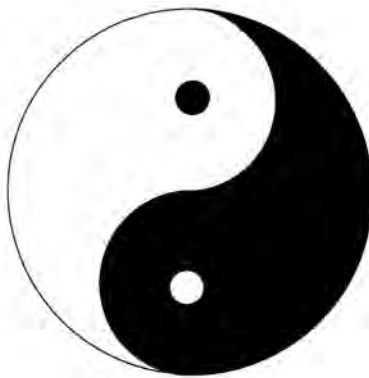


Figure 17: Ying-Yang symbol  
(Source: <http://uyenvu.com/two-sides-2>, date: 02/06/2011)

Based on Capra's view, an alternative interpretation of the terms modernity and tradition can be drawn as a grouping of bipolar concepts. Abel lists the differences between modernity and tradition with the association of new and old, empirical and intuitive, rational and romantic, objective and relative, self-conscious and unself-conscious, universal and particular, mechanic and organic (Abel, 2000: 119). The manner in which we usually approach these terms is to pit them against each other, e.g.:

new *versus* old. However as discussed by Abel, often there is a point in which these terms overlap, creating the dynamic entity of the hybrid organism (Abel, 2000: 119).

The hybrid entity is important for future development of the built environment. Designers do not invent, they innovate. That is to say, designers are taught a process of analogical thinking that involves a review of familiar ideas that undergo a process of transformation through the combination of principles to create a new situation of the hybrid entity (Abel, 2000: 119). As discussed by Vellinga (Asquith & Vellinga, 2006: 10), the hybrid approach may prove to have a positive effect on sustainable developments in future built environments. The connection between nature and human environments are facilitated through knowledge, values, information and concepts. It is this vast source of natural and cultural heritage that provide us with lessons for future generations (Asquith & Vellinga, 2006: 11).

### **3.2.8 Tradition, Innovation and Linked Solutions**

As deliberated previously, tradition provides us with a historical review of knowledge and principles that have over a period of time been proven as successful or unsuccessful. Rapoport (1990: 15) further elaborates this point by stating that history provides us with the experience of responses to general problems that surfaced as human beings began to develop their surroundings in different places, thus forming a collection of valuable lessons learnt. These lessons, as Rapoport (1990: 15) discusses, can form a precedent for the design of the built environment in terms of principles. Bronner (Asquith & Vellinga, 2006: 11) agrees with this statement and discusses, when considering the principles that may be learnt, that it is important to examine and understand the cultural process of the transmission of these traditions and how they are embodied in the built environment.

A key example of a country rich in tradition that has been contrasted with modernity is Japan. An architect that adopts the philosophical approach of Khan is the Japanese architect Toru Murakami. His translations can be seen in his work in the Japanese *minka* or the private dwelling. The *minka* is a structure that is usually composed of locally

available materials and is an icon of popular Japanese architecture (fig 19). Toru Murakami is an architect that has over the last 20 years, been examining the lessons taught by vernacular tradition and adopting those lessons learnt to modernity. Murakami has been creating vernacular low cost housing using the cheapest material available, which is concrete, instead of the traditional material of wood. The similarities to the minka can be found in the design of the spaces which have been based on traditional values.



Figure 18: Exterior view of traditional Japanese Minka cluster housing layout  
(Source: <http://www.takashinaarchitect.com/page/page-green.shtml>, date: 02/06/2011)

In the design for a House in Tsuyama (fig 20), he adopted two principles from the traditional minka: the 3.6 metre module and the arrangement of a simple living area combined with a bedroom, kitchen, bathroom, living room and a hanare. The hanare were special rooms not for everyday use that were separated from the main structure. The adaptation of this spatial arrangement suited the family's requirements but also created a procession of spatial experiences much similar to a temple entrance. The separated spaces are unified in the plane of the roof by cantilevered aluminium louvers that project over the courtyard. This element assists in blurring the otherwise defined



line between interior and exterior space. The spaces have been designed to have a seamless effect about them. Murakami has designed a space where industrial materials and traditional concepts merge, creating a liveable enjoyable environment.



Figure 19: Contemporary minka in Tsuyama, Japan by Toru Murakami  
(Source: <http://www.takashinaarchitect.com/page/page-green.shtml>, date: 02/06/2011)

Initially, minka were grouped together to form villages of a few hundred inhabitants. Murakami adopted this arrangement principle to the house in Tsuyama by arranging the main building and the hanare around an enclosed courtyard in which a shallow reflective pool sits. The reflections created by the pool introduce the dynamism of nature into the house whilst enlivening the colourless palette of modern materials such as glass, concrete and steel. The use of these construction materials ensures this house does not lose the popular contemporary connotations regardless of how conceptually traditional the spaces have been designed.

Murakami's designs challenge the mass-produced box housing that scatters the Japanese suburbs that make economic sense. In a country that is rich in cultural identity, the cultural value of the mass-produced housing is zero. Murakami's architecture demonstrates that cultural traditions and aesthetics are not restricted to traditional materials, but includes traditional concepts. He understands that emphasizing the tradition of the minka is not just enough to ensure the continuity of a cultural value. He

understands that in order for this value to remain valid it has to live now, that is to say it has to be contemporary.

### **3.2.9 Tradition and the Cultural Context**

Bronner (Bourgeois, 1996: 24) states that tradition can be both a cultural context as well as a performed text. The former point of the above statement accommodates for tradition in the sense of a society in a specific location and their lifestyle values, for example the Japanese culture. The latter accommodates for traditions that are governed by an external constant influence such as factors as religion, for example the traditions of the Islamic faith.

Bronner (Bourgeois, 1996: 24) elaborates on the subject of tradition by declaring it both a subject and an object, in that traditions shape the built environment, and the built environment embodies traditions. Bronner is in agreement with Abel that traditions are passed down through history but elaborates by stating that the learning that is generated through this process generates cultural expressions and creates an importance around the precedent that develops.

As Bronner describes (Bourgeois, 1996: 25), tradition is a process of transmitting socially shared knowledge across time and space, therefore tradition has a fluid nature. Hence traditionally influenced architecture becomes an icon of a period or event, characterising a specific period of the culture, solidifying it along the timeline and creating a base or a precedent for further development.

Bronner (Bourgeois, 1996: 25) agrees with Abel in that tradition implies unwritten and written codes of conduct for a group in society. However, he furthers this point by raising the issue that single traditions, especially those classified as religious, can spawn various interpretations. This can be influenced by the vernacular response combined in the substance of the tradition.

A key example of this combination of concepts can be seen in the mud mosques Africa. The principles of Islam are embodied in the structure. However, a rejection of alien materials that are not climatic suitable has occurred. Instead the vernacular process of construction has been applied. As Bronner (Bourgeois, 1996: 25) discusses, this adaptation is the innovation that is allowable in the cultural process of tradition, therefore becoming part of the tradition and creating the term dynamic tradition.



Figure 20: Great Mosque of Djenné, Mali( Source: <http://www.environmentalgraffiti.com/travel/news-great-mosque-djenne-largest-mud-brick-building-earth>, date: 02/06/2011)

The Great Mosque of Djenné is located in the West African country of Mali (fig 21). The mosque is constructed using the typical architectural style found in the dry climatic regions of the Sahel and Sudanian regions of the Sahara. The style is characterised by mud bricks, adobe plaster and large wooden beams that project out over the finished facades.

The mosque embodies typical principles of Islamic architecture, for example the main entrance faces north towards Mecca. Three main towers characterise the form and represent the Islamic archetype of the minaret (fig 22). Thus the mosque adopts a local identity as well as a cultural identity based in Islam exemplified as a combination of tradition and regional responses.



Figure 21: Minarets of the Great Mosque of Djenné(Source: <http://www.environmentalgraffiti.com/travel/news-great-mosque-djenne-largest-mud-brick-building-earth>, date: 02/06/2011)

### **3.2.10 Tradition and Modern Cities**

In modern pluralistic societies, personal choice, individuality and innovation are highly encouraged. Due to this push for modern life, it may seem as though the notion of tradition is lost. However as Tuan (Bourgeois, 1996: 29) states, this is not so. In modern societies the number of developing and accessible traditions multiplies greatly. Thus, the compound issue is raised of the changing nature of tradition within modern, industrialised situations.

Typically, traditions are noted as being passively received and restricted to small homogeneous groups. However as Bronner (Bourgeois, 1996: 25) discusses, in modern society, tradition functions on a much larger scale as a cultural reference to the conduct of lifestyles and as an appeal to authenticity. Thus, as discussed previously, tradition forms the basis of cultural identity.



Figure 22: Traditional Jewish Sukkah  
(Source: <http://www.baldwinpergolas.com/sukkah.php>, date: 02/06/2011)

As an example one may look to the conservation of Jewish culture in America. The Jewish *sukkah* is an ancient structure that originates in religious texts and is central to the celebration of the Jewish thanksgiving holiday of *sukkot* (fig 23). The building of the sukkah during this celebration serves as an annual reminder for Jews of the exodus on their ancestors from ancient Egypt by the Israelites. Thus annually, Jews reconstruct the vernacular architecture of their history, as a physical symbol of the holiday. Culturally, the significance of this holiday encourages closeness between the family and the community. In America (fig 24) this holiday has bound together mass groups of the Jewish society thus reinforcing the group identity (Bourgeois, 1996: 29- 30).



Amongst those interviewed by Bronner (Bourgeois, 1996: 29- 30), it was noted that the construction of the structure came from ‘blueprints’ gathered through two sources; the participation in the construction as a youth and from the designs built in their community. Thus the knowledge has been transmitted from one generation to the next (Bourgeois, 1996: 30- 31).



Figure 23: Modern interpretation of the Sukkah in urban America

(Source: <http://www.nvcc.edu/home/lshulman/religions/judaism/index9.html>, date: 02/06/2011)

### 3.2.11 Conclusion

Culture can best be summed as the driving force behind the manner in which we lead our lifestyles. It is that which orders and creates the patterns of our lifestyles. The effect of culture upon a society is undeniable. It is such a strong aspect in human existence that even the most determined globalization cannot smother it. This can be seen exemplified worldwide; culture has become the stimulus for the much needed renewal of urban centres globally.

Cultures are influenced by a variety of factors such as age, gender, and race. These create homogenous groupings known as subcultures within the culture of a city. It is

important for these subcultures to exist in order to provide an identity unique to the urban environment.

The influence of traditions on culture becomes apparent when investigating the manner in which these subcultures express their identity in the public realm. Thus, tradition is a form of cultural expression. Cultural expressions are not only an affirmation of identity, but it also provides meaning and value within our built environment. Hence, the continuity of these traditions into the modern world ensures the expression of identity.

However, traditions are aspects of a fluid nature in that they evolve and develop over time. This is an important quality in that it allows generations to interpret and adapt these principles to suit their needs and ensure the continuity of traditions.

### 3.3 UNDERSTANDING THE ENVIRONMENTAL IMAGE

#### 3.3.1 Introduction

The precedents discussed previously illustrate that employing traditional principles in the design of the built environment is a form of cultural expression that creates an identity for a group in society and assists in affirming this identity in the public realm of the urban environment.

The societies, whom occupy these spaces, do not consist of a collection of people of homogenous interests and personalities. The heterogeneous character of our society implies that urban space is not a compilation of uniform elements but rather a space of diverse character. This diversity of character in our cities can sometimes make the urban environment difficult to navigate, as there is so much to be seen at every turn of the head. Lynch (1960: 4) discusses that finding one's way in a complex environment is not based on intuition but rather on the signs that are provided in the external environment which contribute towards creating spaces with meaning in the city. This strategy aids in orientation thus preventing the sensation of disorientation.

Lynch (1960: 4) describes that as observers of the external environment, first we should engage in a two way exchange process in order to develop a unique image of the environment. A clear understanding of the environment impacts positively on individual growth.

Research has proven that people perceive the environmental image differently due to factors such as age, gender, or culture. However research shows that people of similar or the same influencing factors such as a specific cultural group recognise a comparable image as a commonly understood public representation. Thus as Lynch elaborates, the perceived environmental image can be dissected into three defining components: identity, structure, and meaning (Lynch, 1960: 8).



### 3.3.2 Finding Our Identity in the Built Environment

#### 3.3.2.1 What Constitutes Identity?

Identity can be conceptualized as the identification of an object, which implies its distinction from other things, and its recognition as a separable identity (Lynch, 1960: 8). Research shows that human beings need to find their identity in order to be at peace with themselves, society and the universe (Meiss, 1990: 161). Hence it is necessary for individuals to establish personal identity as individual human beings and personal identity as a part of a group of people of similar shared values or a subculture. As discussed previously, subcultures that occupy a place contribute and strengthen the overall culture of a place.



Figure 24: Chapel at Ronchamp

(<http://www.wayfaring.info/2008/06/12/notre-dame-du-haut-ronchamp/>, date: 04/06/2011)

Rapoport elaborates further on the subject of the identity of human beings and states that two types of identity must be obvious in people. The first is a private identity which is the assertion of identity to oneself and to one's intimate group. The second type of identity is a public identity. This would be the affirmation of personal identity to others

in the public realm. In both of the above types of identity, effectiveness is only guaranteed if it has been communicated and is known by others (Meiss, 1990: 162). Many factors, commonly referred to as cultural expressions, influence our sense of identity, such as rituals, clothing, language and traditions.

Hence the design of a space that reflects the identity of a group of people is a complex task. Meiss (1990: 162) discusses, the architect or designer must first understand the behaviour, values and the typology of place and architecture that is relevant to the identity of the group. For example, Le Corbusier was not a Catholic yet he manifested the values of a specific group of people in designing Ronchamp (fig 25).



Figure 25: Grass area in Central Park, New York

(Source: zeqoglaju.blogspot.com, date: 04/06/2011)

Meiss goes on to say that the next step in affirming the identity of a space would be to design a space that allows the future users to engage fully and to modify the design of the space in their own way (Meiss, 1990: 162). This principle is embodied in civic spaces such as New York City's green lung, Central Park (fig 26 & 27). The space is an outdoor civic space that provides areas for different activities. However, as its nature is a recreational park, the space is flexibly adaptable to the needs of the citizens of New York City. As show in the figures below, the activities of the users vary and allow the citizens to engage fully with the space; hence the identity of the space is reinforced.



Figure 26: Landscaped area in Central Park, New York  
(Source: rdsike.blogspot.com, date: 04/06/2011)

Finally Meiss discusses the need to search for an appropriate architecture “*which suitably lends itself to the places and symbols of identity which will be created by the occupants themselves after completion of a strong ordering structure*” (Meiss, 1990: 162). He goes on to state that in resolving a project which involves the creation of space which displays a public identity, symbols that are clear and understandable to everybody must be utilised. For example, churches are the built form of a cultural expression for a particular cultural group. Signs such as the cross are displayed on the outside of the built structure that embodies a built up meaning for those belonging to the cultural grouping. Hence the group has a sense of belonging in the urban environment.

Meiss terms this the signs of place and elaborates that combined with identity these tools are effective due to their uniqueness and their well-known status or because they are a typology from the collective memory of which humans share (Meiss, 1990: 162). The collective memory, which Meiss refers to, is the history of memorable events from a place or building which has been recounted to us over time. Thus a building or place develops a collective value that is carried on through time. These memories “*root us in place*” (Meiss, 1990: 162) as the memory is passed down and modified through time. The typological elements that develop from the collective memory usually take the form of archetypes or symbol systems constructed from vernacular or traditional knowledge



in the built environment, and gain their value to a society due to the built up collective memory.

The research shows that an architect with the intention of using this as a starting point must respect certain traditional or conventional layouts in order for that space to aid in creating a sense of public identity. For example, the spatial characteristics and archetypes created by Saint Peter's Basilica (fig 28) have been utilised as precedents for many churches for years.

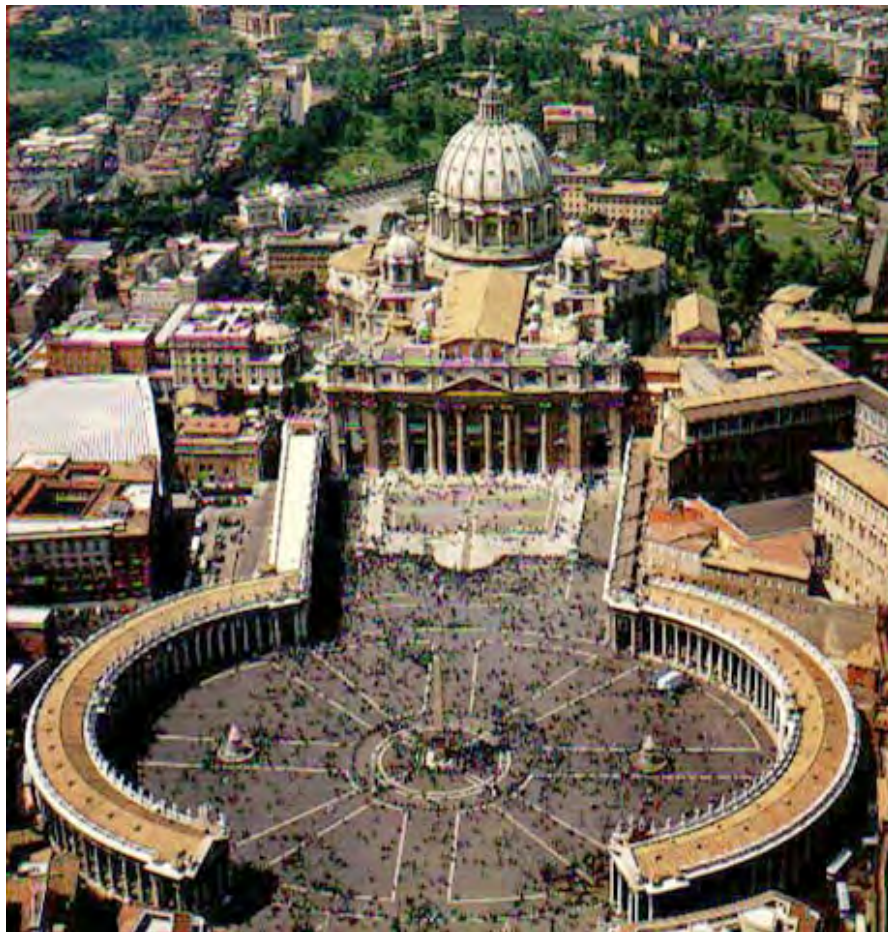


Figure 27: Saint Peter's Basilica  
(Source: [http://www.roma-antica.co.uk/page\\_1265644753431.html](http://www.roma-antica.co.uk/page_1265644753431.html), date: 09/06/2011)

Abel (2000: 143) describes that the process in which a human being may affirm their identity within the built environment presupposes that the environment has character. This implies that the environment embodies the spirit of place or *genius loci*. Character is provided in the incorporation of memory or meaning into the environment. Meaning is the functionalism or use, which is to say that meaning in architecture is directed by

the dynamics of social conventions and practice (Abel, 2000: 148). It is in this process of cultural exchange that forges some of the complex relationships between architecture and human identity.

Bronner (Bourgeois, 1996: 25) discusses that one of the influencing factors on people's identity is that of cultural expression fostered through the use of traditions. He describes that the individual responds to the perception of tradition as belonging to the group or the community.

The aspects of creativity and tradition are intertwined, providing meaning and value to our lives, thus allowing choice and adaptation. Therefore particular attention must be paid to form, archetypes, and the loyalty to the continuity of the cultural memory.

Geographer Yi-Fu Tuan (Bourgeois, 1996: 26) draws the point that the selection of what we seek to retain and bring forward through time must be considered carefully as so we are not creating an unchanged artefact. Tuan discusses that rather than a reproduction of the past; we must seek to bring forward the principles and skills rather. Hence as discussed by Bronner (Bourgeois, 1996: 27) in regards to architecture, the adaptations of forms and techniques can be recognised as socially accepted and time tested.



Figure 28: Penang City Hall  
(Source: <http://travelmalaysiaguide.com/penang-city-hall-esplanade/>, date: 09/06/2011)

This cultural exchange in the environment as an affirmation of human identity is exemplified in the development of colonial architecture across the world. Colonial

architecture can best be described as the recreation of a familiar environment in an alien location, thus retaining a cultural identity in the style of architecture (Abel, 2000: 149). The interaction of these cultural forms or forms of life, one imported whilst the other regional, results in the transformation that is the hybrid architecture and the creation of a unique place.

An example of this can be seen in the suburbs of Georgetown on the island of Penang, off the north-west coast of Malaysia. The town of Georgetown was founded in 1786. The housing found in this town is typical of the dwellings built by the British colonists (fig 29). The basic form of the houses are instantly recognisable as having been modelled on Palladio's Villa Suburbana, a design which originated in Italy before being adopted by the British. The recreation of the European icon on a tropical island halfway across the world is a key precedent of the manner in which attachment of a society and of individuals manifests for the survival of their identity.



Figure 29: Penang old colonial houses  
(Source: <http://www.panoramio.com/photo/15866543>, date: 09/06/2011)

The basic forms of the houses on the island are easily identifiable. However, the villas in Georgetown are different and are not complete pure models. The homes have been adapted to the climatic differences to create a well-adjusted living environment. The model has been adapted to the principles in which a typical vernacular Malay home is

constructed (fig 30). The Penang City Hall is an example of old British Colonialist architecture. The adaptation to home design as illustrated above was facilitated through the replacement of windows with shutter doors to accommodate for the tropical conditions.

Thus, as previously mentioned, the transformations are best described as the interaction of the cultural forms or forms of life (Abel, 2000: 154). This has created an architecture that is particular to a place, therefore enforcing the identity of the town. The Palladian villas of Malaysian are particular to the location and thus can be called Malaysian architecture because of their effect on the development of Malaysian culture. This adaptation of a colonist model to a region creates continuity between past and present forms of building (Abel, 2000: 163). This response is known commonly as regionalism and is important to the formation of the identity of a culture.

### 3.3.2.2 Regional Transformations

Alexander Tzonis (2003: 10) discusses that the concept of regionalism is based in history. It is an approach to design of the built environment that prioritises identity rather than the general globalization trends. The term regionalism is often paired with the term critical to purposefully remind those bestowed the responsibility of designing the built environment to analyse both the negative and positive effects of the history under renewal in order to create the best possible adapted model. Tzonis (2003: 10-11), describes regionalism as an approach to design that intends to combat globalization by recognising the importance of the identity of a physical, cultural or social situation.

Adopting a regionalist approach respects the identity and diversity of a variety of architectural styles, whilst ensuring the continuity of a group identity (Lefaivre & Tzonis, 2003: 12).

*“In these confusing times of the global village, some comfort may therefore be taken from observing that the true grist of regional architecture lies in a creative process of cultural cross-fertilization and localization of imported models,*



*rather than in the purified identities associated with the usual references.”*  
(Abel, 2000: 169)

Abel (2000: 163) discusses that to the developing world, regionalism has a special prominence in that it combats the negative effects of modernism, whilst ensuring the liveliness of cultural identity. However, regional architecture is often mistaken for pure vernacular forms such as the mud brick structures of central Nejd in the Arabian Peninsula. These pure vernacular forms are derived out of the isolation of this area.



Figure 30: Hanging balcony in Jeddah(Source: <http://www.saudicaves.com/saudi/oldjeddah.html>, date: 05/06/2011)

Regional architecture is not only the form and style that has developed naturally in a location as an unconscious decision. The more common form of regional architecture is an amalgamation of vernacular form and style with the interaction that develops through the interaction with culture- whether through trade, conquest or pilgrimage (Abel, 2000: 163). For example, the hanging balconies (fig 31) which characterise the architecture of Jeddah and accompanying cities of Hijaz were introduced by the Ottoman Turks. These balconies are specific to this area in detail.



The interest in regionalist architecture develops in those areas which have undertaken serious religious transformations in their history. It is interesting to observe the manner in which the local population have adopted the major religious forms as their own.



Figure 31: Prambanan Temple

(Source: <http://indonesiatourismzone.blogspot.com/2010/11/prambanan-most-beautiful-hindu-temple.html>, date: 05/06/2011)

The people of Southeast Asia are a society that first embraced the spread of Hinduism before adopting the principles of Islam. As described by Abel (2000: 165), by the time Islam had landed, there had been a typical Hindu-Javanese temple structure (fig 32) that was an adoption of the Javanese house style to the required function. A characteristic of the form was the layered *meru* roof type (fig 33) which is supported by four central pillars, expressive of the Hindu-Javanese cosmology. Rather than introducing an alien architecture, the style was adopted to the principles of Islam. The importance of a regional approach and the transformations it produces is that it creates continuity through change by which cultures measure their lineage.

Minnette de Silva (Lefaivre & Tzonis, 2003: 48) affirms the point made by Lewis Mumford that traditions should be renewed for the value and meaning that they add and not for the ornamentation. Thus the principles that are selected should be evaluated for their positive and negative characteristics. De Silva continues on the subject by stating that there is a need to synthesise traditions with technology.



Figure 32: Adapted roof form (Source: <http://www.terrageria.com/asia/malaysia/melaka/picture.mala48740.html>, date accessed: 05/06/2011)

The Jean-Marie Tjibaou Cultural Centre in Nouméa, New Caledonia (fig 34) is a prime example of this amalgamation and critical analysis of principles. The facility, designed

by the Renzo Piano Building Workshop, is devoted to the political leader Jean-Marie Tjibaou. The project was assigned the task of paying homage to the culture of the Kanak people whilst respecting their traditions and history, present and future. The result is a creation that honours the culture whilst synthesising local and global, tradition and modernity.



Figure 33: Traditional Kanak hut in contrast to the towers of the Jean-Marie Tjibaou Cultural Centre  
(Source: <http://www.designbuzz.com/entry/jean-marie-tjibaou-cultural-center-a-classic-example-of-green-architecture/>, date: 05/06/2011)

The facility is characterised by towering wooden structures. These are modelled after the traditional Kanak huts. The facility incorporated traditional and modern building materials coupled with modern building strategies and technology. Hence the Kanak styled towers are built from the traditional material of iroko wood whilst incorporating glass, steel and bamboo (fig 35 & 36).

The traditional principles demonstrated in the above precedents are important to the associated cultures for the necessary cultural expression needed to affirm the identity of the group in the public realm. However, a dual identity is created when these principles undergo regional transformations. The first identity is created by the traditions and the nature of their origin. The second identity is created by the regional adaptation. The



amalgamation of both these identities creates a local identity. Allowing the built environment to cater for both the identities of a group for society creates an environment that has meaning.



Figure 34: Jean-Marie Tjibaou Cultural Centre (Source: <http://aedesign.wordpress.com/2009/08/31/jean-marie-tjibaou-cultural-center-%E2%80%93-noumea-new-caledonia/tjibaou/>, date: 05/06/2011)



Figure 35: Blend of traditional materials and modern technology  
(Source: <http://www.designbuzz.com/entry/jean-marie-tjibaou-cultural-center-a-classic-example-of-green-architecture/>, date: 05/06/2011)

### **3.3.3 Providing Meaning in the Built Environment**

#### **3.3.3.1 The Amalgamation of Tradition and Meaning**

Traditions are not only, as often assumed, spawned from the practice of religions, but can also be created from the daily functions of our lives. Thus traditional architecture is not limited to the great sacred buildings that mark our world religions such as temples or churches. The notion on tradition can be seen embodied in all aspects of architecture, such as in the Japanese house style.

As discussed previously, the continuity of tradition is a highly important one that can combat the fast paced nature of globalization and placelessness. However, it is important for the continuity and the lessons that are brought forward to adapt to modernity to create a hybrid entity. This amalgamation of tradition and modernity ensures continuity for generations to come whilst creating a valid expression in the built environment.

Embodying traditions that are valid to a society in the built environment promotes cultural diversity and cultural expression whilst fostering multicultural relations. Thus the built environment becomes meaningful for a society.

An understanding of the concept of tradition has now been established. It can be understood that tradition implies a wealth of knowledge that is passed down through time and across generations. The point of this is to create continuity in our lives and to ensure that good principles and positive values are allowed to affect us for years to come, whilst the negative fade away. Tradition allows us as a society to differentiate between multiple societies, thus creating a heterogeneous population by promoting cultural expression and allowing the affirmation of identity in the public realm.

Beyond the physical defining elements of space is a realm that deals with meaning and association. Lynch describes meaning as “non-physical characteristics” (Lynch, 1960:108), which assist in enhancing the imageability of an element and the identity of a space, for example naming systems. There are different types of meaning that can be associated with a space such as social, historical, cultural, and political.

### 3.3.3.2 The Importance of Meaning in Architecture

It is no longer suitable to create buildings that satisfy only the notion of image and basic functionalism. There is a need to create buildings that embody meaning. But what are the criteria behind forming meaningful architecture?

It can be said that meaningful architecture concretises higher objects or higher values. As discussed by Norberg-Schulz (Norberg-Schulz 1969: 223), meaningful architecture should provide the visual expression to ideas that have the relevance of meaning to man because they create an order to his reality. It is in the process of acknowledgement of this mutual dependency that things gain meaning. Concepts which serve as catalysts include social, ideological, scientific, philosophical and religious, traditional. Today, the religious ideas connected with space are not so relevant, however religious space has taken on a psychological personality as the space has become strong in traditional meaning (Norberg-Schulz, 1969: 223- 224).

*“From birth we try to orientate ourselves in the environment and establish a certain order. A common order is called culture. The development of culture is based upon information and education and therefore depends on the existence of common symbol-systems. Participation in a culture means that one knows how to use its common symbols. The culture integrates the single personality in an ordered world based upon meaningful interactions.”*

(Norberg-Schulz, 1969: 228)

As Norberg-Schulz discusses above, symbol systems assist in the development of culture and help in providing man an ordered environment (Norberg-Schulz, 1969: 223).

### 3.3.4 Sign and Symbol

Jung describes that in the built environment there are signs and symbols present all around us. Signs are objects that only denote the meaning that they are assigned (fig 37). Without this meaning, they would be irrelevant and meaningless objects such as trademarks, insignia or badges (Jung, 1964: 20).



Figure 36: Signage on a major outlet store(Source: <http://www.babble.com/CS/blogs/strollerderby/archive/tags/Wal-Mart/default.aspx>, date: 06/06/2011)

A symbol refers to a name, a term or an object that has relevance in our daily lives. Jung (1964: 20-21) discusses that symbols have an extra layer of meaning added to the obvious understanding in that symbols possess specific connotations. Jung elaborates by stating that a symbol embodies a certain vagueness or hidden meaning that is never fully explained or defined. He describes that upon exploring the symbol, the mind is drawn towards ideas that are often beyond common reason.

For example, the symbol of the wheel (fig 38) has a variety of meanings to various societies. To some, it is interpreted as the divine sun, to others such as the Buddhists it may be interpreted as the cycle of reincarnation ([radioliberty.com/Symbols-and-their-meaning.html](http://radioliberty.com/Symbols-and-their-meaning.html)). These are not apparent meanings.



Figure 37: Wheel symbol

(Source: <http://www.radioliberty.com/Symbolsandtheirmeaning.html>, date: 06/06/2011)

Jung (1964: 66) discusses that interpretations and meanings of symbols will differ from society to society, dependant on the culture of the society, as symbols cannot be attached to a static definition. The understanding of a symbol will be cast in a multitude of levels, with the basic common interpretation forming the basis. Personal understanding and interpretations will follow. Thus symbols are dynamic elements.

Jung (1964: 21) elaborates on this point as there are “...*innumerable things beyond the range of human understanding...*”. We utilise symbolic terms of description to represent concepts that cannot be fully defined or comprehended by society. Hence, all religions employ a field of symbolic language or images in order to communicate the basic principles. Religious symbols are collective in their nature in that they are a build-up of centuries of elaboration. The origins of religious symbols are buried so deeply in the mystery of the past that finding a reliable human source is impossible (Jung, 1964: 55).

In times of rapid social change, in order to understand man’s perspective, an understanding must be created of his past as well as his current circumstances. Man perceives his environment in two manners; the first is the absorption of conscious knowledge using the senses, the second is the perception of unconscious knowledge (Jung, 1964: 58).



The absorption of unconscious knowledge occurs in two processes (Jung, 1964: 23). The first process occurs when man interacts with real phenomenon that involves the senses such as sight and sound. This reaction is translated from what is perceived in reality to the realm of the mind, where they are transformed into psychic events that cannot be defined.

The second process is the subliminal absorption of events that have occurred. The realisation of the effect of this knowledge occurs only in a moment of intuition or upon reflective thought on the subject. Jung (1964: 32) discusses that the unconsciousness is a composition of images and impressions that influence our conscious minds. It is in this manner that traditions and cultural patterns affect our lives, in those certain influential aspects are part of our lifestyle patterns from birth. Hence, they form the basis of an inherent knowledge and process of thought patterns that influence us subconsciously (Jung, 1964: 75).

Jung (1964: 75) describes these thought patterns as emotional manifestations that are recognizably the same all over the world. The patterns are readily reproduced over and over again are known as archetypes.

### 3.3.5 Archetypes

Archetypes are a knowledge base that derives over time usually through the interaction with a society. Thus there is no personal invention imposed upon this knowledge base. As discussed by Jung (1964: 67), archetypes have a history behind them- generally built up by conscious references to cultural traditions. Over time, a society will decide on certain principles that are important to their functioning, and carry these forward into the future. Hence, in the built environment, archetypes are the physical representation of a cultural expression that provides meaning. This is exemplified in Islamic architecture.



Figure 38: Mosque of Ibn Tulun, Cairo

(Source: [http://www.igougo.com/journal-j11800-Cairo-Bill\\_in\\_Egypt\\_-\\_CAIRO.html](http://www.igougo.com/journal-j11800-Cairo-Bill_in_Egypt_-_CAIRO.html), date: 06/06/2011)

The contemporary interpretation of Islamic archetypes was applied to the Museum of Islamic Art in Doha (fig 40). The building was designed by I.M. Pei and precedents the Mosque of Ibn Tulun in Cairo (fig 39), Egypt (<http://elanthemag.com/the-magnificent-museum-of-islamic-art-in-doha/>).

Pei aimed to embody the essence of Islamic architecture, thus he reviewed the archetypes most prominent to the architectural style and renewed these for the museum. As discussed previously, traditions should be analysed and reviewed for the best possible essence extraction that can be brought forward into contemporary times. Hence archetypes are the expression of cultures traditions, traditions are the expression of culture and culture is the representation of a society at a time which should not be adapted as is, but rather reinterpreted.



Figure 39: Museum of Islamic Art  
(Source: <http://desmena.com/?p=2102=1>, date: 06/06/2011)

The challenge that was presented when dealing with Islamic architecture in the modern world was of an appropriate response to binding tradition and modernity. From Islamic architecture, the Mosque of Ibn Tulun in particular, Pei adopted the archetypes for geometry and spatial layouts, forms and proportions. Hence a building was created that borrows traditional archetypes in order to create contemporary architecture that has a strong Islamic local identity. Thus the building represents the identity of the culture.

### 3.3.6 The Emotional Significance of Meaning

*“When we are travelling in a foreign country, space is ‘neutral’ that is, not yet connected with joys and sorrows. Only when space becomes a system of meaningful places, does it become alive to us.”*

(Norberg-Schulz, 1969: 224)

An example of the concept discussed above by Norberg-Schulz can be seen in the Chapel at Ronchamp (fig 41). The building has been created as a work of art in which the spatial character is connected to the human activity therefore creating a place of character that has meaning.

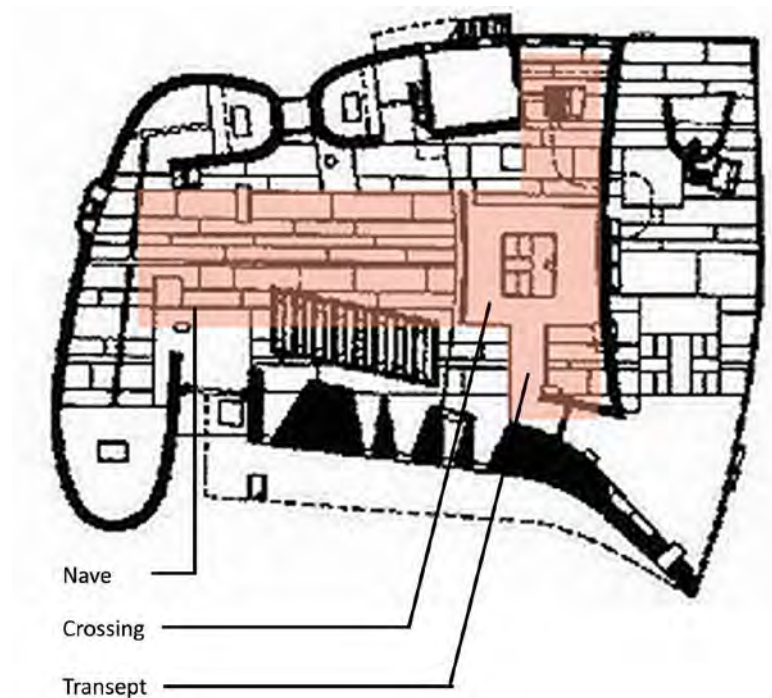


Figure 40: Plan of the Chapel at Ronchamp (Source: <http://annaobrien.blogspot.com/2009/09/notre-dame-du-haut-france-le-corbusier.html>, date: 04/06/2011). Adapted by author 2011.

The Chapel of Notre Dame Du Haut, more commonly known as the Chapel at Ronchamp, was designed by Le Corbusier. In form, the building does not resemble the typical precedents of a church. Rather, the design is sculptural and symbolic. However, upon entering the space, the initial human reaction as a user of such spaces would be to

observe the traditional spatial archetypes and symbol systems employed in the creation of a church.

The design adapts typical planning archetypes that can be seen illustrated in traditional churches such as St Peter's Basilica (fig 42). The Chapel at Ronchamp pays homage to the Latin cross plan. Two entrances at the back on either side of the structure enter onto an adapted central nave. A crossing facilitates the intersection between the nave and the transept.

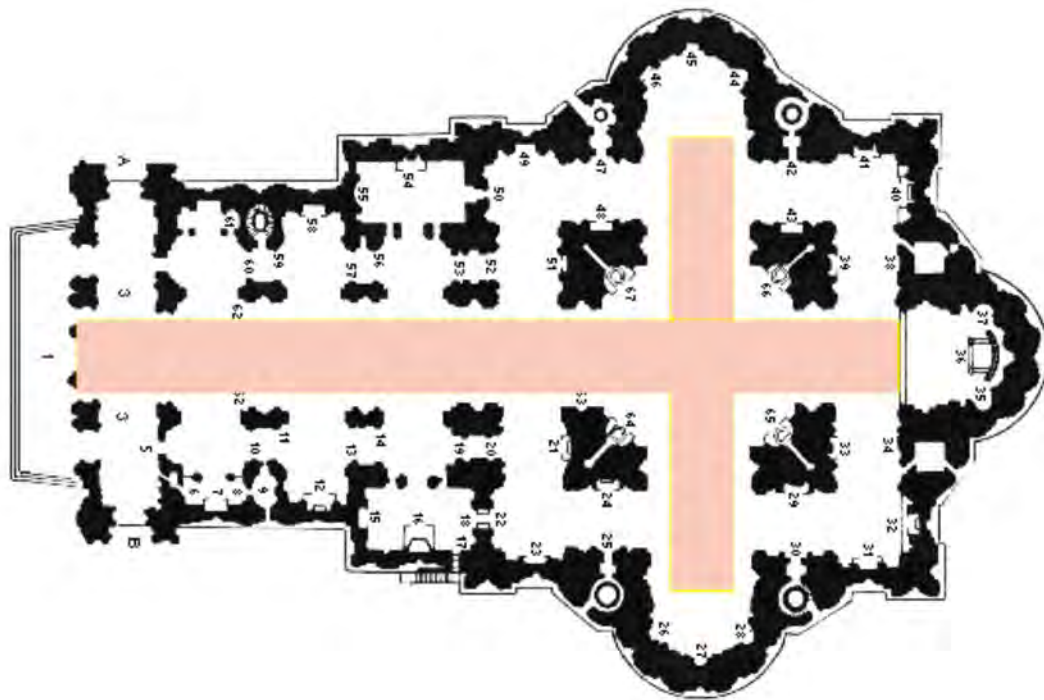


Figure 41: Plan of St. Peter's Basilica(Source: <http://ikangaroo.com/wp-content/uploads/2009/06/St.-Peters-cross.jpg>, date accessed: 04/06/2011). Adapted by author 2011.

As discussed by Norberg-Schulz (1969: 228), the environment gains meaning when it offers the possibility for the occurrence of different and repeated situations, by linking memory and emotion to the space. Le Corbusier embodied this principle in the Chapel at Ronchamp by utilising a play on light. The repeated situations occur due to the nature of the function of the space. However, the different situations are specific to the user.

The use of the element of light is a strong generator for memory and emotion. Light is a constant variable in a space due to time and season. Thus, the memory created in the

minds of the user at a specific time will not be the same as the memory created in the mind of a person who visits the space at a later time.

The element of light is also linked to spirituality in that it creates images, based on common preconceived notions in society, of god and heaven in the mind of the user. In the Chapel at Ronchamp (fig 43), Le Corbusier achieves this effect by limiting the amount of natural light allowed to enter the space; hence the internal space is dim. He then allowed the space to be punctured by randomly sized and placed windows which allow small burst of pure, strong light into the space.



Figure 42: Interior view of Chapel at Ronchamp  
(Source: <http://www.galinsky.com/buildings/ronchamp/>, date: 04/06/2011)

In order to create this effect successfully, Le Corbusier had to create a structure that understood and reacted to that particular site. Hence the building owns to strong sense of place or genius loci.

### 3.3.7 Genius Loci

The term place is defined in the dictionary in the geographical sense as being a portion of space occupied by a person or thing (Pocket Oxford dictionary, 8<sup>th</sup> edition, 1992). However place is more complex than the physical setting. Norberg-Schulz (1979: 6) defines place as the concrete environment comprised of a series of phenomena. Place is more than just the conceptual location, it is a sum of concrete things of substance, form, texture and colour. These elements, when united, establish an environmental character.

One of the methods that can be employed in the creation of place is the alteration of the physical setting, either that of a natural or man-made context. Memmott and Long (2002: 39) discuss that place can also be created by enacting special types of behaviour in a particular space in the environment resulting in the behaviour being associated with the space, i.e. cultural expressions. Hence place is created by the association of knowledge, history, memory or emotion to a space.

As previously discussed, place is more than just a physical location. As Fleming (2007: 14) describes, the creation of place does not only regard what exists in a space physically, but involves the interaction with the space over time. This interaction creates a sense of place or 'genius loci', a social phenomenon which relies on the engagement of a space with society for its existence. A good physical setting can also create a sense of place. However, sense of place is not solely dependent on physical factors but also a combination of the social and cultural factors in that particular space creating a physical-psychological complex, as it is the recollection of life lived in a space that creates a mental association and generates affection for the space in the mind of the user.

Thus the concern for architects, planners and man in general should be to actively combat placelessness by assuming a phenomenological approach to design. Phenomenology is best described as a "return to things" (Norberg-Schulz, 1979: 8), the act in which we must first take the time to understand our surrounds and environment before acting upon it. It is this understanding and appreciation of the character of a place that contributes to the creation of the genius loci or the spirit of place.

Therefore place making can be said to be the act of building mental images and associations that will enhance the site and create a memory. Memory can have a resonating effect in a space over time. The art of place making should create niches for each generation to interpret and reinterpret the meaning of a space. It is this collective memory of a society and the social interchange amongst a group of people with greater or different experience that contributes to the culture and social intelligibility of a society.

The role of humans in creating a sense of place is important and vice versa is the role of place in the lives of humans. The bond created between individuals and a place comprises part of the personal identity of the individual, and in turn, contributing to an identity in a place. As Norberg-Schulz (1979: 8) discusses, a place creates its own identity from the local circumstances that influence it and that this identity can be referred to as the spirit of a place. Therefore human identity is assumed from the identity of a place and that identification is the foundation of a sense of belonging for man (1979: 22).

Meiss (1990: 162) describes two methods that can be used in creating a place that will reflect the identity of a society. Firstly the designer must understand the behavioural patterns, the values, the architecture and the relevant typology of the space. The second approach is to create flexibility in design that will allow future users to engage in the design of the place, an approach. Space changes with the movement of the sun, whereas place changes with the movement of human beings. It must also be understood that place has the effect of suggesting behaviour to the user when united with architecture. For example, in a beautifully designed temple one cannot help but be in a state of awe and appreciation for the space Meiss (1990: 162).

However as Memmott and Long (2002: 40) argue, the art of creating a place does not necessarily have to be defined by a physical structure. However in the urban context, physical elements are used to structure the space and to build the environmental image.



### 3.3.8 The Manifestation of Meaning in Space: The Voortrekker Monument

The Voortrekker Monument (fig 44) is a space that has etched its physical setting into the cultural memory of our country, and into the social character of our cultures. The space employs the above mentioned method and principles of creating meaning in architecture and embodies very strong genius loci.

The Voortrekker Monument is prominently situated on a hill that overlooks the southern entrance to the city of Pretoria, which is now known for the location of the Union buildings, the headquarters of government. The form is a giant, square granite structure that references ancient fortress archetypes, overlooking access to a city that was the home base of the National Party during the apartheid years (Grundlingh, 2009: 157).



Figure 43: The Voortrekker monument (Source: [www.perika.epitezforum.hu](http://www.perika.epitezforum.hu), date: 06/06/2011)

The erection of this monument was for political reasons and was completed in 1949, marking the beginning of the era of apartheid. The Afrikaner nationalists designed it to

commemorate their Great Trek inland and the victory over the Zulu resistance almost a hundred years prior in the battle for Blood River. The Great Trek began in the Cape Colony and resulted in numerous clashes with indigenous people along the way inland. This journey has been immortalized on the inside of the monument with twenty-seven large overpowering marble frieze panels (fig 45), one of the largest historical representations of its kind in the world.

The Voortrekker monument was conceived and built in a period in South Africa when Afrikaner Nationalism was intense. The portrayals on the frieze panels make no compromises or attempt to shield the strength of the emotions felt by the Afrikaners at the time: *“black people are uniformly represented as barbaric savages standing in the way of brave and heroic Boers claiming to bring civilization to the interior”* (Grundlingh, 2009: 158). This political representation allows no room for subtlety or the story of the indigenous people and their reasons for resisting white encroachment.



Figure 44: Frieze panel of the Voortrekker monument depicting the Afrikaner's triumphing over the indigenous inhabitants (Source: [www.flickr.com](http://www.flickr.com), date: 06/06/2011)

The architect, Gerard Moerdijk, was very clear in representing his vision: *“it had to*

*remind people for a thousand years or more of the great deeds that had been done*” (Vermulen, 1999: 129). Architecturally he took inspiration from well-known European monuments such as the Dôme de Invalides in Paris, from which it drew archetypes such as domes, granite walls and arched windows. Moerdjik, however, could not have foreseen that in forty-five years his interpretation would be politically irrelevant. Nonetheless, the Voortrekker monument has left a distinct impression on the built environment forming a precedent for buildings such as the defensive spaces of the Rand Afrikaans University. The imposing nature of the structure has become a symbol for a society and a cultural memory.

The Afrikaners ruled completely until the ban on the African National Congress, who was in exile, was lifted in 1990. A new modern Afrikaner government realized that a predominantly black government would soon run the country and that their monument would become irrelevant. They assumed that the new government would want to destroy the icon and all the meaning attached to it, so a company of cultural organizations quickly formed and privatized the monument. The monument that was once the “*property of the nation*” (Grundlingh, 2009: 164) now belongs to a dedicated few. It has become a beacon of Afrikaner heritage to remind them from where their culture began. To the rest of the country it is a reminder of the history of our country.

Hence, the Voortrekker Monument is a structure that is steeped deep in the cultural memory of our country. The space has a strong sense of place in that it is deeply rooted in the emotional memory of the country.

### 3.4 CONCLUSION

The discussion so far has provided us with definitions and precedents for the concepts of culture and tradition. Culture can be defined as the driving force behind the manner in which we lead our lifestyles, which in turn orders the patterns of our lifestyles. Thus cultures have a strong effect on humanization that cannot be thwarted by forces such as industrialization and globalization. Hence, in our urban centres, people are reclaiming spaces by expressing their cultures.

As discussed previously, within the broader title of culture exist a composition of subcultures. The accommodation of these subcultures within the urban landscape is important to expressing the cultural identity of the urban centre. Subcultures allow for man to affirm his identity within the public realm. This process strengthens the identity of the environment.

The influence of traditions on culture becomes apparent when investigating the manner in which these subcultures express their identity in the public realm. Tradition is a form of cultural expression. Cultural expressions are not only an affirmation of identity, but it also provides meaning and value within our built environment. Hence, the continuity of these traditions into the modern world ensures the expression of identity. As the research has shown, a sense of ones identity in the urban environment is an important aspect to providing and affirming a sense of belonging.

It is understood that traditions are principles that are passed down from generation to generation. These can be linked to various generators such as religion or even local identity. However, traditions are aspects of a fluid nature in that they evolve and develop over time. This is an important quality in that it allows generations to interpret and adapt these principles to suit their needs and ensure the continuity of traditions.

Generally, the adaptation of these principals undertakes a regionalist response. This process is important as to create the best possible environment for that specific location. This creates a dual identity in a sense- that of the traditional identity and that of the local identity. In the creation of this dual identity, the principles of tradition are amalgamated with a deeper sense of meaning within the built environment.

In the built environment, the traditional principles that are chosen to be renewed are often represented to society in the forms of symbols. As discussed previously symbols are objects that are layered in levels of meaning that are not apparent immediately. In most cases it would require a deeper knowledge of the concept represented by the symbol in order for an understanding to be gauged. Hence these assist in the affirmation of the identity of the specific culture represented by the symbol in the built environment.

Often these symbols that are derived from deeper meanings are represented by built archetypes of the nature of form, spatial characteristics etc. These are often derived from vernacular circumstances that have fused with years and years of meaning and adaptation.

The use of these archetypes has the effect of creating emotional significance and meaning in the environment. Archetypes are essentially precedents for the occurrence of a space that has built up a memory to a culture. Hence, archetypes present the user of a space with a shared sense of a repeated situation and a unique personal experience. This basically means that because the space is utilising archetypes that serve its functions, users will experience a shared experience that is dictated by the archetypal format whilst experiencing a personal experience as no two people can have the same interpretation of a space. Hence, a group meaning is attached to the space, whilst an individual meaning is created. This process creates meaning for a group and a user, and hence assists in affirming their identity publicly and privately.

Hence, these layers of meaning in a space create a third type of identity; the identity of the built environment or the spirit of a place. A *genius locus* is an important aspect in the built environment as it has a cross-pollination effect with society. This means that if a space is transformed into place, it affirms the identity of its built environment which in turn has an effect on the identity of the society to which it is intended to serve, and vice versa.

## **CHAPTER 4: CONTEMPORARY HINDU CULTURE IN SOUTH AFRICA**

### **4.1 INTRODUCTION**

The aim of the dissertation is to understand the role that traditional architecture has on contemporary culture. In specific, the dissertation will be focusing on the traditional principles of the Hindu culture and the effect these have on the contemporary society. The hypothesis is that the renewal of these principles and their merger with contemporary lifestyles will result in a hybrid architecture that creates a sense of meaning and belonging in the built environment for the group, thus assisting in the reaffirmation and strengthening of their unique group identity.

### **4.2 HINDUISM**

#### **4.2.1 What is Hinduism?**

Hinduism is the world's oldest existing religion, with approximately over a billion followers, thus classifying it as the third largest religion in the world after Christianity and Islam respectively. The religion of Hinduism is a conglomeration of religious, philosophical, and cultural ideas and practices that stem from the country of origin, India. The word Hindu is derived directly from the Sanskrit word *Jindha* which translates as and describes the river Indus, named by the Greeks. Subsequently, the Greeks adapted the term to refer to the population that had settled along the river. Thus with the introduction of Islam, those not of the Islamic faith became known as Hindus (Mikula, Kearney & Harber, 1982: 5).

The religion of Hinduism has no one founder or dogma that describes the religion. Hinduism is characterised by principles such as rebirth, the amalgamation of multiple manifestations of god into one being and the law of cause and effect. The practice of Hinduism is a holistic one transforming it into a religion driven lifestyle. Hinduism is a

way of life or a *Dharma*, a collection of principles that can be applied to all aspects of life thus creating a diverse culture.

Thus Hinduism is a religion that continues to grow and evolve. The religion is one that is deeply embedded with traditions, beliefs and rituals, an advanced system of ethics, theology and philosophy. The faith is also noted as being responsible for the creation of such concepts as Yoga, Karma, Tantra, Ayurveda, and Vaastu Shastra to name a few (Mikula, Kearney & Harber, 1982: 5).

The complexity of Hindu mythology is dominated by the tension created by the continuous contrast of light versus dark, good versus to evil. The struggle is eternal as no one side can dominate, creating a constant balance between the opposing sides in the continual of time (Michell, 1977: 22- 23).

So far a brief and basic understanding of the religion of Hinduism has been gathered. The research intends only to briefly understand the history and diversity of the religious values. However, this process is necessary to the dissertation as the traditional principles of Hinduism are very strongly linked to the religion itself, and are thus derived with an unfailing connection to the religion. The understanding created of the religion so far are of the global perceptions as documented throughout history.

However, the crucial question of what it means to be a Hindu in South Africa must be asked. The driving reason behind this is that although the religious principles are the same, the culture derived from the religion will be different and unique to the country of South Africa, as culture is driven by local circumstances.

Thus the following section of the dissertation will examine Hinduism in South Africa and create an understanding of the term contemporary Hindu culture which is referenced in the topic statement. First, an examination into how the religion and traditions of Hinduism arrived in South Africa must be gathered.

#### **4.2.2 The Introduction of Hinduism into the South African Cultural Landscape**

The exploration into the history of Hinduism in South Africa is necessary to understand the society that has developed over the years under the influence of this culture in regards to the external influences of the particular location. The history of Hinduism in South Africa begins at the arrival of the indentured labourers from the country of India in the year 1860. Therefore in order to understand the history of Hinduism in South Africa, an understanding of the development of the Indian grouping in South Africa must be created.

The migration of Indian natives globally was largely due to British colonialism which initially saw the spread of Indians to Africa, Southeast Asia, Fiji and the Caribbean. This movement was to meet the demands for cheap labour after the British had abolished slavery. As a result of this migration, the country of South Africa is home to the highest population of Indians globally. In the years that followed the first migration, approximately 152 184 immigrants came across the Indian ocean to South Africa (Diesel & Maxwell, 1993: 5).

According to Dr. Frene Ginwala (Diesel & Maxwell, 1993: 5), the majority of these migrants belonged to the religious identity of Hindu, less than 12% were Muslim and approximately 2 % were Christian. The migrants were sourced from both north and south Indian states such as Tamil Nadu (south India) and Uttar Pradesh (north India). The difference between these groups of migrants is of the matter of the linguistic quality. North Indians are Hindi-speaking, whilst those from the south Indian states speak Tamil and Telegu (Diesel & Maxwell, 1993: 5).

The need for indentured labourer in South Africa was to cater for the growing sugar industry. The period of their indenture lasted approximately 5 years, after which the migrants were given the option of returning back to India or remaining in South Africa. The majority of the migrants remained in South Africa regardless of the dreadful living conditions. This was partly due to the fact that the migrants, who were mostly Hindu understood the mysticism of their religion, were believed to have abandoned their motherland at a time when crossing the seas was taboo in their culture. Thus the



migrants felt as though they had no choice but to remain in the country (Diesel & Maxwell, 1993: 5).

As discussed by Diesel and Maxwell (Diesel & Maxwell, 1993: 5), the Hindu community showed tenacity and dedication to their traditions by ensuring the continuance and practice of their customary worship. Soon after the migrants were settled, they began to erect small temples and shrines dedicated to their favoured deity. Thus a conversation is created between the country of origin and new location of settlement, instigating the diasporic consciousness.



Figure 45: Durban Hindu Temple (Source: [http://travel.yahoo.com/p-travelguide-2760175-durban\\_hindu\\_temple\\_durban-i](http://travel.yahoo.com/p-travelguide-2760175-durban_hindu_temple_durban-i), date: 07/06/2011)

In the year 1870, the first group of Indian migrants arrived voluntarily in South Africa. This group were mostly comprised of traders. A considerable number of migrants moved into central Durban city. The Durban municipality thus provided living quarters for thousands in the city in what was known as the Railway Barracks and the Magazine Barracks. To cater to the spiritual needs of such a large community, three temples were erected in this area from the 1880's onward. Of the original three temples only one remains, the Durban Hindu Temple (fig 46), and so has become an icon of Hinduism in Durban (Diesel & Maxwell, 1993: 5).

As an act of control of the rapidly growing group, the Apartheid government passed the Group Areas Act in 1950. This act saw the removal of Indian families from central Durban to new locations such as Chatsworth and Phoenix on the outskirts of the city. In 1962 Indian immigrants were granted permanent residential status in the country, although this status came without the allowance to hold a vote.

In the year 1994, the first General Election was held and the African National Congress was voted into power. Thus the country of South Africa was set along its path which has now resulted in a democratic country that encourages cultural diversity.

#### **4.2.3 North and South differences: the linguistic barrier as a subculture**

As described previously, the Hindu community in South Africa is divided amongst linguistic lines. Those that originate from the southern states of India speak the Dravidian languages (Tamil and Telegu), whilst those that originate from the northern states of Indian speak the Indo-Aryan languages (Hindi and Gujarati). Research has shown that not many Hindus communicate in the various languages today. However, the community understand the principals of ensuring the continuity of the languages and traditions, and thus make certain that the youth are taught the languages.

The importance of the community understanding the linguistic barriers is vital as the linguistic-cultural distinction serves as the identifying characteristic to the place of origin for each of the ancestral groups that first brought the cultural-religious practices to our country. The linguistic-cultural distinction is used to create classifications within the larger Hindu group, thus the subgroupings are identified as Tamils, Hindis, Telegus and Gujaratis. Research has shown that the differences between these groups with regards to details of worship, ritual and social customs are minor (Diesel & Maxwell, 1933: 6), hence a blended culture is created with ease under the identity of Hindu.

Thus the unique linguistic classification creates a subculture within the larger culture that contributes towards the diversity expressed in the nature of Hinduism. As discussed previously, subcultures are smaller groups that exist to assist in strengthening the character of the individual human being initially, before contributing positively towards

the identity of the larger overall cultural grouping (Alexander, 1977: 42-50). This is necessary in allowing the larger group to affirm the identity positively in the built environment.

#### **4.2.4 Neo-Hinduism as a Catalyst for Unity in Diversity**

Initially, the community of Hindu's in South Africa were of the Indian racial distinction, as were the ancestors that introduced the religion to the country. Hence, the group were very strongly linked to the country of origin of India. However by the late 1960's , the religion had spread to the major Western countries, such as the United States of America, which served as a catalyst for a new subculture within Hinduism known as Neo-Hinduism.

Neo-Hinduism is a relatively modern concept that originated in the second quarter of the last century and is a contrasting concept in comparison to the Sanathanist Hindu ideals that follow very strongly on traditional practice. Research traces the initiation of Neo-Hinduism to the early 1900's. The arrival of this movement in the country was solidified through the introduction of the Hare Krishna Movement and the dedication to Sai Baba during the 1970's (Diesel & Maxwell, 1993: 13).

The subgroupings that make up the Neo-Hinduism movements are listed by Diesel and Maxwell (Diesel & Maxwell, 1993: 63) as:

- Arya Samaj
- Neo-Vedanta which can be seen in movements such as the Ramakrishna Centre, the Divine Life Society, the Chinmaya Mission, the Vedanta Mission, and Gita Mandir.
- The Saiva Sithantha Sungum
- The Sathya Sai Baba Organization
- The Hare Krishna Movement

As discussed by Diesel and Maxwell, Neo-Hinduism embodies the following characteristics (Diesel & Maxwell, 1993: 63):

- Emphasis is placed on regular communal religious services or meetings in the worship space. This is a characteristic that is seldom seen in Sanathanist practice.
- The introduction of contemplative religious practices such as yoga or meditation, which co-exist with traditional rituals.
- The avoidance of certain rituals of the Sanathanist world, such as the annual fire walking festivals in which participating members are placed in a trance.

This particular subculture became a global influence that introduced racial diversity to the religion of Hinduism. Thus, as the global phenomenon spread to countries such as South Africa, the racial character of the Hindu following adapted to suit. Today, Hinduism in South Africa is practiced by a diverse racial group.

#### **4.2.5 Diversity and Unity in South African Hinduism**

In South Africa, the subcultures of Hinduism are limited and clearly identifiable. The groupings are the Sanathanist (traditional) Hinduism, and the Neo- Hindu groups of the Arya Samaj, Neo-Vedanta and the Hare Krishna.

Although the four main streams of Hinduism that are found in South Africa have their own unique characteristics, there is an identifiable commonality between them. Diesel and Maxwell discuss that the uniting characteristics include (Diesel & Maxwell, 1993: 13-14).

- The belief in the repeated process of reincarnation which is governed by the belief in karma, i.e. the universal law of cause and effect. Hindu's believe that the soul of each human being, which is immortal and imperishable, is

continually reborn into a various life forms. Thus the manner in which one conducts their life is affects this process.

- The belief in one ultimate divine reality which is symbolised by the Aum symbol. The Aum symbol is displayed in most Hindu places of worship.
- The belief in leading one's life according to the principals of Dharma. This is the importance of duty and moral commitment which includes aspects such as being truthful, practising self-control and forgiveness, goodwill and generosity, and non-harmfulness all with the intended aim of living a pure life.
- All Hindu's believe that the only way to achieve final spiritual freedom is to break the cycle of reincarnation, thus experiencing divine reality.
- Hindu's accept certain Scriptures. Mainly the Four Vedas, the Ramayana and the Bhagavad Gita.
- The observation by all South African Hindu's of certain time-honoured religious festivals such as Diwali/ Deepavali (festival of lights), Krishna Asthmee (Krishna's birthday) and Ram Naumee (Rama's birthday)

#### **4.2.6 The Contemporary Position of the Hindu Society in South Africa**

It is important to note that the research does not deal with the subject of the Indian identity in South Africa, but rather the Hindu identity. This was intentional as the research has shown that the Indian identity is a racial grouping, whilst Hinduism is a cultural identity. Thus by exploring the cultural identity, the racial segregation lines are blurred and the rich cultural diversity that is unique to South Africa is enhanced. The focus has been aimed at the Hindu group, a religious grouping, as in Hinduism religion is the core of the culture. It informs every sphere of life from morality codes, ethics, values, art, sculpture, architecture, dance, music, literature, philosophy, medicine, sciences, politics and environmental attitudes, etc.

Approximately 150 years have passed since the cultural-religious practice of Hinduism was introduced into the cultural landscape of South Africa. In the years that have passed, the country has changed dramatically to reveal a democratic nation that embraces diversity. Thus in order to understand the identity that describes the modern Hindu community in South Africa, a review must be created to understand the evolution of this identity.

John-Naidu confers that the initial identity that was affirmed by the Hindu group in South Africa was created by a diasporic consciousness (John-Naidu, 2005: 101). As discussed previously, part of the reason behind the indentured laborers remaining in the country was that they felt as though they could not return to India due to social stigmas. Approximately 90% of these laborers were Hindu (Diesel & Maxwell, 1993: 5). Regardless of the miserable working conditions and the separation from their motherland, the immigrants maintained a very strong connection to their country of origin by continuing the exact practice of their traditions and unique cultural associations as a result of the diasporic effect. Thus temples and shrines mark the South African landscape, allowing the dignity of their cultural identity to remain intact within a foreign country.

This served the group well during a difficult period in their history. However today the circumstances that affect the population in South Africa are much changed, and hence the needs of the contemporary Hindu community are different. Thus the question is raised of how the group identify themselves now.

John-Naidu affirms that the Hindu group in South Africa has experienced a shift in the focus of their identity (John-Naidu, 2005: 97- 98). The Hindu community in the country has grown in generations since the arrival of the indentured laborers. The emerging generations are a group of people that contribute and embrace the unique diversity of the country. Hence as discussed by John-Naidu, practicing members of Hinduism affirm a dual identity in the public realm (John-Naidu, 2005: 97- 98). The first is of the religious-cultural background as those that follow the Hindu faith. And the second is that of proud contributing South Africans. The amalgamation of the two identities becomes apparent at the strong sense of culture expressed by the group, which enriches the cultural diversity of the country.

John-Naidu confers that the attitude expressed about identity by the modern Hindu community is much different to those of their ancestors (John-Naidu, 2005: 152). The battles of the ancestral indentured laborers has transformed into a cultural memory, and is still considered as important and as influential to this new amalgamated identity. Hence the relations to India are still as strong and traditions are still highly valued. However, the focus of the link has shifted from ritual practices to one that connects local culture to the culture in India, and thus the global culture which can be demonstrated by the interest in Indian music, dance and pop movements.

The link to the global Hindu culture is a fairly recent development. The phenomenon is explained by Professor Brij Maharaj who argues that the first reason behind this resurgence of identity within the group is largely due to the Apartheid era (John-Naidu, 2005: 100). Maharaj argues that during this era Hindu's were grouped within the identity of the larger homogenous grouping known as South African Indian, regardless of the individual character of the various cultural-religious groups. As result, today the sub-groups of the larger Hindu group strive to create and reinforce the individual character of their culture.

The second reason that Maharaj argues for the resurgence of the Hindu identity is largely due to globalization and the incorporation of South Africa into the global world which has resulted in a loss of identity in general in society. As argued by John-Naidu, the past notions and representations of Hindu's have dissolved (John-Naidu, 2005: 160). The modern society embrace Western culture therefore resulting in a generation of people, especially those in the 25 and under age group, that are in no way linked to the historical notion of the Hindu identity. This group does not understand the historical identities associated with their culture and often only know of the historical headlines. Their lack of knowledge of the history of Hinduism in the country has resulted in an attached stigma fueled by ignorance on the matter. In contrast to this new generation are the older generations that are usually traditional in all senses.

Thus by catering to the needs of the contrasting groups, a group identity will be created which will be an amalgamation of the dual identity. The first step must be taken towards

affirming a South African identity for the group. This process is important as the practice of Hinduism is not restricted to those of the Indian racial grouping. The secondary step is to create an identity as a Hindu in which traditions and beliefs will be encapsulated.

#### 4.3 CONCLUSION

Hence, the two identities have to be equally catered for in an amalgamation of principals. A space has to be created in which the dual identity can exist subtly. An architectural response which makes reference to and reinvents traditional Hindu archetypes blended with a South African response is the resolution towards catering for this unique dual identity. The renewal and contemporary referencing of these traditional archetypes, creates a response in which the South African Hindu's perspective is embraced to create a space in which the dual identity is catered for.

Thus an understanding of two architectural responses has to be created. The first has to be a review of traditional archetypes that are of importance to Hinduism. The second has to be an understanding of the manner in which contemporary South African architecture represents the South African identity.



## **CHAPTER 5: CONTEMPORARY SOUTH AFRICAN ARCHITECTURE**

### **5.1 INTRODUCTION**

The issue of the contemporary South African identity is a complex one due the historical context of the country. The research will create a brief understanding of the issue and focus on the manner in which the identity has been demonstrated in the built environment, and shall thus take assumptions from these key precedents.

### **5.2 POST-APARTHEID SOUTH AFRICA AND ITS ARCHITECTURE, THE SEARCH FOR AN INTEGRATED SOCIETY**

Ganesh (2010: 28) affirms the point that the Apartheid era left an undeniable mark upon South African society. This has resulted in the continual process of social reconstruction within our society. Under the rule of the Apartheid government, not only were different racial groupings oppressed, but cultures as well. Thus South African societies are a product of contested histories that continue to be expressed and influence contemporary life.

Currently, South Africa is a highly culturally diverse country. As debated by Ganesh (2010: 28-29), the scars of Apartheid are well on the way to being demolished. Thus South African life involves embracing these cultures and allowing cross-cultural interaction which inspires cultural diversity.

Cultural diversity refers to the unification of cultural distinctions such as religious-cultural practices and socio-cultural customs. Thus, cultural diversity allows for multiple group identities to co-exist and to cross pollinate in the public realm. Thus the awareness of the multiculturalism that exists within the public realm of South Africa is

enhanced. Awareness amongst society is created by allowing these group identities to be affirmed within the public realm.

Diller (2004: 15-18), describes that there are five steps that can be actively assumed and heeded to by those in the profession of sculpting the built environment to stimulate cultural diversity and cross cultural integration:

- The awareness and acceptance of differences

This is the conscious acknowledgement of the ways in which cultures differ in regards to their specific values. This process aids the progression of cultural diversity and cross cultural integration in a positive way.

- Self-Awareness

In order to fully understand the manner and reasons why cultures influence each other, one must first understand their own specific heritage.

- Dynamics of difference

Understanding the differences between two or more cultures eases the process of interaction.

- Knowledge of a client's culture

Diller notes that the culture of the client needs to be understood in order to recreate behavioural patterns within contextual setting.

- Adaptation of Skills

This is the ability to adjust and renew common practices in order to accommodate for cultural differences.

As discussed by Ganesh (Ganesh, 2010: 31), respecting the past in the South African context is a sensitive manner. However, the acknowledgement of existing social and physical contextual surroundings assist in the creation of a built environment of depth and substance, as the socio- cultural elements are respected.

*“Using elements from the past and adapting them to suit the current context is a course of action that architects and other professions are using in order to obtain a holistic resolution to contemporary problems of South African societies.” (Ganesh, 2010: 31)*

Ganesh describes that contemporary South African architecture aims to express the identity of a group of society in the public realm (Ganesh, 2010: 33). As discussed previously it is necessary for individuals to create a personal identity as individual human beings first, and then a personal identity as a part of a larger group of people of homogenous character. The first identity is a private identity; the second is a public identity which is expressed in the public realm. There are many things that influence our sense of identity, such as rituals, clothing, languages, and the built environment.



Figure 46: The South African Constitutional Court  
(Source: <http://www.mysouthafrica.biz/government.html>, date: 09/06/2011)

This is illustrated in buildings such as the Constitutional Court (OMM Design Workshop). The building (fig 47) located in Johannesburg is responding to a multicultural post-apartheid South African society. The site of the Constitutional Court

is the Old Fort prison which carries a powerful symbolism. The symbolism combined with the function of the space resulted in meaningful principals such as freedom, democracy, equality and reconciliation stimulating the conceptual basis. Thus creating a space which responds to its context and that creates links to areas that were previously forcefully separated. As discussed by Deckler, Graupner & Rasmuss (2006: 19), the building reflects the freedom and equality that has begun to manifest itself within the South African built environment.

On one level the building is a layering of traditional African references and archetypes that pay homage to the African identity. On another level, the building is a layering of spaces that range from public to semi-public to private that interweave. This can be interpreted as being symbolic of the breakdown of the boundaries that were once enforced between spaces by the Apartheid government. As affirmed by Ganesh (2010: 33) the integration of the public in this manner provides a catalyst for inter-cultural relations to occur. This is facilitated by the designs thoughtful attitude towards cultural references which creates a building to which people may relate.



Figure 47: Great African Steps at the Constitutional Court

(Source: <http://www.nilikutashani.com/2009/11/10/the-constitutional-courtbridging-the-gap-between-past-and-the-future/>, date: 09/06/2011)



The main public pedestrian circulation route is the Great African Steps (fig 48). The steps are constructed with materials that belonged previously to the old prison, thus respecting history whilst creating a sense of leaving behind the past and moving forward to the present. The interior spaces are a blend of traditional African elements and modern architecture. The foyer (fig 49) space lined by slanting concrete columns intended to represent the traditional African reference of trees under which villagers congregated to discuss important (http://www.joburg.org.za).



Figure 48: Interior space of the Constitutional Court  
(Source: <http://www.docstoc.com/docs/45708125/JUSTICE-ALBIE-SACHS--the-Constitutional-Court-of-South>, date: 09/06/2011)

### 5.3 CONCLUSION

The Constitutional Court is a prime example of contemporary South African architecture. The design of the space truly reflects the mind-set of the South African society in that it embraces the past, understands the valuable lessons, and reinterprets these for future gains. The carefully attention paid to traditional archetypes assists in creating a space embedded with layers of meaning. This layered effect ensures that an environment is created that appeal to all, embracing and enhancing cultural diversity.

Hence, the lesson that can be observed from the Constitutional Court is that in order to represent a nation as diverse as South Africa, the identities of the society must be contested in the public sphere. This process assists in affirming the variety of social identities that has evolved from the contested histories of the country. And is a necessary process in order to foster and enhance the multiculturalist movement into the future.

## **CHAPTER 6: THE CONTEMPORARY RELEVANCE OF TRADITIONAL ARCHETYPES**

### **5.1 INTRODUCTION**

As discussed previously, a dual identity must be represented in the built environment when representing the contemporary Hindu community of Durban. The first identity as discussed previously is the contemporary South African identity. The second identity is of the Hindu identity.

### **6.2 HINDU ARCHETYPES**

#### **6.2.1 The Relevance of Traditional Archetypes to the Hindu Identity**

Across the landscape of India, eloquent testimonies to the unrelenting skill of the Indian craftsmen are scattered in the form of temples. Building craftsmen were of great value to society not only for their role as craftsmen, but for their influence on tradition. The skills of the trade were conveniently passed along from father to son, from generation to generation, ensuring the liveliness of tradition (Grover, 1980: 172- 173).

As discussed by Luckan (Luckan, 2008: 22), the built form unique to a culture reflects their cultural character, as the cultural ethos is defined through its vernacular language. Thus the challenge that faces contemporary architecture aimed at reflecting a cultural heritage is to understand, rediscover, and redefine such architecture. Hence, the culture driven architecture should be an amalgamation of past principles and present time and place.

Hinduism is very closely related to nature. The elements of landscape- the hills, trees, caves, mountain slopes, rivers, springs and lakes- are all infused with potential sacredness. Nature is seen as sacred sites as described by the Hindu texts; “the gods always play where groves are, near rivers, mountains and springs and in towns with

pleasure-gardens” (Michell, 1977: 68). Traditionally sacredness, which is an essentially part of the culture of Hindu’s, is achieved by the combination maintained by shade, water and seclusion.

As Hinduism is a holistic religion, the transition of its principles into the built form transcends that of solely religious. As listed by Luckan (Luckan, 2008: 22-23), there are a set of universal principles that can be extracted:

- a) The sense of centre and the statement of limits: In Indian architectural archetypes, centre assumes a metaphysical meaning which refers to the ancient interpretation of the centre of creation. In Hinduism, the centre is the source of all energy and is occupied by Brahman. This centre may be conceptual or a manifested centre that is not necessarily a physical or geometric centre.
- b) Attitude to spatial organisation: Indian place-making is very strongly rooted in the layering of spaces. This is especially true of architecture aimed at the Hindu culture as the religion is in itself holistic. Therefore, the reflective cultural architecture is a composition of layered spaces, both functionally and symbolically, such as sacred spaces and everyday living spaces.
- c) Attitude to order: the Indian architectural response towards order is to create an amalgamation of a variety of spaces that exemplify their attitude towards embracing diversity, rather than simplifying the spaces to create a forced unity. This type of response embraces the contextual generators, contradictions and the imperfect to create a diverse whole in a unified concept of order.
- d) Attitude to form: traditionally, forms are a combination of additive and flexible in arrangement and composition.
- e) Attitude to light: the division between the building and the sky is in constant blur in Indian architecture. This is facilitated through a play on light and shadow, which in turn creates a metaphysical environment. This is important in Hindu architecture, as the importance of light relates to the presence of god.



- f) Attitude to symbols and meanings: symbols in architecture serve as metaphors for cultural beliefs. In Indian architecture, the symbols created in the landscape and spatial symbols create the archetypes that have existing for centuries now. Over time, these archetypes accumulate layers of meanings and patterns.

### **6.2.2 Natural archetypes**

- Water

Rivers are regarded as sacred due to their healing and purifying powers. This can be seen in the celebration of the Ganges River in particular. Water is required for the ritual acts of the religion. Attached to the symbolism of water is the symbolism of the Lotus flower which represents renewal and enlightenment (Michell, 1977: 68).

To provide easier access to the water's edge, a defining architectural element was created. *Ghats* are a series of stone steps which lead towards the edge of the water source. This space defining element is used for everyday practices such as bathing, and gathering water. However, this element is also utilised for Hindu ritual practices and worship (Luckan, 2008: 22).

- Trees

The sacred tree is a symbol that can be found in every village and town. The tree is usually the Banyan tree that is known for its ability to grow for centuries (fig 50). Parallels are often drawn between the large canopy of the tree and the likeness of shelter that is provided by God to his devotees. Hence the tree is associated with nourishment and care (<http://nayna.in/blog/divine-grace/significance-of-banyan-tree-in-hinduism/>). The shade provided by the sacred tree is usually the place where meditation is possible and traditionally embodies a space in which contact with the divine may be achieved. Thus the Banyan tree is also associated with worship, festivals and rituals (Michell, 1977: 68).



Figure 49: Ritual acts around a tree  
(Source: <http://robinstonfernando.blogspot.com/>, date: 09/06/2011)

Hinduism believes that the act of rituals is the manner in which man catalysed the positive or negative energy of the cosmos. Initially, rituals included the acts of animal sacrifices. However, over time, these acts have fallen away and rituals are realised with offerings of food, flowers, milk etc. (Albanese, 1999: 12).

Historically, architectural solutions were reserved for the use of sacred structures such as temples. On a site deemed fit for a sacred building, one of the initial stages of construction was to erect a pole in the centre of the site to which a sacrificial animal would be secured to. The pole symbolises the centre of the cosmological arrangement, around which our universe revolves. Hence, the pole symbolises the connection between the heavens and the earth (Albanese, 1999: 12).

The sacrificial stake is linked to the important spiritual symbolism of the tree. The tree is the symbol of fertility and life. Symbolically, it is rooted in the ground and stretches towards the heavens, thus representing the spiritual path that man must follow. Since ancient times, it has been believed that divine interactions occur under trees (Albanese, 1999: 12). Trees are believed to be the home of guardian spirits.

As affirmed by Luckan (Luckan, 2008: 22), the space under a tree becomes a new zone separate from the space around. Luckan classifies this as an ‘outdoor room’ which usually defines an outdoor public space.

- Mountains

In Hinduism, mountains and hills are symbolic of the space in which the two hemispheres of the sky and the earth meet, creating a holy dimension. This dimension is believed to be the space in which the Gods dwell and perform sacred ceremonies. Thus Hinduism dictates the summit of mountains and hills to be a space of transference between the world of man and the world of the Gods (Albanese, 1999: 17).

### 6.2.3 Spatial Archetypes

- Courtyards

One of the more important spatial archetypes in Indian architecture is the courtyard (fig 51). This space is both symbolic culturally and climatically practical. Traditionally, courtyards are used as outdoor public rooms in both public buildings and private dwellings. The space is usually dominated by a tree and a source of water, thus creating a micro-climate. In Hinduism, this space is assigned layers of meanings and symbolism (Luckan, 2008: 22a).



Figure 50: Courtyard of Fatehpur Sikri, India

(Source: [http://www.travelpod.com/travel-blog-entries/eadamson/everywhere/1191825360/tpod.html#\\_](http://www.travelpod.com/travel-blog-entries/eadamson/everywhere/1191825360/tpod.html#_), date : 09/06/2011)

- Ghats

One of the most symbolic *Ghats* is known as the Ghats of Varanasi (fig 52) which exists along the important Ganges River. The multitude of people who rely on the river utilise the ghats for a multitude of purposes that range from the mundane tasks of exercise to the act of meditation and the ritual process of cremation and worship ([http://hinduism.about.com/od/temples/a/varanasi\\_ghats.htm](http://hinduism.about.com/od/temples/a/varanasi_ghats.htm)). In a sense, the architectural element becomes a catalyst for an important element of being a Hindu; the sense of community. The ghat becomes a space that facilitates social interactions.



Figure 51: Ghats of Varanasi, India  
(Source: <http://www.indianwildlifetourism.com/photo-gallery.html>, date: 09/06/2011)



- Kund

Other sacred spaces that encourage social interactions or meditation are *kunds*. As described by Luckan (Luckan, 2008: 22), kunds are sacred spaces that are defined by terraces or steps. The space is usually a sunken area that, on plan, can be in the shape of a square, rectangle, circle or even a polygonal. The kund is usually placed in the centre of a building complex. In many existing examples, the centre is sometimes filled with a pool of water, or a tree (fig 53).



Figure 52: Kund in the city of Ujjain, India  
(Source: <http://abhisays.com/india/ujjain-the-city-of-gods.html>, date: 09/06/2011)

## 6.3 THE VAASTU SHASTRA

### 6.3.1 Introduction

The term Vaastu is a derivative of the Hindi word Vasa which means habitat (Reddy, 1994: 21). Hence Vaastu Shastra is the science of architecture of ancient India that understands the observations of the law of nature and the effect on human life with regards to the physical, psychological and spiritual order of the built environment, which in turn works in consonance with cosmic energy (Kumar, 2004: 9). It is the science which links the built environment with God and religion (Dutt, 2005: 42). Besides cosmology, traditional Vaastu Shastra combines characteristics from disciplines such as astrology, physics, chemistry, yoga and astronomy (Kumar, 2004: 12).

Vaastu is a science that is between 4000- 5000 years in age. The subject used to be purely a technical construction guide of knowledge that was confined to architects. It was tradition that these architects passed on this wealth of knowledge onto their heirs (<http://www.vaastu-shastra.com/origin-of-vastu-shastra.html>).

Modern Vaastu has evolved and adapted to current circumstances to create an amalgamation of ancient oriental values and modern concepts, with the main aim of uplifting and improving the quality of man's mind and body (Reddy, 1994: 31). As the Hindu religion has spread globally, so has their culture, food and beliefs which include the Vaastu Shastra (Whelan, 2002: 6). Although the science of Vaastu Shastra is rooted in the religion of Hinduism, it may be used by anyone to create a better living environment- whether they belong to the religion or not.

In recent years, the west has welcomed the adaptation of ancient building sciences such as Vaastu Shastra and Feng Shui to create better ordered living environment in our rapidly changing chaotic urban environment. According to the modern interpretation, Vaastu can be applied to residencies, industrial buildings, business establishments, lodges, hotels, etc. (<http://www.vaastu-shastra.com/origin-of-vastu-shastra.html>).

### **6.3.2 Basic Principles**

Human beings have a built in regulator for our daily psychological processes known as our biorhythm. Biorhythms are intrinsic cycles which control characteristics such as memory, determination, coordination, endurance, character, emotions, and many more (<http://www.degraeve.com/bio.php>). Hence adapting the principles of the Vaastu Shastra to the daily environment of human beings allows the biorhythms of the human beings to match the rhythms of the universe, in which the sun plays the most vital role, thus creating a holistic relationship between man and nature (Kumar, 2004: 9). This results in an orderly, useful and peaceful life for human beings in the built environment.

Vaastu Shastra originates from ancient Hindu traditions and has been utilized in India for many centuries (Whelan, 2002: 6). Historically, the science of Vaastu was reserved for the use of privileged structures such as Hindu temples and Indian palaces. However, over time the science was applied to traditional Indian residential architecture. The adaptation of this building science to residential architecture created structures that were climatically suitable, socially rich and ecologically sound (Dutt, 2005: 41). Vaastu Shastra adapts the mindset in which the building is a living entity, and the people that utilize the spaces are the companions (Whelan, 2002: 10).

The central concept in Vaastu Shastra is the embodiment of energy in the forms of the sun, wind, light and water. Hence the central concept in Vaastu is the environment as it is understood that all matter and energy are connected (Kumar, 2004: 11). One of the more important and basic principles prescribed for the built environment by the Vaastu Shastra is the issue of correct orientation and good ventilation. The correct implementation of these characteristics ensures that man may live a healthier lifestyle and as a result, reduce energy consumption and the dependence on mechanics (Dutt, 2005: 42). Vaastu aims to enhance the positive cosmic energy whilst neutralizing negative energy to create a better living environment (Whelan, 2002: 7).



Figure 53: Symbols of the five elements (Source: Whelan, 2002: 18)

### 6.3.3 The Five Elements

In Hindu folklore, it is believed that there are many ‘energies’ present in the environment which are known as *prana*. These are believed to be the “universal life giving force around which everything evolves” (Whelan, 2002: 18). *Prana* is also present in the human body, but in Vaastu Shastra is commonly utilized in the form of the five elements (Whelan, 2002: 18).

According to the Vaastu Shastra, there are five elements, which are known as the *panch maha bhootas* in Hindi: earth, water, air, fire and sky. These govern the principles of creation by providing energy. These forces work together to create a balance of harmony and disharmony (Kumar, 2004: 9). Thus the Vaastu Shastra is a guide on the correct placement of these elements within the building environment to maximize the positive effects on human comfort levels (Kumar, 2004: 11).

The Vaastu Shastra has created a guide in which each of the five elements is given various associations. Each element relates to a specific room in the building in accordance to the placement of the space within the *Vaastu Purusha Mandala* and the cardinal directions that is in effect on the building. Each element is also represented by characteristics such as a specific colour, direction, shape, Hindu deity (Whelan, 2002: 18).

The five elements or *panch maha bhootas* are represented by a set of symbols which follow a specific order (fig 54). Earth is at the bottom of the vertical ascension and is represented by a square. Above this is water which is represented by a circle.



Following is the triangle which represents fire, and then air which is represented by a crescent. Lastly, at the very top, is space or the sky which is represented by a blank space (Whelan, 2002: 18-19). The five elements and their attributes are as follows:

- Air

Air is the necessary element for the survival of all living organisms (Reddy, 1994: 14-15). Air is associated with movement and is made apparent by the wind which is the visible demonstration of the air's energy (Whelan, 2002: 19). As discussed by Reddy (Reddy, 1994: 14-15), due to the nature of the wind, air has the characteristic of sound and sense of touch.

The cardinal direction for the wind is the west. Vaastu prescribes that all reflective surfaces, such as glass and mirror, are identifiers of the element air (Whelan, 2002: 19). Air is represented by the colour grey and the shape of a crescent (Whelan, 2002: 19).

In Vaastu Shastra, the element of air is often called the breath of the *Purusha* or cosmic man who resides within the *Vaastu Purusha Mandala*. Air is necessary for healthy life and to create a comfortable living condition within a building (Whelan, 2002: 19).

- Fire

Fire is the release of energy and the production of light. The sun is associated with the element of fire and is seen as necessary to all sources of life upon earth (Reddy, 1994: 15). Vaastu Shastra prescribes that the direction of fire is that of east and the rising sun. Naturally the element is associated with the colour red, whilst the symbol is a triangle (Whelan, 2002: 20). The element is characterized by the property of shape (Reddy, 1994: 15).

As discussed by Reddy (Reddy, 1994: 18-19), the Vaastu Shastra perceives the sun as the source of all creative processes on earth. Hence, throughout history, the sun has been worshipped as a manifestation of God (Reddy, 1994: 19). In particular, the Hindu religion views the sun as the God *Surya*.

Modern man has begun to understand the importance of the sun scientifically, as the rays are harnessed for energy. However, science also understands that the rays of the sun have positive effects on the health and emotional conditions of human beings. Thus the planning of the Vaastu Shastra dictates the construction of the built environment to allow the most amount of sunlight into the space as possible.

As discussed by Reddy (Reddy, 1994: 19) the Vaastu Shastra states that a site with boundaries that run parallel to the earth's east-west axis is ideal due to exposure of the site to sunlight. The science of Vaastu also dictates that the eastern side of the site should be devoid of any high trees or built structures to ensure that there is unrestricted access to the morning rays of sunlight (Reddy, 1994: 20). This is very important to the Hindu culture for the early morning practice of *Surya Namaskar* or the sun salutation.

Therefore, trees should be located to the west of the site to absorb the strong afternoon sun for the process of photosynthesis, as well as to provide shade. Vaastu also prescribes that the majority of the vacant space of the site be left to the north and east of the site as to allow the maximum amount of natural light onto the site.

- Water

Water is present in all living organisms and is necessary for the survival of all living organisms upon this earth (Reddy, 1994: 15- 16). It is the element considered to be cleansing, cooling and life preserving. The cardinal direction for water is the north and is symbolized by a circle which represents fullness. The associated colour is blue (Whelan, 2002: 20).

- Earth

The earth is the element which sustains all life forms on earth by providing nutrition for vegetation. The cardinal direction for the earth is the south, and is associated with the shape of the square and the colour yellow (Whelan, 2002: 21).

- Space or Sky

Space has no defining characteristics such as a shape or colour (Whelan, 2002: 21). However, space is the connection to the sky which symbolizes the connection to the rest

of the world and the rest of the universe, a concept well beyond human comprehension that is subject to the never ending possibility of expansion (Reddy, 1994: 14).

#### 6.3.4 The Relation of the Elements to the Human Body

As described by Kumar (Kumar, 2004: 14), the five elements relate to human functions by interacting with our basic five senses- smell, sight, sound, touch and taste. The five basic senses cannot be separated from human function. Hence, man and nature cannot be separated. Thus, by understanding these characteristics, Vaastu Shastra aims to create a multisensory and stimulating conversation between the built environment and the natural environment. As described by Kumar (Kumar, 2004: 14), the elements have the following effects on the human senses (table 2):

Elements	Sense Organ	Function
Air	Skin	Feeling
Earth	Nose	Smell
Fire	Eyes	Sight
Sky (Space)	Ears	Sound
Water	Tongue	Taste

Table 2: Table of the five major elements that effect the human senses and functions. Gopidayal 2011.

However, the science of relating human beings to these five key elements is not a new concept in Indian Architecture. The ancient medicinal practice of the Hindu culture known as Ayurveda has been prescribing this principles throughout history. Ayurvedic medicine aims to integrate and create a balance between the body, mind, and spirit to promote wellness. One of the ways in which Ayurveda achieves this goal is by the use of *Chakras*. (<http://nccam.nih.gov/health/ayurveda/introduction.htm>)

Simply put, *Chakras* (fig 55) are concentrated energy centers through which the transfer between external energy- water, fire, space, earth & air- and internal energy within the body occurs. The first *chakra* starts at the base of the spine. Six more follow along the spinal column with the last *chakra* at the crown of the head ([http://www.mysticfamiliar.com/library/1\\_chakras.htm](http://www.mysticfamiliar.com/library/1_chakras.htm)). The alignment of our *chakras* allows the free flow of energy through the human body which in turn has an effect on the state of wellness experienced (<http://healing.about.com/cs-chakras-alignchakras.htm>). As described by Kumar (Kumar, 2004: 15), each of the *chakras* is related to a one of the five elements. Thus the appropriate treatment of these elements results in healthy living for human beings.

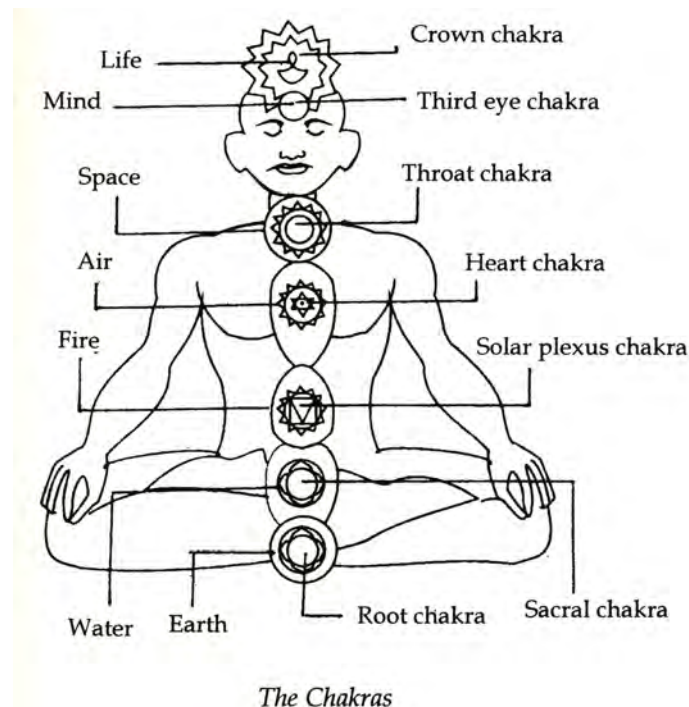


Figure 54: Position and characteristics of the Chakras (Source: Kumar, 2004: 14)

### 6.3.5 The Placement of the Elements in the Built Environment

The Vaastu Shastra prescribes the proper placement of these elements in the built environment. The center of a building is assigned the element of space or the sky. The northeastern sector is assigned to water (tanks, bore wells, swimming pools, etc.). The northwest is assigned the element of air and is suitable for store rooms or guest

bedrooms. The southwest sector is assigned the element of earth. The element of earth is associated with the characteristic of stability and Vaastu prescribes that sector be utilized as much as possible. The southeast is assigned the element of fire and is suitable for the kitchen, boilers or furnaces (Kumar, 2004: 18).

### 6.3.6 The Cardinal Directions and Their Characteristics

The Vaastu Shastra describes that the sun affects our energy during its daily journey across of sky. The morning rays are considered to be very beneficial and to have a positive effect on human energy. Thus Vaastu describes that it is considered advantageous for a building to face east as it will receive the maximum amount of the morning sun (Whelan, 2002: 25). Thus it is important that the correct orientation of a building to the sun path is observed. However, the remaining directions have just as important an effect on the built environment as the east.

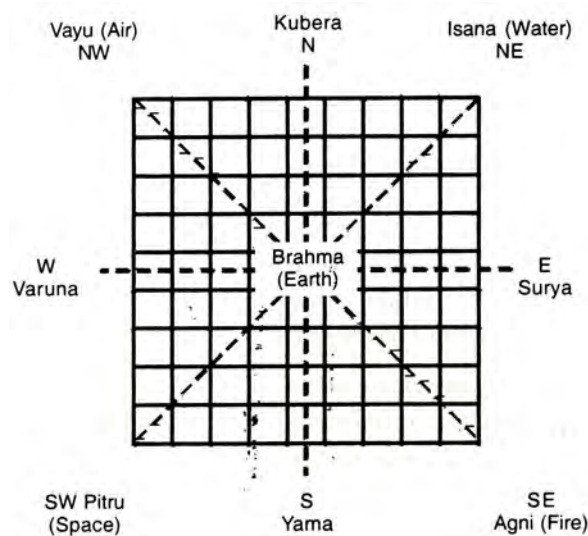


Figure 55: Cardinal directions and the ruling deity (Dutt, 2005: 44)

The four cardinal directions are north, south, east and west, and the four sub-directions are northeast, southeast, northwest and southwest (fig 56). It is believed in Hinduism that a deity rules each of the directions (fig 57), and that each direction addresses a need, a hope, and a desire (Whelan, 2002: 25).

As described by Whelan (Whelan, 2002: 26- 29), the attributes of each direction are as follows:

- North

The cardinal direction north is ruled by the element of water and by the planet Mercury, thus the main attributes include knowledge, meditation, and truthfulness. The Hindu deity who rules the north is Kubera, the deity of wealth.

- Northwest

The direction of northwest is ruled by the moon and represented by the colour white. The Hindu deity Vayu, the God of wind, is believed to rule the northwest.

- Northeast

The northeast is considered to be the gateway to the Gods and is the source of positive cosmic energy. The direction is ruled by the planet Jupiter with the accompanying attributes of meditation and spiritual wisdom. The Hindu deity Ishana, god of purity, is associated with this direction.

- South

The element of the south is the earth. Thus the related shape is a square, whilst the colour is yellow. The characteristics of this direction are smell, sound, taste and touch. The Hindu deity who rules the south is Yama, lord of justice.

- Southeast

The Hindu deity Agni, the god of ritual fire, rules the southeast. Fire is an important element in religious ceremonies, especially so when it is applied in this sector.

- Southwest

The southwest is associated with our ancestors; this direction is ruled by the Hindu deity Nirriti, the god of misery. It is believed that this sector possesses the positive energy, and thus the principles of Vaastu are applied to correct it.

- West

The west is the direction of the element air. The Hindu deity Varuna- god of waters, rivers, rain and oceans- rules this sector.

- East

The east is characterized by the element of fire, the colour red and the shape of the triangle. The east is the direction in which the sun rises and thus the sun rules this sector. The Hindu deity Indra, god of power, rules the east.



Figure 56: Vaastu Mandala with ruling deities (Source: Whelan, 2002: 34)

### 6.3.7 The Significance of the Mandala

In order to ensure that the eight directions are equally catered for, the science of Vaastu divides the site into nine equal parts. This planning guide is merged with the planning guide known as a *mandala* (Whelan, 2002: 9). In the basic *mandala*, each part of the main square is in consensus with one of the nine planets in the solar system. This excludes the sun, as the sun is the center around which the planets rotate (Reddy, 1994:



65). Maintaining this subdivision in the planning of the site ensures that the inhabitants reap the best benefits from the science of Vaastu.

The guiding form of Hindu architecture is the design philosophy exemplified in the *mandala*. The form of the *mandala* is the pure, geometrical form of the square, the most basic and rational of all the forms. The symbolic meaning of the square is stability (Grover, 1980: 174- 175).

The *mandala* square is divided into many equal squares (usually either 64 or 81). A deity of the Hindu faith is located in each square along a hierarchical order. The central most important space, in the centre of the map, is occupied rightfully by Brahma, the Supreme God, creator, preserver and destroyer (Grover, 1980: 174- 175). The significance of this central space, to the user, is that it is here that man may undergo transformations as he comes into direct contact with the cosmic order (Michell, 1977: 72).

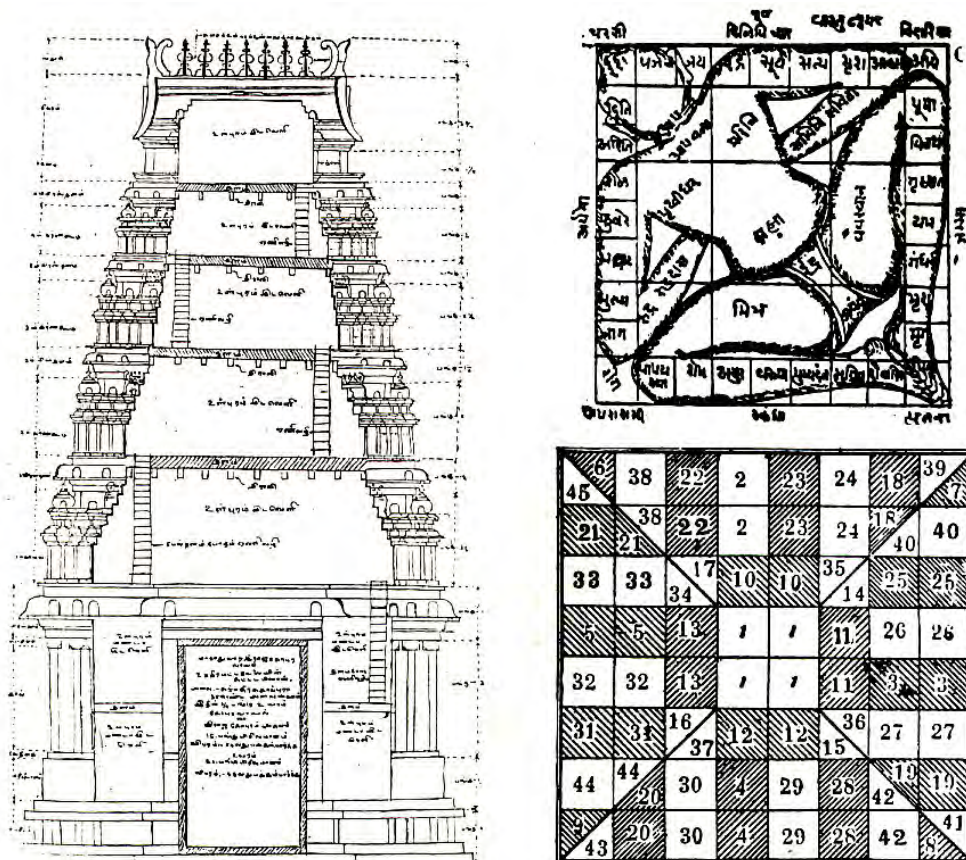


Figure 57: Relation of the Mandala to the proportions of structures (Source: Harber, Kearney & Mikula, 1982: 7)



The arrangement of the central square surrounded by the other squares is also a representation of a microscopic image of the universe. Hence the *mandala* is interpreted as a symbol in which the universe, the realm of the Gods, is bound to the world of man in a spatial and physical correspondence between the two realms (Michell, 1977: 71). The centre of the *mandala* represents the connection to the sky, and is sometimes characterised as an open-to-sky courtyard. The *mandala* is symbolic of the cardinal points and is orientated usually along an east-west axis according to the course of the sun (Michell, 1977: 72- 73).

Traditionally, the *mandala* was the planning guide applied to the creation of sacred structures in Hinduism, such as temples. The *mandala* served as a proportion guide (fig 58) applied to the horizontal and vertical elements of the structure (Harber, Kearney & Mikula, 1982: 7). In temple architecture, the central square of the plan is usually the space over which the dome extends towards the sky.

The depiction of the *mandala* is given a humanistic quality by the accommodation of a human figure in a contorted Yogic Pose with the perimeter of the overall square (Grover, 1980: 174- 175). The figure within the plan is known as the cosmic man (Whelan, 2002: 9).

### **6.3.8 The Vaastu Purusha Mandala**

The rational order of the *mandala* is accompanied by Hindu folklore as to the formation of the plan in consensus with the spiritual order. According to Hindu mythology, Lord Shiva (the destroyer and part of the holy trinity) battled the demon Andhakarusan. However, before achieving victory, another great demon was formed. Lord Shiva united the Gods to conquer this demon and trapped it within the ground, forcing the demons head northeast and the feet southwest. The Gods then sat upon the demon to contain its force and control its destructive nature. Thus each square in the *mandala* relates to a specific deity within the Hindu religion (Whelan, 2002: 8).

The demon is the *Purusha* or the cosmic man portrayed in the common illustration of the *mandala* planning guide (fig 59). Hindu mythology believes that the *Purusha* is

present in every building; hence one of the initial stages of applying the principles of the Vaastu Shastra is to divide the building into a *mandala* square grid of nine equal parts called the *Vaastu Purusha Mandala*. Each square in the grid has a directional value and is ruled by a deity that assists in containing the *Purusha* demon (Whelan, 2002: 9).

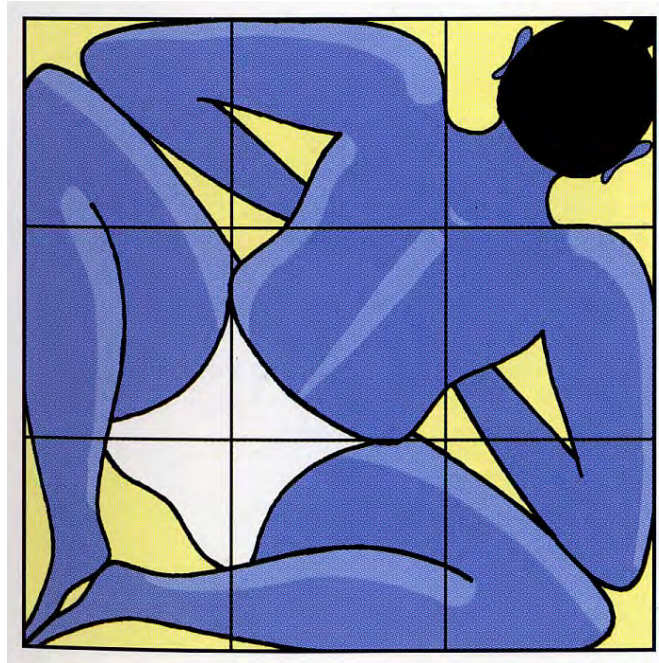


Figure 59: The Purusha demon trapped in the mandala (Source: Whelan, 2002: 8)

Each part of the grid relates to a specific area of the *Purusha* body, which in turn determines the function of the space placed there. For instance, the head of the *Purusha* faces the northeast direction. The head is the center of thought thus the northeast is the prescribed place for a place of worship (Whelan, 2002: 9). The center of the *Purusha* is the part of the body which contains the vital organs such as the heart and the lungs, therefore this space is usually a well-considered space that is well protected and sensitively addressed. The heart of the grid is also the space in which Lord Brahma, the supreme creator, resides (Whelan, 2002: 9). In traditional Indian architecture planned according to these principles, the center of the grid is usually left open to the sky and free of any obstructions.

In a large complex of buildings composed of a multitude of functions, a *mandala* is first laid over the entire site and then within the location for each specific building. A

*mandala* can contain any number of squares up to 1024 dependent on the size of the property. However typical *mandalas* contain nine squares (Whelan, 2002: 40).

### 6.3.9 Site selection

The science of Vaastu Shastra should be applied to the construction process of the built environment from the very beginning, and thus is a key factor for site selection. The science prescribes that the site be open on to all major directions and that the axis of the plot should align with the axis of the earth's magnetic field, i.e. one set of boundaries of the site should be parallel to the north-south axis, and another to the east-west axis (Dutt, 2005: 44). As described by Reddy (Reddy, 1994: 58) a plot that faces due north or east is the best possible site to place a building that intends to follow the principals of Vaastu Shastra (fig 60).

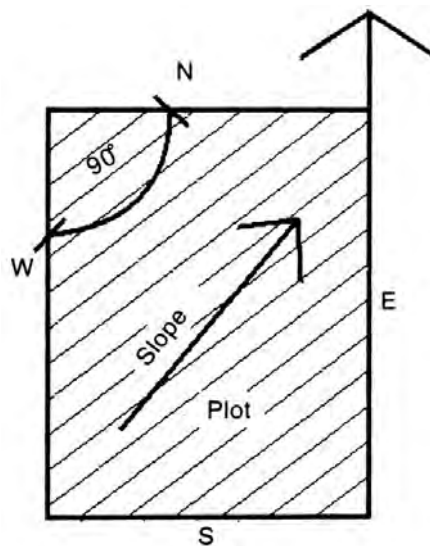


Figure 59: Typical site arrangement (Source: Dutt, 2005: 44)

The favored shape for the site is either a square or rectangle with the length running along the major east-west axis (Dutt, 2005: 44). As described by Reddy (Reddy, 1994: 54), Vaastu prescribes that the surrounding environment be well considered. Indian architecture in general demonstrates a very strong link to nature and bestows important symbolism upon natural elements. Thus a site located amongst natural phenomenon, such as a river or a hill, is highly valued. Therefore the important criteria for site selection are the geography of the site, the shape, orientation and the connection to natural phenomenon.

Vaastu Shastra describes that the topography of a site can affect the life of the inhabitant. The site should be elevated towards the west and south directions, thus sloping in a downward direction towards the east and north (Dutt, 2005: 44). According to folklore, it is believed that the layout of the topography in this manner bestows an abundance of blessings upon the inhabitants (Reddy, 1994: 56). However, folklore aside, this layout is environmentally suitable as it allows for good climatic conditions across the site.

#### **6.3.10 Building form**

Before the process of construction begins upon a site, the eight cardinal directions should be clearly identified and acknowledged. The site should be altered at this stage to suit the requirements of the Vaastu science. For example, at this stage it should be ensured that the east, north and northeast are at a lower level than the south, southwest and west. (Reddy, 1994: 133)

#### **6.3.11 Requirements for the Building Form on the Site**

- Location

The building should be placed as symmetrically central as possible within the site boundaries. However, if this is not possible, Vaastu prescribes that the building be placed more towards the south and west of the site. This allows more open space towards the north and the east of the site (Dutt, 2005: 45).

- Size

The general ratio (width: length) of the sides should be either 1:1, 1:1.5 or 1:2 (Dutt, 2005: 45).

- Shape

The building shape should maintain the rectangular/ square shape as far as possible, however, allowances for balcony areas and verandahs are allowed as extensions or reductions on the shape (Dutt, 2005: 45).

- Massing (fig 61)

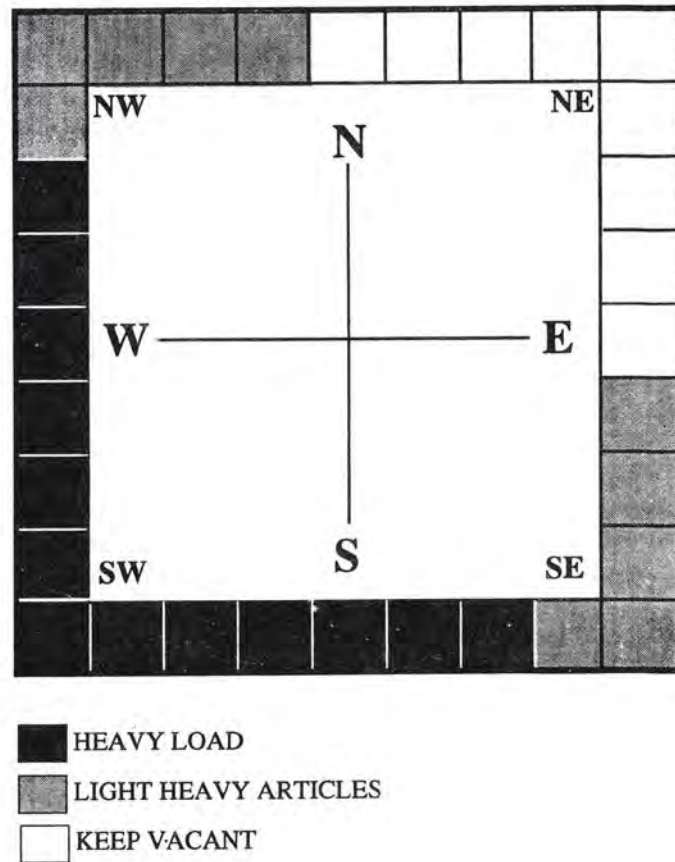


Figure 60: Massing arrangement of spaces (Source: Dutt, 2005: 44)

The planning guide, as seen below (Reddy, 1994: 52-53), prescribes the density of the massing of a building. The diagram shows that the densest regions of the building should be located in the southwest sector of the built envelope. The diagram depicts planning around a central void space that is typical of traditional Indian architecture. This space is usually the courtyard into which all the spaces on the perimeter of the built environment open into. The courtyard is the space in which the elements of air, sky and sun permeate the built envelope the most. The loading diagram also prescribes the finishes used for certain sectors of the building.

- Floor levels

The height of the north-east sectors of the building should be kept low to allow the maximum amount of daylight into the spaces. The heights of the buildings should increase towards the west and south. However, the balance of the building should be maintained by the use of symmetry (Dutt, 2005: 45).

- Roof slope

The sloping of the roof should be symmetrical and fall either towards the west or the east to manipulate shading conditions (Dutt, 2005: 45).

- Landscaping

The majority of the landscaping should be towards the north and east sectors (Kumar, 2004: 89).

### **6.3.12 Requirements for the Planning of Inner Building Spaces**

As seen in examples of traditional Indian architecture, the central space of the building was usually an open, uninterrupted area that was used as the main living space. In this space, the use of daylight was maximized for daily activities such as cooking and entertaining. Therefore, the orientation of the building to the sun path is of high importance.

Vaastu Shastra defined this concept of space, i.e. the division of private and public space around a central open space (the internal courtyard) known as the *brahmasthan* (Dutt, 2005: 46).

- The Brahmasthan

The *brahmasthan* is the central zone of the built envelope that is free from any structure or fixtures. This allows the space to flow freely and to interact with the surrounding spaces. The central zone is perceived as an area of high energy (Dutt, 2005: 46).

- Entrances

The entrance into the building may be placed on any side of the building, as long as that side faces a cardinal direction (Dutt, 2005: 46).

- Prayer places

The prayer areas for the Hindu religion should be placed in the north-east sector of the facility. This is as the room should face east to allow the inhabitants to conduct the daily ritual of Surya Namaskar facing the rising sun in the morning (Dutt, 2005: 47).

- Fire place/ kitchen

Fire places or kitchens should be placed in the south-east sector of the building (Dutt, 2005: 47).

- Staircases

The staircases should be placed on either the north or west sides of the building. The staircase direction should turn in a clockwise direction. Upon emerging on the upper floor, one should be facing either south or east (Dutt, 2005: 47).

- Ablution facilities

Bathrooms should face either north or west (Dutt, 2005: 47).

As discussed by Kumar (Kumar, 2004: 12), it may occur that the science of Vaastu may not have been applied to a building from the initial design process. This may be corrected by implementing characteristics of Vaastu Shastra such as symbols, colours, light and sound (Kumar, 2004: 12).

### **6.3.13 Hindu Symbols and the Vaastu Shastra**

In Vaastu Shastra, symbols are frequently used to create positive energy. The most commonly used symbols are two sacred Hindu symbols: the *Swastika* and *Om*. The *Swastika* (fig 62) is an ancient symbol which means ‘all well’, but its meaning is often

mistaken to be that of its misuse in Europe during the first half of the twentieth century. The symbol is used to bring blessings to buildings and it is believed to ensure the smooth progress of a project. The symbol is also believed to bestow prosperity, wealth and good fortune (Whelan, 2002: 11).

Traditionally, the *Swastika* was painted onto walls, documents and even onto bridal clothing to bring luck and ward off evil. The vertical lines of in the symbol represent self, whilst the horizontal lines represent the universe. The four sides of the *Swastika* point to the four cardinal points. In Hindu folklore, it is believed that the *Swastika* is the replica of Lord Vishnu, the sustainer and part of the holy trinity. The symbol is often expressed in the colour red (Whelan, 2002: 11).



Figure 61: Swastika symbol (Whelan, 2002: 11)

*Om* or *Aum* (fig 63) is “the visual depiction of the sound from which all matter originates” (Whelan, 2002: 11). In the Hindu religion, all mantras and prayers begin with this word. Traditionally, the symbol is used to decorate ceremonial clothes, doorways and temples with the aim of enhancing the auspicious energy in the building (Whelan, 2002: 11).



Figure 63: Aum symbol (Source: Whelan, 2002: 11)



### 6.3.14 The Important Colours

The Vaastu Shastra associates colours with energy and emotions. Thus the use of certain colours is believed to enhance the mood and improve the reaction to a space. Traditionally, Indian clothes and homes exude colour and vibrancy. In Vaastu Shastra the important colours are violet, white, blue, green, orange, yellow and red. Each of these colours has a characteristic emotion and sometimes a natural element attached to it (Whelan, 2002: 22). According to Whelan (2002: 23-24), the emotions attached to these particular colours are as listed below:

- *Violet* : stimulates meditation and contemplation.
- *White* : is associated with death and mourning.
- *Red* : Hindus associate red with celebrations and auspicious occasions, which can be seen demonstrated in the traditional red garments worn by brides at wedding ceremonies. Traditionally, the colour was also used in homes to ward off the evil spirits. More commonly though, red is associated with the emotions of passion and desire, and inspires warmth and elegance when utilized.
- *Green* : implies harmony, fertility and harvest.
- *Blue* : is associated with tranquility, serenity, calmness and contentment.
- *Orange*: Traditionally, orange robes are worn as a symbol of purity by Hindu religious men and women. The colour is often in a similar shade to saffron, and has associations with the sacred fire and other traditional instances.
- *Yellow* : stimulates the brain and represents knowledge. The colour also denotes excitement and energy.

### 6.3.15 Contemporary Vaastu Shastra

The practice of Vaastu Shastra has been executed throughout history in the development of residential and sacred architecture. However, recently there has been a reinterpretation of these principles by architects such as Charles Correa and Raj Rewal. The evolution of these principles into contemporary lifestyle has been spurred on by the fact that the Vaastu Shastra is an age old tradition that works well to create a good living environment.



Figure 64: Courtyard space of the Vastu House  
(Source: <http://www.archdaily.com/68535/vastu-house-kholsa-associates/>, date accessed: 05/04/2011)

- *Vastu House (Kholsa Associates)*

In examples such as the Vastu House by Kholsa Associates, the traditions of Vaastu Shastra have been respected and interpreted to create a contemporary home. The house located in Bangalore, India is compliant with the basic principles of the Vaastu Shastra in that the placements of spaces in the house are in accordance to the plan of the Vaastu Purusha Mandala (fig 65). For instance, the master bedroom is placed in the southwest

region of the house as this is the earth zone. The kitchen was placed in the southeast region or the fire zone (<http://www.archdaily.com/68535/vastu-house-khosla-associates/>). Thus the design respects traditional principles for the energy flow of the house.

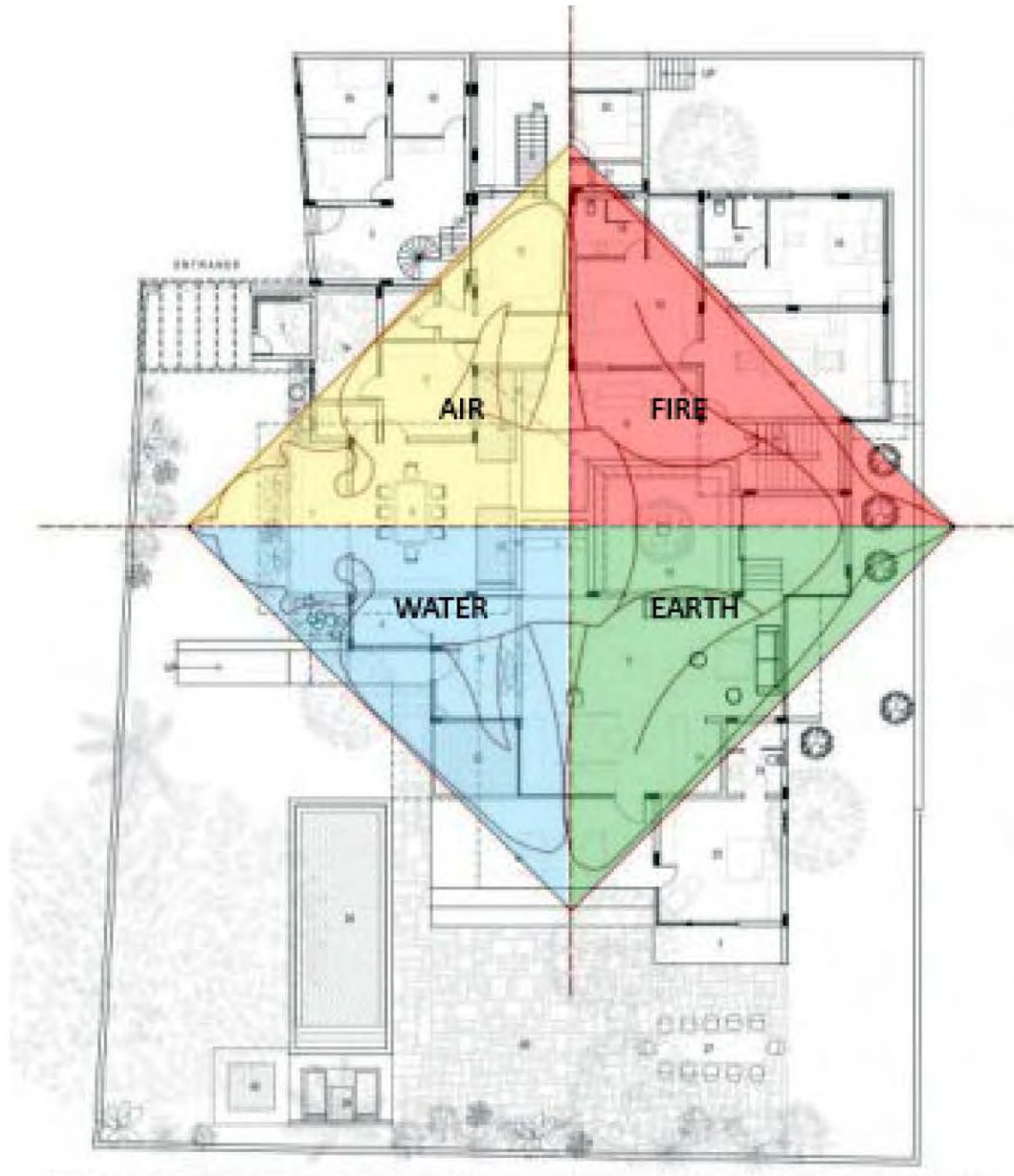


Figure 65: Plan of Vastu House (Source: <http://www.archdaily.com/68535/vastu-house-khosla-associates/>, date accessed: 05/04/2011. Adapted by Author 2011)

- *Vidhan Bhavan (Charles Correa)*

Another key precedent for the adaptation of Vaastu Shastra is the Vidhan Bhavan located in Bhopal, India. The complex is a government facility design by architect Charles Correa as an amalgamation of tradition and abstract modern elements which has resulted in a timeless contemporary design. This example demonstrates how a cultural history of a society is perceived, reinterpreted and utilized in the present as a process of future continuity.

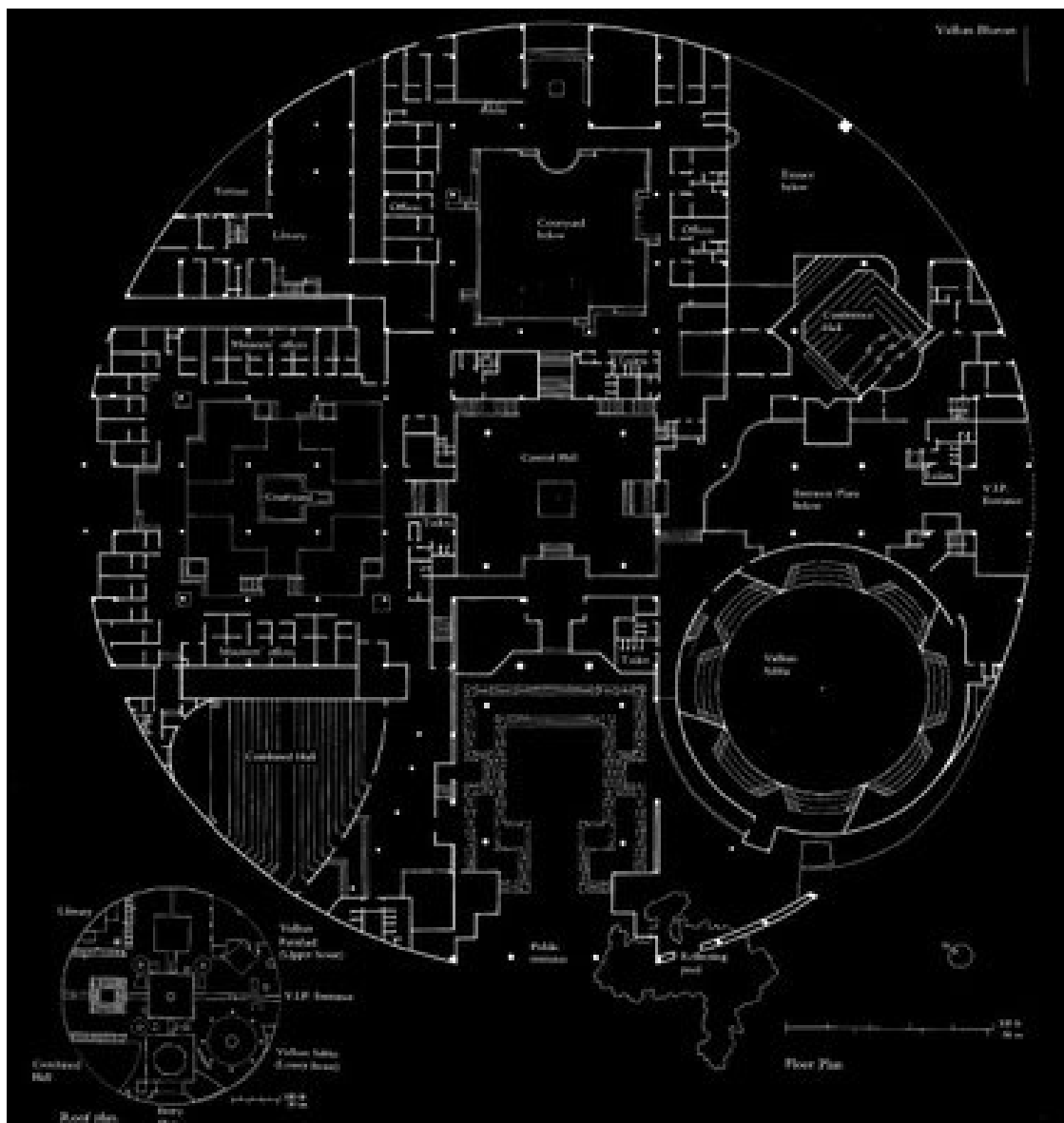


Figure 66: Plan of the Vidhan Bhavan Complex (Source: <http://anuradhachatterjee-arch1201-2009.blogspot.com/2009/04/steven-holl-paviljoen-het-oosten-le.html>, date accessed: 06/06/2011)

Correa shows his respect for the heritage of India in that the starting point for the design was the traditional *mandala*, evoking traditional Hindu philosophy. However, Correa adapts the *mandala* by enclosing it within a circle which becomes the outer wall of the complex (fig 66). Within this perimeter, the functional spaces are dictated by the *mandala* structure (Gast, 2007: 27). The obvious symmetrical axes introduced through the *mandala* are emphasized by the placement of the main entrances in these spaces. At the point at which the axes intersect, there is a circular aperture in the domed roof and a spiral motif inscribed upon the floor (Gast, 2007: 27). These relate to the Hindu philosophy that the center of the *mandala* is the center of the universe.



Figure 67: View of Vidhan Bhavan (Source: <http://fiveprime.org/hivemind/Tags/charlescorrea/Interesting>, date: 06/06/2011)

Correa demonstrates through this interpretation that the ancient traditions of Indian are valued even in a contemporary setting. The introduction of curved forms breaks down the rigidity and allows the space to flow around more freely (Gast, 2007: 29). Courtyards are used more frequently here as an ordering device for a complex of this scale, and as the spiritual connection to the sky, an important characteristic of the

Vaastu Shastra. The courtyards are also a characteristic of Indian architecture in that they provide air and light directly into the rooms of the complex, and allow the users to spend time both indoors and outdoors as required. The courtyard is also an Indian symbol of something shared in that it is a space shared by a variety of people for a variety of purposes. The main courtyard is known as the think tank (Gast, 2007: 29). It is a large public courtyard which is constructed in the style of a traditional Indian *kund* which is a large area of stone steps. This space is used as a waiting area for groups of people, allowing the public to share a unique space in the communal space (Gast, 2007: 29).

The building is decorated in the vibrant colours and local materials that are true to Indian heritage (Fig 67). Correa has proven in this design how the virtuosic interpretation of old forms and traditions can lead to something new without denying itself.

- *Jawahar Kala Kendra (Charles Correa)*

Located in the city of Jaipur, India is the cultural centre and crafts museum dedicated to the memory of one of the country's memorable leaders- former prime minister Jawaharlal Nehru. The city of Jaipur is located within the culturally rich area of Rajasthan, a city rich in cultural history and is just as well known for the majestic forts of traditional Indian architecture scattered across the landscape as the bustling business centre which forms the new part of the city- a balanced contrast of old and new.

The cultural centre is located near an open field, close to the university in a new part of the city. In planning the centre, Correa paid reference to the interesting plan of the city. The ancient city was designed in the mid-17<sup>th</sup> century and is guided in planning by the *Shilpa Shastras*, and based on the previously mentioned Vedic *mandala* of nine squares which symbolise nine houses of the nine planets. The layout was altered slightly to allow for a mountain (fig 68); hence one square was removed and placed to the east of the plan (Khan, 1987: 142).



Correa's plan for the cultural centre draws directly from the nine house *mandala*. He mimics the original city plan in that one square is removed, and pivoted to the east to create an entrance. The placing of the functions into the square has been linked with the myths represented by the particular planet. For example, the planet Mercury is associated with knowledge, hence the location of the library in the square representing the planet, whilst the theatre is placed in the square representing Venus which is associated with the arts (Khan, 1987: 142).

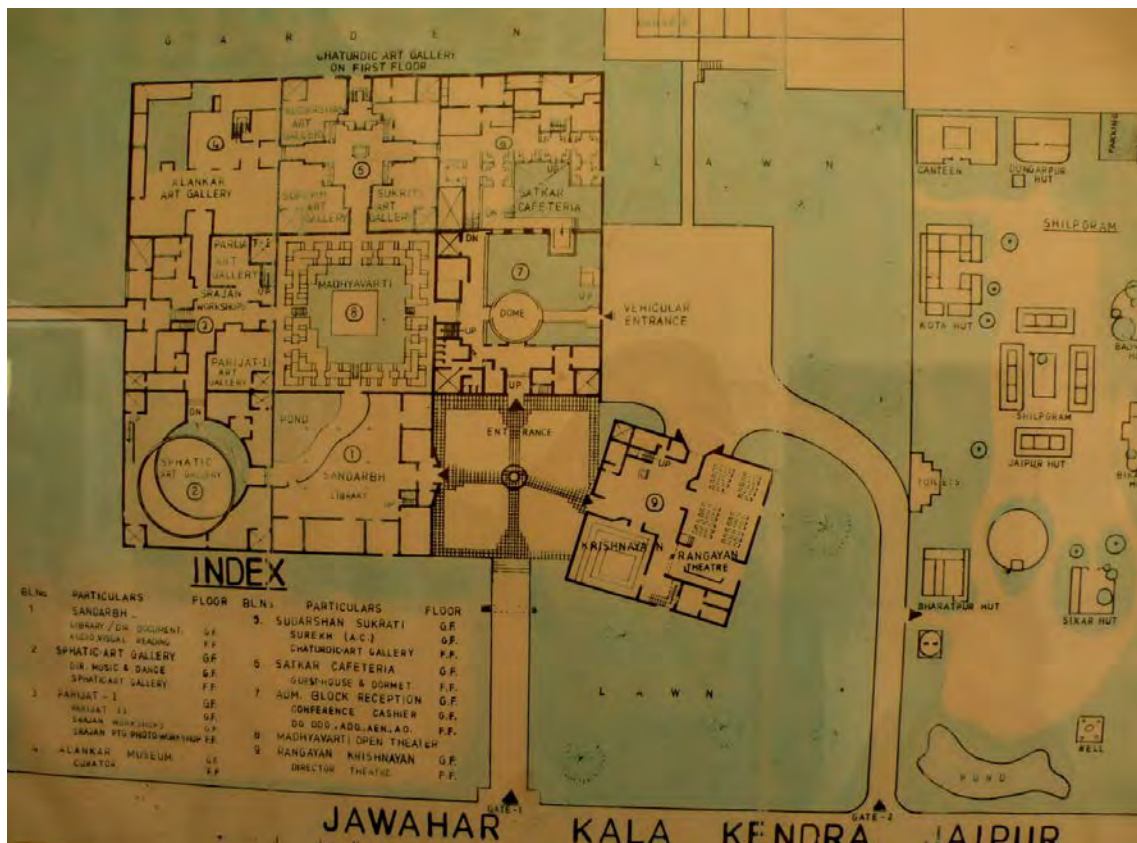


Figure 68: Plan of the Jawahar Kala Kendra

(Source: [http://en.wikipedia.org/wiki/File:Plan,\\_Jawahar\\_Kala\\_Kendra,\\_Jaipur,\\_Rajasthan.JPG](http://en.wikipedia.org/wiki/File:Plan,_Jawahar_Kala_Kendra,_Jaipur,_Rajasthan.JPG), date: 09/06/2011)

The point of the arrangement of the functions in accordance with the *mandala* is to allow the visitor to weave through the squares whilst recalling the Vedic ritual route of the *pradakshina* which is created through openings on the central interior walls, creating a circular path across the footprint of the building. The *pradakshina* is the act of walking a circular route and is utilised as a form of worship and meditation in Hindu

ritual. The path is usually acted out around a either a deity, fire or a tree. At the centre, this act is centred on the central courtyard (fig 69).

Each of the squares is defined by an 8m high wall in which the symbol for the associated astrological symbol is expressed by means of a cut out along the external wall. The central square follows the Vedic Shastras in that it remains void as a courtyard that maintains that connection to the sky and is dedicated to the spiritual presence of the sun or Surya (Khan, 1987: 142).



Figure 69: Internal courtyard of the Jawahar Kala Kendra  
(Source: [http://www.tamil-nadu.info/Jawahar\\_Kala\\_Kendra](http://www.tamil-nadu.info/Jawahar_Kala_Kendra), date: 06/04/2011)

The centre is a complex of symbolic work which embodies and demonstrates a synthesis of popular culture and archaic cosmology. The regional character of the Rajasthan area is expressed in the use of the red sandstone and Dholpur stone that characterise the traditional structures of the area (Correa, 1996: 11). Thus a memorial is created that reflects the Hindu-Indian identity in a contemporary way.



### 6.3.16 Conclusion

The Vaastu Shastra is an ancient science of construction that developed in the religion of Hinduism. The planning guide adapted principles that already existed for the construction of sacred structures to create a set of guidelines that may be applied to everyday structures, such as residential architecture. The basis of the new modified guide was the *mandala* plan upon which temples were based. Traditionally, this plan is symbolic of the recreation of the realm of the gods, to which man was allowed to enter and experience the wonder of this world of the Gods. Vaastu Shastra adopted this plan in order to create a space in which both man and Gods may dwell. The *mandala* plan was adapted to incorporate the study of nature on the built environment.

Vaastu Shastra dictates that there are 5 main natural elements that the built environment must acknowledge: air, water, wind, earth and space. Each of these elements has certain characteristics, such as a colour. Research has shown that each element also relates to one of the five human senses. For example, the element air relates to the human organ of skin and thus the sensation of feeling. The interconnection created between the elements and the human body belongs to the age old tradition and science in Hinduism of catering for the *chakras* that are believed to exist within the human body. These are energy points that assist in the proper functioning of the human body.

Hence, each of these key elements has a prescribed place within the built environment in order to assist in promoting human wellness. The placement of these elements relates to the cardinal directions and is thus tied back to the religion of Hinduism as each direction is believed to be ruled by a deity, which is dictated by the *mandala* plan.

The importance of the cardinal directions to the science of Vaastu is based on the tracking of the sun path across the sky. Therefore, from the initial stages of the design of space, such as site selection, one of the most important criteria that have to be acknowledged is the correct orientation of the site to the sun path. This in turn has

effects of the placement of functions and the massing of the building in order to allow the maximum amount of daylight onto the site, whilst taking full advantage of the prevailing winds.

This planning guide is an archetype that has created an architecture that is based in years of tradition that provides meaning to a society of people whilst enhancing their culture and, an architecture that is passively environmentally sustainable. This method is one that has been proven effective over time, and hence, architects have not hesitated to bring the guide into present day design strategies.

Although the Vaastu Shastra planning guide is based very strongly with cosmology and astrology, modern Vaastu does not. It acknowledges the historic and traditional role that cosmology has with buildings, but it is no longer important. Modern Vaastu is more focused on the five elements, good orientation and ventilation and all basic achievable principles which allow a good built environment to evolve. Hence these principles are utilized to create a self-sustainable environment that is not dependent on mechanics to create a good space. The archetypes of the Hindu culture are very strongly linked to nature. The principles dictated by these archetypes create an understanding and maintains a respectful link between man and nature.

The above precedents illustrate the modern adaptation of archetypes that derive from the Hindu culture. However, the question must be raised as to why these principles should be adapted. As the research has discussed previously, the adaptation of archetypes as a representation of the symbols of a culture serve to assist in creating meaning and value in our environment whilst affirm the identity of the culture in the public realm.

## **CHAPTER 7: CASE STUDIES**

### **7.1 INTRODUCTION**

The research has examined the issues that relate to the topic statement. The interrelation between tradition, culture and identity has been examined and explored. The research has up until this point demonstrated that traditions are a valid form of cultural expression that are still very necessary to contemporary culture in order to affirm the identity of a group in the built environment.

The research then progressed onto examining and exploring the subject group of the dissertation; the contemporary Hindu society. The results of this process revealed that the group has evolved to manifest a dual identity in the public realm. This dualism is created from the need for the society to manifest both identities as South Africans and as Hindu. The research progressed into exploring the characteristics of these identities and the manner in which they are expressed through the facilitating forms of archetypes.

The following chapter of the research will intend to explore the built environment intended for the Hindu society within the city of Durban. This process is necessary as to evaluate the manner in which these identities have been and are currently expressed in the public realm. The research will examine two facilities that represent the society: The Hare Krishna Temple of Understanding, and the Surat Arya Bhajam Mandir.

## 7.2 THE HARE KRISHNA TEMPLE OF UNDERSTANDING

### 7.2.1 Introduction

The chosen case study is the Hare Krishna Temple of Understanding. The space has been selected as it is a publicly accessible space that embodies the traditions and practices of a specific cultural group. Thus the space represents the value of these factors and demonstrates how the interaction between the users in a space embodied with meaning can affect the user, and the larger group to which the user belongs, thus creating a sense of identity. The investigation will therefore review the effect the use of traditional architecture has upon a cultural group in society with regards to the affirmation of their identity in the built environment.

### 7.2.2 The Setting of the Case Study

#### 7.2.2.1 Historical Setting

The space is located in the region known as Chatsworth, a large densely packed residential area to the south of the city of Durban that was created under the Group Areas Act in the late 1960's as one of the main Indian residential areas in Durban which reinforced the apartheid government's view of racial segregation during the apartheid era ([www.sahstory.org](http://www.sahstory.org)).

During this period, in 1969 to be exact, the Hare Krishna Temple of Understanding was built in the township of Chatsworth which is a structure that embodies the principles of Hindu culture. The space was created in honour of His Divine Grace Srila AC Bhaktivedanta Swami Prabhupada who died in 1977 (Architect and Builder, May 1987: 15). Prabhupada is credited as being the founder of the International Society for Krishna Consciousness (ISKCON), founded in 1966, which is more commonly known as the

Hare Krishna Movement. The movement involves every aspect of devotee's lifestyle in order to achieve spirituality and absolute truth through the service to Lord Krishna and to the spiritual master (KZ-NIA Journal, 1/1997: 7). The Hare Krishna Movement is based on traditional Hindu scriptures, but is focused on the Hindu deity Krishna and is a different interpretation. The movement privately funds and thus owns over 400 centres worldwide, schools, rural communities, schools and many other institutions various function.

#### 7.2.2.2 The Cultural and Heritage Setting of the Space

At the time of its construction, the temple in Chatsworth was the first Hare Krishna temple in the country to be built (fig 70). Today, 42 years later, there are three facilities that belong to the International Society for Krishna Consciousness in Durban alone.

The introduction of the Hare Krishna Movement to South Africa came at a time of great oppression amongst the Hindu culture in Durban. The Group Areas Act had stripped the followers of the Hindu culture of their heritage, and saw the forceful removals and relocations of Indians to areas deemed fit by the apartheid government. It was a time of great confusion that encouraged the loss of identity within the group.



Figure 70: Hare Krishna Temple of Understanding (Source: skyscrapercity.com, date accessed: 18/02/2011)

The teachings of the Hare Krishna Movement were new to the manner in which the principals of the Hindu religion had been practiced so far in South Africa. The effect of the movement was greatest felt after the construction of the Temple of Understanding in Chatsworth. The building became an icon of the Hindu culture in Durban in a time at which oppression was at its highest. Thus the identity of the community was reaffirmed and embodied in the facility.

The opening of the facility represented all Hindu's living Durban as a symbol of freedom from oppression in the expression of a lavish traditional Indian architectural style utilising the Hindu principles of freedom and love. Today however, although the temple is open to all, it embodies the identity of the Hare Krishna devotees, providing them with their sense of identity in a chaotic world. Thus the structure provides a sanctuary to which the devotees return to everyday in order to achieve peace of mind from their hectic lives.

Another aspect of the establishment of the International Society for Krishna Consciousness is that it provides a link to the global phenomenon of the Hare Krishna Movement. This is both a positive and negative aspect. The positivity is found in the affirmation of personal identity within a group, and the affirmation of the sub-culture as part of a larger culture. The negative aspect is that the group encourages a global response in which the same principles and responses are applied to the construction of all the facilities globally. Thus, a global culture and sense of placeless-ness is created.

#### 7.2.2.3 Climatic Response

The Hare Krishna Temple in Chatsworth is located in the province of KwaZulu-Natal in a warm subtropical climate. The main structure of the complex is ordered according to traditional sacred planning principles. However, the surrounding facilities, such as the accommodation units, have been orientated to best suite climatic conditions. It is evident from aerial photographs that these buildings follow a north-south axis.

#### 7.2.2.4 Linkage to the Urban Fabric

The location of the temple is at the nodal intersection point of Higginson highway (M1) and the busy main arterial which feeds into the residential component of Chatsworth (fig 71). There is a visual interaction between the highway and the site as the statuesque temple is visible from the vehicular transportation routes, creating visual interest. The appropriate siting near a major vehicular access point is important as it draws visitors from locations outside of Chatsworth, as the township is located on the outer edge of Durban. Thus access to the site is made easy as the temple is one of the first structures that are visible upon entering the area.



Figure 71: Aerial map showing the Hare Krishna Temple of Understanding  
(Source: skyscrapercity.com, date: 18/02/2011)

The site of the temple is attached to a larger central site that forms the major node of the area. Other buildings that are located at this strategic point include a government building, a large shopping mall, industries and offices, i.e. the major draw points to the region. Thus a hierarchical order is established to the order of the surrounding urban fabric. A large residential component feeds off the central node.

#### 7.2.2.5 The Key Theoretical Issues Employed in the Design of the Space

The key theoretical issues employed in the design of the space engage in the evaluation of traditional principles that are important to a particular cultural group. The traditions are analysed to understand the effect traditions have upon a society. The achieved result is a platform is created in which traditions are brought into contemporary life. The overall effect of this is that a space is created that has meaning and relevance in the built environment to a specific group. Thus their identity as a group is created, thus allowing the individual user of the space to reaffirm their own sense of being and identity.

### **7.2.3 Building Analysis**

#### 7.2.3.1 Analysis of Form

According to their scriptures, the architects of such facilities must be devotees of the movement. Thus Durban architect Hannes Raudner, who bears the spiritual name Rajaram Das was approached. Das has worked on several of the movements' projects globally. His design intention was to express the principles of the Hare Krishna Movement as well as the mood of the movement, i.e. tradition, contemporary and futuristic in the complex (KZ-NIA, 1/1997: 7).



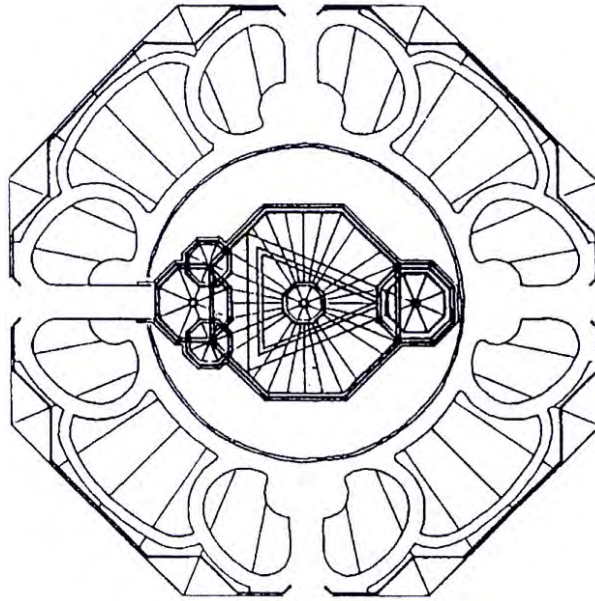


Figure 72: Diagrammatic plan (Source: Wale, 1987: 14-17)

The design of the complex is based on symbols that are important and outlined by the Hare Krishna religion. The use of the square symbolises intelligence in the construction of the four straight lines that form the shape (fig 72). The circle is symbolic of ignorance and stems from repetitive actions that do not progress to a higher plane. The triangle signifies motion, passion and action. Thus when triangles are placed adjacent to each other, it symbolises dualism such as reaction and action. The last symbol is the octagon represents spiritualism beyond normal sensual experiences (KZ-NIA, 1/1997: 7).

Thus the planning of the temple is based upon the arrangement of these forms. The circle form is realised in a circular circulation route that wraps the circumference of the facility representing the never-ending cycle of birth and death. The symbolic escape from the cycle of the circle is a staircase, which leads to the entrance ramp to the temple (fig 73). The entrances into the temple are kept deliberately symbolic in order to humble the worshipper before entering into the internal splendour of the shrine (Architect and Builder, May 1987: 15).

There are four main entrances into the building that embody the four main Yogi processes. The entrance to the east represents the process of meditation; the west represents the process of worshipping the Lord. The south entrance represents the process of spiritual knowledge, whilst the north glorifies the Lord with opulence, such as offerings in the forms of jewels. Three of these entrances lead onto the circular path. The fourth entrance leads into the main space (fig 74), which is the place of worship and takes the form of the hexagon (Architect and Builder, May 1987: 15).



Figure 73: Aerial photo of the Temple of Understanding (Source: Wale, 1987: 14-17)

The external form of the temple is characterised by three towers, which represent the traditional mood of the movement (KZ-NIA, 1/1997: 7). The two smaller towers represent the Guru or spiritual master and mark the entrance into the hexagonal shape. The larger tower represents the presence of the Lord and marks the location of the shrine, which contains the statues of the deities. The towers are designed according to the traditional Hindu style and in traditional Indian Architecture, the tower dome structure is meant to symbolise the connection between earth and the heavens as the mountains were considered to be the home of the gods (Architect and Builder, May 1987: 16).

The exterior of the building is adorned with the sparkle of 16 000 stainless steel tiles (fig 75), all punched with a pattern to reflect the light and to symbolise the future aspect of ISKCON. The process of polishing each tile took approximately three and a half

months and is symbolic of the carefulness and attention paid to the worship of the Lord Krishna by his devotees (Architect and Builder, May 1987: 15).

The space in which the deities reside adjoins the main hexagonal worship space and is edged by a circulation space. This circulation space embodies the ritual act of pradakshina, the act in which the worshipper walks the circular path as a form of worship and meditation (KZ-NIA, 1/1997: 7).



Figure 74: Main entrance to the temple (Source: Authors own, 19/01/2011)

The interior of the main worship space is decorated lavishly to represent the splendour of the Gods. In its most basic form, the space is hexagonal with ribbon windows that dissect the all the facades, allowing masses of natural light in and splendid views out to the surrounds. Thus the link between the built environment and nature is maintained as a key design principle. In the centre of the space, the symbolic connection to the sky is achieved by the implementation of a skylight, which also allows in additional light (Architect and Builder, May 1987: 16).

The ceiling of the space is low for acoustic reasons, however, the sense of space has not been compromised and has been enhanced by the use of mirrors, and thus the space is given additional depth. The ceiling of the space is adorned with eight 3 metre long, reproduced oil paintings depicting the life of the Lord Krishna (fig 76). These face into the space to create an atmosphere of amazement directed in the direction of the worshipper. The eight main paintings are edged with 35 smaller paintings of the same nature that edge the ceiling of the space. The paintings are combined upon the ceiling with elaborate motifs cast in polyester resin and treated with special effects to resemble gold and marble. Thus, the overall effect of the ceiling of the space is one of splendour and awe. This is intentional in the honour of the Lord Krishna (Architect and Builder, May 1987: 15).



Figure 75: View of the moat (Source: Authors own, 19/01/2011)





Figure 76: Internal view of the temple (Authors own, 19/01/2011)

#### 7.2.3.2 Analysis of function

The building is divided horizontally into four main levels. The basement houses living quarters with bedrooms and bathrooms. The ground floor that is accessible by the external circular circulation route, houses two offices, the main kitchen (fig 77) and a restaurant (fig 78). The restaurant sells vegetarian food at a cheap price to cater to the less fortunate in surrounding community and to raise funds for community service. The International Society for Krishna Consciousness runs a program in which they distribute hot food to the disadvantaged. This act is intended to create a sense of oneness, which is the intended message of a devotee of the temple.

The first floor houses a preaching room, four living quarters, a public relations office, and a secondary kitchen. The second floor is occupied by the temple, whilst all outdoor functions are held in the amphitheatre (fig 79) under the entrance bridge. The activity of the devotees represents the contemporary aspect of ISKCON (KZ-NIA, 1/1997: 7).



Figure 62: Restaurant kitchen (Source: Authors own, 19/01/2011)



Figure 78: Restaurant (Source: Authors own, 19/01/2011)

The placement of the temple on the highest level functions quite well as the structure is exposed to the views around the site, maintaining the traditional design principle of connecting with nature. The placement of this function also ensures that good quality natural light and plentiful natural ventilation filters into the facility. By placing the temple function on the highest level, it removes the connection from the bustling activity of the surrounds that occurs at ground level. This is important to achieving a sense of peace to assist in the creation of a meditative space. The devotees thus feel more connected to the spirituality of the space, allowing meditation easily therefore achieving inner peace.



Figure 79: View of amphitheater below the main entrance (Source: Authors own, 19/01/2011)

The support spaces that occur on the levels below, such as the live-in units are situated adequately. However, it is observed that the restaurant could be better situated in the facility. The space is tucked away under the main spaces, and is confined and not visible enough to those passing by. Perhaps if the restaurant was better placed in a location that was easily visible to outsiders, the facility would create higher revenue from its service.

#### **7.2.4 Empirical Research (Appendices B & C)**

The empirical research conducted through the implementation of a well-considered questionnaire for the purpose of the dissertation reveals that the facility is a space that is well utilised by members of the Hindu community from all over the greater Durban area. However, the main function of the temple is that of a prayer facility which is dedicated to the Hindu subculture of the Hare Krishna Movement. As the research indicates, this has had a suffocating effect on the scope of users.

Firstly, members of different societies to that of the Hindu's feel as though they cannot use the space as it solely for the sacred purposes of the Hindu culture. The inviting draw cards for this demographic, such as the restaurant, is not visually prominent thus people are not aware of its presence.

Secondly, within the Hindu community, people feel as though the space is solely for those following the dogma of the Hare Krishna Movement. The questionnaire reveals that most of the society feels as though their individual beliefs within their subculture might conflict or be compromised should they enter a space dominated by the Hare Krishna Movement.

The questionnaire aids to reveal that there is a gap in the age variety of those that use the facility. Research reveals that older people and young children engage willingly in the space. However, teenagers and young adults are not frequent visitors to the space. This is largely due to the shift in focus in the cultural group from religious worship practices to culture driven activities. The research indicates that this group still strongly identify with being of the Hindu culture. However, they do not feel as though temples express their identity.



### **7.2.5 Conclusion**

The Hare Krishna Temple of Understanding is key example of the importance traditional architecture plays in the lifestyles of the followers of the Hindu culture. At the time of its conception the space embodied the best of traditional and contemporary principles whilst projecting for the future. However, since the establishment of the complex over 40 years has past, and the space can no longer be regarded as contemporary. The space is still highly popular, drawing masses of users from locations across the greater Durban area and the outskirts.

One can observe though, that the space functions best as an icon of identity which has transformed over the years. The space began as an icon for the International Society for Krishna Consciousness but was implemented into the South African landscape at a time when the Hindu society needed an embodiment of their culture in the built environment. Thus the facility became a marker of the identity of the Hindu group as a whole, providing a sense of belonging against the Apartheid government.

Over the years though, the social, economic and political landscape of South Africa has changed. Our society now lives in democratic times where equality is encouraged. Thus the Hindu society has changed to suit the flow of contemporary lifestyle. Thus the Hare Krishna Temple of Understanding has returned to the original mean of providing an icon for the devotees of the movement. Therefore allowing those that follow this way of life to find their sense of place and belonging in the facility, thus reaffirming their sense of personal and public sense of identity.

## 7.3 SURAT ARYA BHAJAM MANDIR

### **7.3.1 Introduction (Justification of the Case Study)**

The selected case study is the Surat Arya Bhajam Mandir, a temple in Reservoir Hills. The space has been chosen to study as it is a recent example of a contemporary adaptation of traditional architecture aimed at representing a specific group of society. Thus creating a hybrid of old and new, reinforcing cultural identity of a group.

### **7.3.2 The Setting of the Case Study**

#### 7.3.2.1 Historical Setting

The region known as Reservoir Hills is a large residential area that was established under the Group Areas Act in the late 1960's as one of the main areas designated for the occupation of Indian people, reinforcing the Apartheid government's view of racial segregation during the apartheid era ([www.sahstory.org](http://www.sahstory.org)).

The project was conceptualised in 1992 and is still currently under development in different stages pending funding, with the remaining stage being the development of a parking area to the back of the facility.

#### 7.3.2.2 The Cultural and Heritage Setting of the Space

Culturally, the facility has become an icon of contemporary Hindu culture to the suburb of Reservoir Hills, serving a large Hindu community. The modern adaptation of traditional principles in the form of the structure encourages the involvement of people from all walks of life. Thus, the space embodies both modernity and traditional culture of the modern Hindu.

### 7.3.2.3 Climatic Response

The temple is located in sub-tropical climate of KwaZulu-Natal. The glazing has been minimised in the structure is well protected from direct sunlight by deep recesses, overhangs and clerestory lighting.

### 7.3.2.4 Linkage to the Urban Fabric

The location of the temple is sited along the main arterial that runs throughout the suburb of Reservoir Hills (fig 80), which is clearly visible to all those that pass it. The main arterial connects the suburb to the neighbouring suburb of Westville and to the major N2 freeway. Thus visitors from outside the area may locate the structure easily.



Figure 80: Aerial view of the setting of the temple (Source: Google Earth. Adapted by author 25/03/2011)

The temple is situated amongst other civic buildings in what has been transformed into a key nodal point for the area. The immediate neighbour to the temple is a post office, with schools and a commercial component not far off, therefore the facility is known to the inhabitants of the area. Surrounding the site is a large residential component from which the temple draws its users.

#### 7.3.2.5 The Key Theoretical Issues Employed in the Design of the Space

The key theoretical issues employed in the design of the space involve the review of traditional principles that are relevant to a specific cultural group. The traditions are analysed to understand the effect traditions have upon a society. The result gained from this effect creates a platform to bring the traditions into contemporary life. The review of merging contemporary and traditional principles has resulted in the creation of a space that brings together the two opposing sides of contemporary Hindu culture in one space, thus creating a space of relevance and meaning to those following this guided lifestyle. Therefore the design of the space understands that meaning in the built environment is important to creating a sense of belonging, especially necessary in a culturally diverse country.

### **7.3.3 Building Analysis**

#### 7.3.3.1 Analysis of Form

The allocated site follows a 1:4 gradient slope, like many of the building sites in the area (fig 81). Thus architect Ravi Jhupsee decided to place the temple on the highest lying point of the site, which is easily visible from the roadside, creating a 15-metre difference between the highest level and the natural ground level (KZ-NIA, 1/1997: 8).

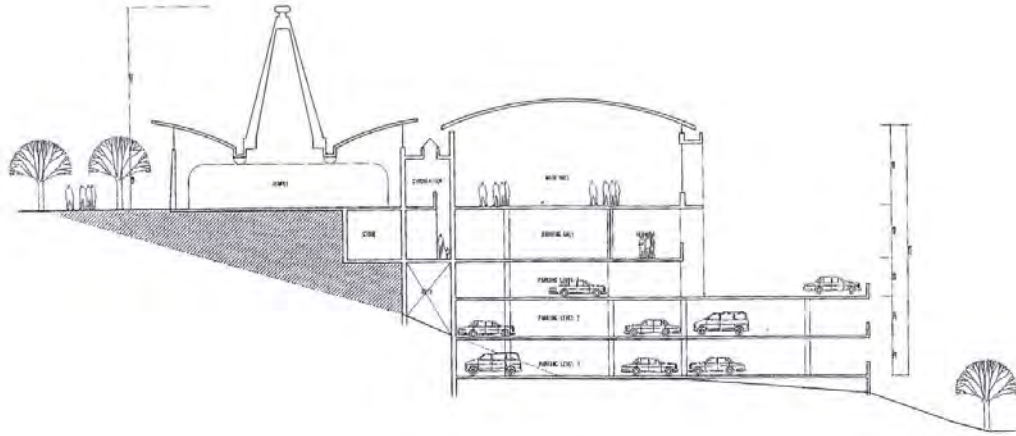


Figure 81: Section through site (Source: Jhupsee, 1997: 8-9)

The design of the temple is based in the principles of classical proportions of ancient Indian temples (fig 82). Symbolically, the temple is conceptualised as the physical link between man and god. Thus, symbolism in the design of such structures permeates into every aspect of the design process. The plan of the temple (fig 87) level follows the traditional guidance of the mandala planning principles, which embodies cosmic guidance and symmetry (KZ-NIA, 1/1997: 8).

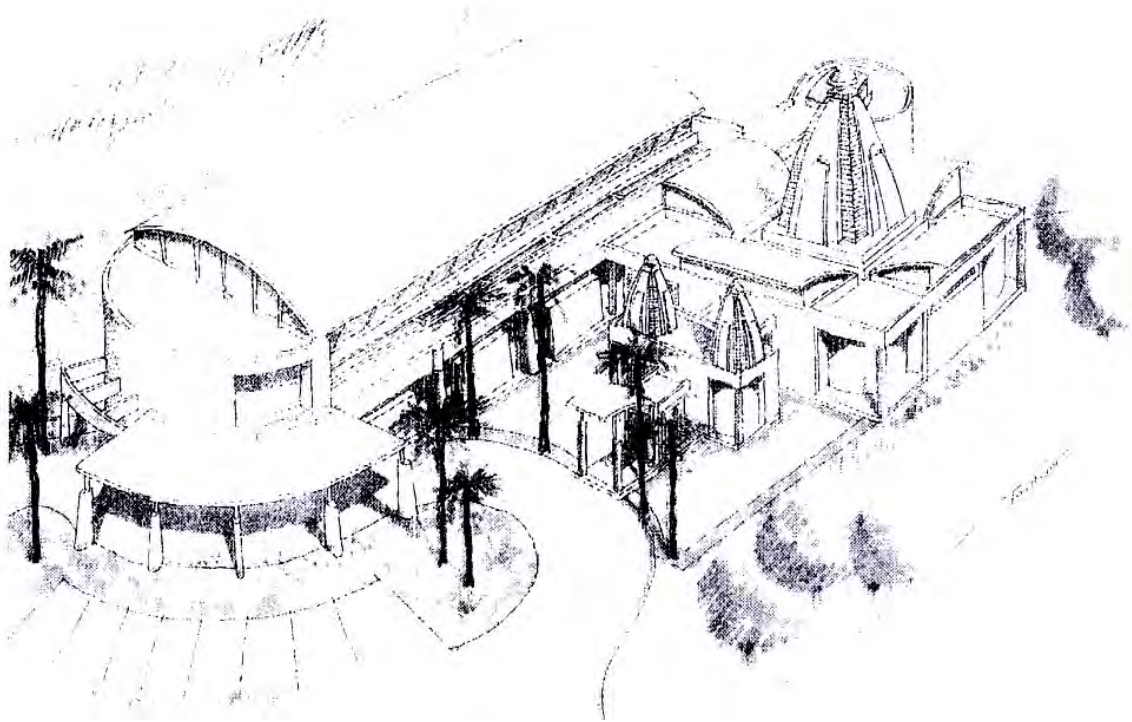


Figure 82: Sketch of the facility (Source: Jhupsee, 1997: 8-9)



Figure 83: Shivling idol at the entrance(Source: Authors own, 25/03/2011)

Interest in the building however comes in the contemporary adaptation of the form. The exterior form is characterised by four concrete shells that flow into a central tower. Under the form of the shell, the space is filled with glass thus providing clear storey lighting into the central worship space. As a result, the concrete shells have the appearance of something that is suspended in air that is floating. This enhances the objective of the architect in creating a contemporary abstraction of a lotus flower, a power symbol in the Hindu philosophy. The form of the building is marked with three towers that symbolise the trinity in Hindu philosophy, which accommodates for every denomination in the religion: Brahma the creator, Siva the destroyer and Vishnu the sustainer (KZ-NIA, 1/1997: 8).

The entrance into the temple has been very carefully addressed in the design of the structure in accordance to principles that stem from the review of ancient precedents. The entrance is raised up to create a separation from the spillage space on the outside of the structure. This level change has been accommodated for with a wide staircase



finished in marble tiles to create a sense of grandeur. The entrance is flanked on either side by the secondary smaller towers of the form (fig 84), and is announced by a protruding porte cochere, giving the space a sense of importance. Upon entering under the main entrance space, one is greeted with an achieved sense of symmetry and balance. Before entering into the main temple space, there are two bridges on either side of the entrance door that flank the space and emphasise the sense of symmetry.



Figure 84: Exterior view of temple (Source: Authors own, 25/03/2011)

Originally, the architect intended for these bridges to be placed in reflecting pools that were designed on symmetrically to enhance the space. The use of water is important to traditional Indian design. However, the reflecting pools were replaced with landscaping as the water proved to be high maintenance. At the end of these bridges are statues that involve the ritual acts of the religion. On one end is a *shivling* (fig 83), symbolic of the mountain form of the holy Hindu site in the Himalayas. The other end hosts a drinking fountain used for the act of cleansing oneself before entering the structure (KZ-NIA, 1/1997: 8).

### 7.3.3.2 Analysis of function

Due to the vertical nature of the site, the functions have been divided according to a hierarchy of importance through a vertical spine. The levels below the temple help to integrate the building into the site and house three parking levels to accommodate 180 cars, a multipurpose hall (fig 86) and a dining hall (fig 87). These spaces are all linked together through a vertical circulation spine of an elevator and a staircase. Additional circulation is provided between levels two and three by a 1:12 concrete ramp (KZ-NIA, 1/1997: 8). This is useful as level two hosts the main kitchen and dining area, whilst level three hosts the multipurpose hall.



Figure 85: Kitchen in the temple (Source: Authors own, 25/03/2011)

Whilst the vertical hierarchy of the functions is adequate to the site, the manner in which certain functions are addressed is not sufficient (fig 85). The most apparent negative trait of the spaces can be summed up as the lack of natural daylight and ventilation, especially to the spaces below the entrance level.



A point of interest as the learned observer of traditional Indian architecture is that the link to nature, which is a principle of traditional Indian architecture, is missing. There is little to no vegetation on site as most of the surface, to which the worshippers are exposed to, is composed of concrete.



Figure 86: Multipurpose hall within the temple facility (Source: Authors own, 25/03/2011)



Figure 87: Dining hall inside the temple (Source: Authors own, 25/03/2011)

## **7.2.4 Empirical Research**

### **7.3.4.1 Discussion with Madan Nathoo**

A brief discussion with Madan Nathoo was conducted to further understand the role of the temple within the community. Mr Nathoo is in charge of maintenance and repairs in the facility. He discusses that on the temple draws crowds of approximately 500 people during the major religious festivals. This is a large crowd for the temple of approximately 300 square meters, thus reflecting the importance of traditional structures in the community.

According to Nathoo, the temple is not just a space to be used by society for religious worship. The temple is rather a facility that offers multiple functions in one location aimed at enhancing Hindu culture. The levels below hold a kitchen that caters for in house functions, as well as functioning as a catering business for weddings etc. that occur away from the facility (fig 86).

However, Nathoo discusses that the temple organisation also goes out into the community to assist in projects. For example, the facility encourages the interaction with the youth by engaging with the local scouts group.

All developments occur to donor funding Mr Nathoo describes that the complex is being developed in stages as funding from donors arrive. The final phase will be concluded hard surface parking on the vacant land behind the structure.

### **7.3.4.2 General Discussion**

The general discussion has been composed by the use of a questionnaire. The research reveals that those who utilise the facility feel that the spaces below those of the main worship space are not sufficient. This is partly due to functional requirements and partly due to the lack of light and natural ventilation.

The research also indicates that the target demographic is lacking in the age grouping of teenagers and young adults. As discussed with patrons, this is largely due to the fact that the facility is classified under the north Indian language subcultures and thus appeals only to those who prescribe to those dogmas. Hence, a member from the community that is classified under the south Indian language subcultures will not utilise the space as it does not cater to their religious and cultural practices.

The facility is prominently located within the area of Reservoir Hills and serves the largely Hindu community well. However, the facility does not have any linkages to the rest of the greater Durban area and thus there is a lack of awareness of its presence. Thus, members of neighbouring societies that do not belong to the Hindu culture do not visit the facility.

#### **7.3.5 Conclusion**

The Surat Arya Bhajam Mandir in Reservoir Hills is an example of a more recent attempt to interpret traditional principles in a contemporary way. This has been expressed mostly through the reinterpretation of forms using contemporary materials which address the image that the facility presents. However, the space is not successfully contemporary as the end result after experiencing the space is that the facility only represents a contemporary image on the exterior that stimulates interest whilst the spaces remain poor in quality.

The facility is located in an area from which it draws a strong demographic of users. However, what can be observed is that as the facility is dedicated to the religious and cultural patterns of the north Indian subcultures and thus, a large portion of the target society belongs to the south Indian subculture demographic do not use the facility as it infringes on the beliefs of their culture.

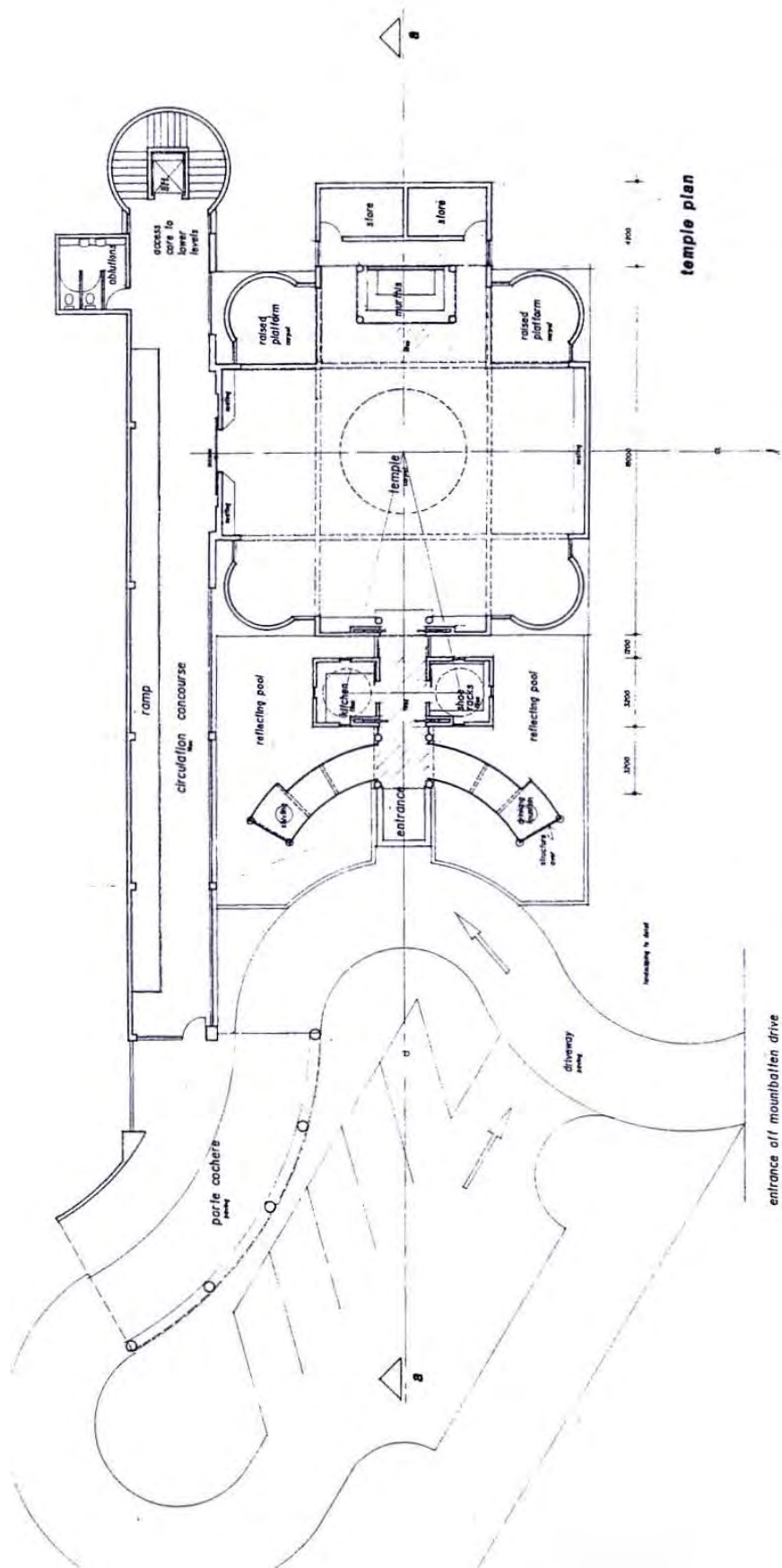


Figure 88: Plan of the temple (Source; Jhupsee, 1997: 8- 9)

#### 7.4 COMPARISON OF THE STUDIES

The chosen case studies demonstrate two examples of architecture that embody the traditional principles that are relevant to the Hindu culture. These principals can be best seen demonstrated in the sacred architecture of the religion, i.e. the history of Hindu temples that have contributed to the development of the built environment and have become the markers for Hindu culture. The selected examples are both located outside the city of Durban. This was intentional to illustrate the immense draw power tradition has over this cultural group on a smaller urban scale.

One of the contrasting characteristics between the chosen case studies is the 35 year difference between the developments of the spaces. Thus the examples chosen represent two different time periods for Hindu's in the history of Durban and South Africa. The first study examines the Hare Krishna Temple of Understanding in Chatsworth, a township south of central Durban that is a high density residential area. The complex was completed over 40 years ago and is dedicated to the design principles of the Hare Krishna Movement which are based upon traditional Hindu principles, thus providing the followers of this movement with a sense of belonging in the built environment. By providing this sense of belonging, the identity and culture of the group is reinforced therefore enforcing the personal identity of the devotee. Hence, the structure is given meaning on many levels.

The Hare Krishna Temple of Understanding also marks a particular period of history for Hindu culture in South Africa. During the period of its conception, the country was under strict Apartheid rule which strangled all cultural diversity. The temple was completed in the late 1960's shortly after the Group Areas Act had been passed, forcefully removing people of colour to densely packed areas on the outskirts of the city, such as Chatsworth, and denting their sense of belonging to a place. At the time, the Hare Krishna Movement was incredible popular globally, but was unknown in South Africa. The establishment of the facility marked the introduction of the cultural phenomenon and the creation of the first complex of its kind in the country. It served as an icon to all Hindu's who could identify with the Hindu principles of the facility.

Although the facility is symbolic of the Hare Krishna Movement, it transformed into an icon of spirituality for the culture creating a sense of belonging.

It has been over 40 years since the establishment of the facility and the recent examination has revealed that the space still has relevance to the society. However, since the establishment of the Hare Krishna Temple of Understanding, the social, political and economic landscape of South Africa has changed quite dramatically. The country is now a democratic society that embraces cultural diversity. Thus the Hindu society has evolved into a modern society that embraces traditional culture and modernity simultaneously. The Surat Arya Bhajam Mandir in Reservoir Hills is a facility that embodies this merger. The facility was established recently and is a contemporary adaptation of traditional Hindu principles. The intention of the designer of the facility was to create a space that embodies contemporary Hindu lifestyle. Thus tradition was infused with technology to create an icon in the landscape of the suburb. This space has become iconic to the community as it represents a new path in history by embracing contemporary lifestyle.

Overall both buildings embody traditional principles that assist in the formation of the identity of a subculture which contributes to the cultural diversity found in our city. However, what is made apparent in the examination of these facilities is that apart from the obvious function of religious worship is that the spaces serve as a catalyst for alternative functions. These functions are culture driven, such as language classes etc., and are thriving with large support from the community.

It can be observed though, that the spaces that these alternate functions are assigned to seem to be an afterthought to the main function of the space- that of the temple. The spaces are often badly designed and services are not catered for. The research observes that the temple function stimulated this evolution in the Hindu culture and that this culture is no longer dependent on the temple facility for its livelihood. Hence, the lacking aspect of the built environment is a facility that allows this alternative culture to flourish freely.

The chosen case studies also illustrate the break in the linkage of the Hindu community. In buildings such as the illustrated examples, the worship spaces are dedicated to

particular subcultures. The dedication of the space in the manner alienates those that do not follow that particular dogma, hence they do not engage with the space.

## CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

The research thus far has gathered information through the use of literature review precedents and case studies that is important to the dissertation. The literature has created a theoretical framework that has engaged in a discussion of issues and relevant solutions as exemplified by global strategies. Thus innovative solutions were investigated.

Case studies were investigated to examine the current allowance for buildings dedicated to a subcultural group. As a result, a conclusion was drawn of the typology of space that is lacking in the built environment. The following conclusions and recommendations are derived from the research discussion and all relevant reviewed sources.

The research began by examining and creating an understanding of the term culture. Culture can be summed up as the driving force behind the manner in which we conduct our daily lifestyles. It is an undeniable force that is intrinsic in human beings. Thus, regardless of the menacing effect of globalization and industrialization, the effect of culture on the urban environment and the societies that inhabit them is indisputable. Hence, as the research has illustrated, there has been a recent trend of returning to culture as a tool for the combat of the urban decay that has engulfed urban centres worldwide. The research has drawn on the two definable methods of implementing this strategy. As previously discussed, the solution that is exemplified in developed countries embodies a return to culture by the manifestation of contemporary art in the public sphere. This is fostered through large scale urban projects with the central focus as an art gallery or theatre. This approach remains impartial to any specific cultural group within the urban environment and thus enhances the multicultural environment.

However, the enhancement of cultural diversity within developing nations, much like South Africa, is much different. These nations exhibit a strong sense of cultural identity which is expressed through vernacular customs and regional cultural traditions. Thus as illustrated in the research, the developing world exemplifies a built environment that draws from a strong sense of heritage. However, the developing world does not simply



adopt these principles as they stand in their traditional sense. There has been a fusion between traditional principles and modern architecture in the urban environment. Thus the adaptation of tradition principles is important to these developing nations as it serves as a form of cultural expression. The importance of cultural expression is that it allows a subculture to express them in the public realm, thus binding the society together and strengthening their cultural identity. Strong subcultures are important within the urban environment as they contribute positively to the cultural character of the place.

Traditions are a form of cultural expression that is steeped in history and heritage, thus they serve as a binding agent for those who share them, creating a subculture. The research has illustrated cases, especially where generators such as religion are involved, traditions have adapted to the cultural context. They have undergone a process of regionalism in order to adapt to the environment and create the best possible solution for that society. As illustrated by the research, this process is necessary as it allows the identity of a group to be expressed in the public realm, whilst creating a dual identity. This dual identity is composed of the manifestation of the local identity, and the manifestation of the traditional identity. The importance of expressing identity in the built environment contributes towards strengthening the sense of self of the individual, the subculture, and overall the culture of the place.

Investing in a valid cultural expression such as traditions creates an urban environment layered with meaning and value. This is a response towards combatting urban decay and the placelessness that manifests within our urban environment. As the research has illustrated, often these traditional expressions manifest themselves in the built environment in the form of symbols. Symbols are layered with meaning that may only be understood by a certain society. Hence, the use of symbols within the built environment allows the group to affirm their identity. Often, in the built environment, the symbols are often composed of character archetypes such as spatial layouts, form, textures etc. Archetypes provide a layer of meaning in the environment that is important as it links the emotional significance of a space to the identity of a group. However, as the research has proven, it is necessary for these archetypes to undergo a process of evaluation when being drawn upon, in order to create a new model based upon the best possible qualities.

The use of these archetypes has the effect of creating emotional significance and meaning in the environment. Archetypes are essentially precedents for the occurrence of a space that has built up a memory to a culture. Hence, archetypes present the user of a space with a shared sense of a repeated situation and a unique personal experience. This basically means that because the space is utilising archetypes that serve its functions, users will experience a shared experience that is dictated by the archetypal format whilst experiencing a personal experience as no two people can have the same interpretation of a space. Hence, a group meaning is attached to the space, whilst an individual meaning is created. This process creates meaning for a group and a user, and hence assists in affirming their identity publicly and privately.

The research then drew upon this theoretical framework and examined the specific cultural group of the South African Hindu in Durban. After an exploration into the origins and workings of the group, an understanding of the contemporary Hindu community was created. It can be observed that as the group is based strongly in the religious-cultural traditions, what has emerged in the culturally diverse country of South Africa is the evolution of the group's identity into a dual identity. The first identity is a cultural identity as a Hindu, whilst the second identity is of a South African citizen. Thus as the research has described, there has been a shift in the expression of this identity from a ritual based expression into a culture based expression.

Hence, the two identities have to be equally catered for in a union of principals. A space has to be created in which the dual identity can exist subtly. An architectural response which makes reference to and reinvents traditional Hindu archetypes blended with a South African response is the resolution towards catering for this unique dual identity. The renewal and contemporary referencing of these traditional archetypes, creates a response in which the South African Hindu's perspective is embraced to create a space in which the dual identity is catered for. Thus an understanding of two architectural responses has to be created. The first has to be a review of traditional archetypes that are of importance to Hinduism. The second has to be an understanding of the manner in which contemporary South African architecture represents the South African identity.

Hence, the first step was to conduct a review into a precedent of contemporary South African architecture was conducted. The emerging characteristic is that the

contemporary response is to embrace histories and heritage, and to express these freely in the public realm. The expression of a public identity in the manner, aims to enhance the cultural diversity of the country by fostering a cross-pollination effect between cultures.

The second step of the review was conducted to understand and generate a base of knowledge to create a built environment for the Hindu group. The research examined popular archetypes that can be reinterpreted and prove relevant to a contemporary society. The above precedents illustrate the modern adaptation of archetypes that derive from the Hindu culture. However, the question must be raised as to why these principles should be adapted. As the research has discussed previously, the adaptation of archetypes as a representation of the symbols of a culture serve to assist in creating meaning and value in our environment whilst affirm the identity of the culture in the public realm.

The research had thus far created an understanding of the effect of traditions on contemporary culture. The research had investigated the Hindu society and understood the problem with the manifestation of their identity. The next process was to create a possible architectural expression in the built environment that may assist the group in reaffirming their identity. However, the next step taken was to investigate the current spaces provided for the subculture.

An exploration into two facilities intended for the use of the Hindu society was conducted. Overall both buildings embody traditional principles that assist in the formation of the identity of a subculture which contributes to the cultural diversity found in our city. However, what is made apparent in the examination of these facilities is that apart from the obvious function of religious worship is that the spaces serve as a catalyst for alternative functions. These functions are culture driven, such as language classes etc., and are thriving with large support from the community.

It can be observed though, that the spaces that these alternate functions are assigned to seem to be an afterthought to the main function of the space- that of the temple. The spaces are often badly designed and services are not catered for. The research observes that the temple stimulated this evolution in the Hindu culture and that this culture is no longer dependent on the temple facility for its livelihood.

Hence, the recommendation of the research is to create a new typology of space for the group in the built environment that will allow the evolved group to manifest their identity freely. The typology of space requires a shift to allow the focus to fall on spaces that are culture driven, that embrace the archetypes generated by the traditional expressions of the religion based culture. Thus a cultural centre that fosters the development of the relationship between the culture and the community needs to imprint the built environment.

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## **APPENDIX A: Sample of Questionnaire**

University of KwaZulu-Natal

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School of Architecture

### **Research Questionnaire**

Nirupa Gopidayal

nirupa.gopidayal@gmail.com

To the questionnaire participant:

I would like to thank you for taking the time in order to fill in this questionnaire.

It is to be used solely for the purpose of the proposed research and any information that you do not feel comfortable in disclosing, please leave out. Your confidentiality will be respected and no personal information will be disclosed to any third party whatsoever.

**ALL INFORMATION IS OPTIONAL**

### PERSONAL DETAILS (OPTIONAL)

Name : \_\_\_\_\_

Telephone : \_\_\_\_\_

Date of birth : \_\_\_\_\_

Sex : Male ☐ Female ☐

### PERSONAL EXPERIENCE OF THE FACILITY

How often do you come to this facility?

0-4 times per month ☐ 5-10 times per month ☐ 10-15 times per month ☐

Other : \_\_\_\_\_

How long do your visits usually last?

\_\_\_\_\_

Do you enjoy visiting the facility?

\_\_\_\_\_

How do you get to the facility?

\_\_\_\_\_

Do you live in the immediate area? Yes ☐ No ☐

Is this the only facility along the lines of this function that you visit?

Yes ☐ No ☐

If no, what other facilities do you go to?

\_\_\_\_\_

Do you feel as though the facility appeals to a wide variety of the community?

Yes ☐ No ☐

If no, why not?

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Do you feel as though the space welcomes people from outside the cultural group?

Yes ☐ No ☐

If no, why not?

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Does the facility welcome users from all age groups?

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What are the types of activities that you use the facility for?

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Do you feel that the spaces suit the functions?

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Do you think that a facility that houses culture-based functions is needed for Durban?

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Do you think if there was a place for this cultural group that did not focus on religious practices the community would use it?

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Do you think such a place would encourage the youth to be more involved?

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Would you use such a place?

Yes ☐ No ☐

***Thank you.***

**APPENDIX B: Questionnaire Conducted at the Hare Krishna Temple of Understanding (sample 1)**

University of KwaZulu-Natal

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School of Architecture

**Research Questionnaire**

Nirupa Gopidayal

nirupa.gopidayal@gmail.com

To the questionnaire participant:

I would like to thank you for taking the time in order to fill in this questionnaire.

It is to be used solely for the purpose of the proposed research and any information that you do not feel comfortable in disclosing, please leave out. Your confidentiality will be respected and no personal information will be disclosed to any third party whatsoever.

**ALL INFORMATION IS OPTIONAL**

**PERSONAL DETAILS (OPTIONAL)**

Name : Anastacia Naidoo

Telephone : \_\_\_\_\_

Date of birth : 25-12-1986

Sex : Male ☐ Female ☒

**PERSONAL EXPERIENCE OF THE FACILITY**

How often do you come to this facility?

0-4 times per month ☒ 5-10 times per month ☐ 10-15 times per month ☐

Other : \_\_\_\_\_

How long do your visits usually last?

+ 30 minutes

Do you enjoy visiting the facility?

Yes

How do you get to the facility?

Car

Do you live in the immediate area? Yes ☐ No ☒

Is this the only facility along the lines of this function that you visit?

Yes ☐ No ☒

If no, what other facilities do you go to?

Temple in Isipingo

Do you feel as though the facility appeals to a wide variety of the community?

Yes ☐ No ☒

If no, why not?

This is a Hare Krishna Temple so mostly those people visit

Do you feel as though the space welcomes people from outside the cultural group?

Yes ☐ No ☒

If no, why not?

a lot of people don't belong to the Hare Krishna group,  
so they won't come

Does the facility welcome users from all age groups?

No, its mostly older people

What are the types of activities that you use the facility for?

Temple worship, restaurant - we have meals here, buy  
sweetmeat

Do you feel that the spaces suit the functions?

No - the temple is lovely. But the restaurant is -  
squashed at the bottom.

Do you think that a facility that houses culture-based functions is needed for Durban?

Yes. I would be more interested in going to a  
place that I can do other things in.

Do you think if there was a place for this cultural group that did not focus on religious practices the community would use it?

Yes. People in my age group don't like going to temples  
because they don't enjoy prayer. But they are still Hindus

Do you think such a place would encourage the youth to be more involved?

Yes

Would you use such a place?

Yes ☒ No ☐

*Thank you.*

**APPENDIX C: Questionnaire Conducted at the Hare Krishna Temple of Understanding (sample 2)**

University of KwaZulu-Natal

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School of Architecture

**Research Questionnaire**

Nirupa Gopidayal

nirupa.gopidayal@gmail.com

To the questionnaire participant:

I would like to thank you for taking the time in order to fill in this questionnaire.

It is to be used solely for the purpose of the proposed research and any information that you do not feel comfortable in disclosing, please leave out. Your confidentiality will be respected and no personal information will be disclosed to any third party whatsoever.

**ALL INFORMATION IS OPTIONAL**

**PERSONAL DETAILS (OPTIONAL)**

Name : Alka

Telephone : \_\_\_\_\_

Date of birth : 19/08/1961

Sex : Male ☐ Female ☒

**PERSONAL EXPERIENCE OF THE FACILITY**

How often do you come to this facility?

0-4 times per month ☒ 5-10 times per month ☐ 10-15 times per month ☐

Other : \_\_\_\_\_

How long do your visits usually last?

half an hour

Do you enjoy visiting the facility?

yes

How do you get to the facility?

my own car

Do you live in the immediate area? Yes ☐ No ☒

Is this the only facility along the lines of this function that you visit?

Yes ☒ No ☐

If no, what other facilities do you go to?

\_\_\_\_\_

Do you feel as though the facility appeals to a wide variety of the community?

Yes ☐ No ☒

If no, why not?

This is the temple mostly for the use of the  
Hare Krishna group. I don't belong, so my visits are short.

Do you feel as though the space welcomes people from outside the cultural group?

Yes ☒ No ☐

If no, why not?

Does the facility welcome users from all age groups?

Yes, but mostly older people

What are the types of activities that you use the facility for?

Prayer, but we mostly come to the restaurant

Do you feel that the spaces suit the functions?

No - the restaurant is very dark and at the  
bottom

Do you think that a facility that houses culture-based functions is needed for Durban?

Yes



Do you think if there was a place for this cultural group that did not focus on religious practices the community would use it?

Yes, especially the younger generation

Do you think such a place would encourage the youth to be more involved?

Yes

Would you use such a place?

Yes ☒ No ☐

**Thank you.**

**APPENDIX D: Questionnaire Conducted at the Surat Arya Bhajam Mandir  
(sample 3)**

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University of KwaZulu-Natal

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School of Architecture

**Research Questionnaire**

Nirupa Gopidayal

nirupa.gopidayal@gmail.com

To the questionnaire participant:

I would like to thank you for taking the time in order to fill in this questionnaire.

It is to be used solely for the purpose of the proposed research and any information that you do not feel comfortable in disclosing, please leave out. Your confidentiality will be respected and no personal information will be disclosed to any third party whatsoever.

**ALL INFORMATION IS OPTIONAL**

**PERSONAL DETAILS (OPTIONAL)**

Name : NEVASH

Telephone : \_\_\_\_\_

Date of birth : 10 - 07 - 1980

Sex : Male ☒ Female ☐

**PERSONAL EXPERIENCE OF THE FACILITY**

How often do you come to this facility?

0-4 times per month ☐ 5-10 times per month ☒ 10-15 times per month ☐

Other : \_\_\_\_\_

How long do your visits usually last?

30 MINS / 1 HOUR

Do you enjoy visiting the facility?

YES

How do you get to the facility?

CAR

Do you live in the immediate area?

Yes ☒ No ☐

Is this the only facility along the lines of this function that you visit?

Yes ☒ No ☐

If no, what other facilities do you go to?

NONE

Do you feel as though the facility appeals to a wide variety of the community?

Yes ☐

No ☒

If no, why not?

THERE ARE YOUNG CHILDREN WHO COME FOR LANGUAGE  
CLASSES, BUT THE TEMPLE IS RUN BY THE GUJARATI COMMUNITY

Do you feel as though the space welcomes people from outside the cultural group?

Yes ☐

No ☒

If no, why not?

ITS A TEMPLE, ONLY HINDUS HAVE A USE FOR IT

Does the facility welcome users from all age groups?

NO, MOSTLY OLDER PEOPLE COME FOR SERVICES  
ETC.

What are the types of activities that you use the facility for?

I HELP WITH THE CATERING FOR OUTSIDE FUNCTIONS

Do you feel that the spaces suit the functions?

NO, THE LOWER FLOORS DONT GET ENOUGH AIR  
OR SUNLIGHT, ITS VERY DARK DOWNSTAIRS

Do you think that a facility that houses culture-based functions is needed for Durban?

YES

Do you think if there was a place for this cultural group that did not focus on religious practices the community would use it?

YES DEF

Do you think such a place would encourage the youth to be more involved?

YES

Would you use such a place?

Yes

☒

No

☐

*Thank you.*

**APPENDIX E: Questionnaire Conducted at the Surat Arya Bhajam Mandir  
(sample 4)**

University of KwaZulu-Natal

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School of Architecture

**Research Questionnaire**

Nirupa Gopidayal

nirupa.gopidayal@gmail.com

To the questionnaire participant:

I would like to thank you for taking the time in order to fill in this questionnaire.

It is to be used solely for the purpose of the proposed research and any information that you do not feel comfortable in disclosing, please leave out. Your confidentiality will be respected and no personal information will be disclosed to any third party whatsoever.

**ALL INFORMATION IS OPTIONAL**

**PERSONAL DETAILS (OPTIONAL)**

Name : Mee/a R.

Telephone : \_\_\_\_\_

Date of birth : \_\_\_\_\_

Sex : Male ☐ Female ☒

**PERSONAL EXPERIENCE OF THE FACILITY**

How often do you come to this facility?

0-4 times per month ☒ 5-10 times per month ☐ 10-15 times per month ☐

Other : \_\_\_\_\_

How long do your visits usually last?

from half an hour to one hour 30 minutes

Do you enjoy visiting the facility?

yes I do yes I do

How do you get to the facility?

with my car with my car

Do you live in the immediate area? Yes ☒ No ☐

Is this the only facility along the lines of this function that you visit?

Yes ☒ No ☐

If no, what other facilities do you go to?

\_\_\_\_\_

Do you feel as though the facility appeals to a wide variety of the community?

Yes ☐

No ☒

If no, why not?

*This is a north indian temple*

Do you feel as though the space welcomes people from outside the cultural group?

Yes ☐

No ☒

If no, why not?

*only hindu people will come here*

Does the facility welcome users from all age groups?

*No, mostly older people*

What are the types of activities that you use the facility for?

*prayer - my son goes for guitar lessons*

Do you feel that the spaces suit the functions?

*No*

Do you think that a facility that houses culture-based functions is needed for Durban?

*Yes*



Do you think if there was a place for this cultural group that did not focus on religious practices the community would use it?

Yes, especially the youth

Do you think such a place would encourage the youth to be more involved?

Yes

Would you use such a place?

Yes ☒ No ☐

**Thank you.**

**THE INFLUENCE OF TRADITIONAL ARCHITECTURE ON  
CONTEMPORARY CULTURE:**

A Proposed Hindu Cultural Centre for Durban

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A dissertation submitted to the School of Architecture, Housing and Planning  
University of KwaZulu-Natal, Howard College, Durban, in partial fulfilment  
towards the degree of Master of Architecture.

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# DESIGN REPORT

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## CHAPTER 1: INTRODUCTION

### **1.1. Background**

The proposed design for a Hindu Cultural Centre for Durban, located in the suburban area of Reservoir Hills, aims to establish a building that addresses the need for a contemporary icon of the culture. The proposed centre focuses on creating a composition of spaces that honour the culture of the Hindu community of Durban, whilst allowing the trends in culture to manifest. The facility is aimed at a cultural group, but will not recreate a religious worship facility. This is in order to create an unthreatening environment that any person might be curious to discover. The centre will provide a composition of spaces that aim to encourage those in all walks of life. Thus spaces include sports facilities, flexible multipurpose spaces, and education facilities.

The design is a result of the findings from the research that has been conducted on a resolution on how to create a facility that caters to a culture with a strong traditional identity. The research has shown that the Hindu community of South Africa exhibit a dual identity. The first identity is that of the traditional religion affiliated Hindu identity. The second is the identity of the modern South Africa. Thus the research examined international precedents in order to understand the basis for catering to a community with a strong traditional foundation.

The international precedents exhibit that an appropriate response is to honour the traditions of the particular community. This is important in order to preserve the group memory that has been developed over extensive periods of time. However, these traditions have to be re-evaluated to ensure that the relevant information is brought forward. Thus the traditions in themselves continue to evolve alongside with the community. In the built environment, the traditions are brought forward by the renewal and re-evaluation of archetypes.

Therefore, the adoption of the resolution to renew building archetypes aims to cater to the dual identity of the Hindu community.

## CHAPTER 2: THE CLIENT

### 2.1. The Notional Client

#### *The South African Hindu Maha Sabha*

The research thus far indicates that the ideal client for the proposed development would be none other than the South African Hindu Maha Sabha.

In the 1912 an organisation was formed to maintain the various streams of Hinduism in South Africa. The Durban-based parent organisation was initiated by the Swami Shankaranand who worked towards ensuring the continuance of the practice of the religion and traditions of Hinduism. Shankaranand aided in the revival of Hindu festivals, assisted in the formation of Hindu organisations, established vernacular schools and resuscitated the practice of ancient traditions (<http://scnc.ukzn.ac.za/doc/INDIAN/sabhas/hindusabha.htm>).

The Maha Sabha is composed of members from religious and cultural organisations from all the main streams of South African Hinduism. The main aim of the Maha Sabha is to process and deal with all matters of importance that pertain to the Hindu community of South Africa. This process is fostered through the organisation of national conferences. The Maha Sabha also aim to ensure the spread of knowledge about the religious and cultural practices of Hinduism, and are often the platform through which the Hindu community communicate with the Government (Diesel & Maxwell, 1993: 6-7).

The aim of the centre, which has been deduced from the research thus far, is to create a facility that enhances the cultural character and identity of the Hindu group that live within the city of Durban.



## **2.2. The Clients Requirements**

The design should reflect:

- As proven by the research, a unique South African Hindu identity
- The nature of the space should be friendly and welcome a diverse community
- Flexible to accommodate a fluctuating number of users, and varying levels of interaction
- The research indicates that the contemporary Hindu community have shifted their focus to interaction that is more culturally driven rather than religiously driven, such as language classes etc. hence the spaces that form the composition of the centre should be a series of spaces that encourage social interaction on varying levels as to stimulate cross-cultural pollination and learning amongst the community.
- The spaces should reflect the general Hindu identity and not one particular sect of the Hindu religion. This is important in order to maintain the overall aim of the centre which is to provide a facility that fosters inter -cultural and cross-cultural relations.
- The centre is a new concept for the Hindu community in Durban, which intends not to recreate the existing culturally relevant urban fabric.
- The centre should be a catalyst and serve to revitalise the existing culturally relevant urban fabric.
- In terms of traditional value, the transmission of this knowledge is best fostered through social interaction and constructions. Thus the facility should focus on creating an accessible platform for social interaction.
- The centre should incorporate income generating activities for both the benefit of the centre and the benefit of the community to which it serves.
- The client requests an education component to be included in the spaces in the form of a permanent historical exhibition which aims to educate the public on the development of the religion in the country.

- The client also requests that spaces for the youth be accommodated for activities such as dance etc.
- The centre should also house offices for the representatives of the South African Hindu Maha Sabha as to allow them to engage directly with a portion of the greater Hindu community.

### **2.3. The Users and Function of the Building**

The main purpose of the centre is to provide a platform for the cultural activities that have evolved out of the Hindu religion. It should thus incorporate a composition of spaces that cater to the broad range of ages and needs.

The secondary aim of the building is to educate and create an awareness of the religion and culture of the Hindu community in Durban. Thus the centre will incorporate outreach programmes, and in-house education programmes for languages, workshops etc. as well as a constantly running exhibition of the historical journey of the group.

The spaces allocated to the education components, such as seminar rooms, must be flexible in their application of the learning process. The spaces should allow for flexibility in the arrangement of furniture and encourage the interaction between users across various levels. Furthermore, the spaces should vary in size to cater for a variety of functions.

### **2.4. Detailed Brief**

- An important characteristic of the centre should be to encourage and provide opportunities for self-sufficiency. Therefore the centre needs to incorporate income generating activities for both the centre and the community in which it is located. The centre will include facilities such as a restaurant and retail spaces for rent to the

public. The facility will also include an outdoor market space for smaller income driven opportunities.

- The centre must acknowledge the community in which it is located amongst.
- The centre should accommodate office spaces for the South African Hindu Maha Sabha. This is to create a consistent flow of interaction information between the organisation and the community at large. The situation of offices within the facility creates awareness for the organisation and an air of easy access for the community. Thus interaction and communication is enhanced.
- The centre should provide a composition of spaces of a relaxed, informal and flexible nature with the main aim being to encourage social interaction. The design and arrangement of spaces should incorporate the careful use volumes, textures, floor plans, and landscaping combined with natural ventilation and natural light as far as possible. Thus the design should create an atmosphere that is nonthreatening to the curious individual.
- The design of such a new typology of space is a rather complex issue. However the main guiding principle of the design is derived from the research in that the gap in the urban fabric is a space that caters to the sociocultural needs of the community. Hence the “spirit” and character embedded in the spaces should encourage social interaction fully. The complex should, like the community, be an arrangement of layers of spaces that are flexible in function and interrelate. The connections between the spaces should be informal and casual to create a nonthreatening atmosphere and foster social interaction. An open and accessible environment is important as to allow the user to discover the spaces freely. Hence it is important that the design investigates the concept of blurred boundaries between spaces and between functions. This can be achieved by the well thought out use of furnishings and level changes and maintenance of consistent visual connections. It is also important that the design always be considerate of the target user and maintains human scale.
- The concept of the design intentions is for the facility to have a give and take effect on a variety of levels. This effect must occur firstly within the facility, followed by the facility and the immediate community, in which it is located, but also the facility

and the greater community of Durban and the other Hindu facilities across the urban fabric.

- Flexible spaces are meant to enhance the longevity and use of the spaces. However, it should not be a quality that necessarily applies to all the spaces.
- Parking nearby or on site is key. The facility should also be located along major public transportation routes.

## 2.5. Schedule of Accommodation

Function	Area (m <sup>2</sup> )	Room Description	Activities	Quantity	No. of People	Breakdown of Area	General Requirements
<b>Centre Admin</b>	<b>340</b>	Reception	Access and orientation point of the centre	1	n/a	+/- 100	This space is the first space that greets the user upon entering the centre. It is here that orientation and information will be provided on the variety of the centres functions. The space should be relaxed, welcoming and open.
		Offices for staff	Fixed spaces for staff administration	4	4	+/- 60	These fixed offices are for the staff in control of the daily running of the centre.
		Open plan offices	Flexible spaces for staff administration	1	10	+/- 80	The open plan offices are to cater for the support staff of the centre that assist in the daily functions.
		Centre Managers office	Administration	1	1	+/- 25	This space is dedicated to the private use of the administration official in charge of the centre.
		Board Room	Meeting space	1	14	+/- 30	Private space for the use of meetings.
		Kitchen	For staff use only	1	15	+/- 25	For the daily use of the administration staff only.
		Toilets	For staff use only	1	2	+/- 20	For the daily use of the administration staff only.
		Store room	Storage rooms for various functions such as cleaning equipment				
<b>Centre Amenities</b>	<b>340</b>	Refuse area	Garbage facilities for the centre	1	n/a	+/- 120	Service space that needs to be away from major activity areas, accessible from the service lane.
		Service yard		1	n/a	+/- 20	Outdoor area for back of house functions to occur in such as food deliveries.
		Ablutions	To serve the centre	2			WC, urinals, wash basins
		Store rooms	Storage rooms for various functions such as cleaning equipment	4	n/a	+/- 100	Kept to the back of house area of the building for safety and security reasons.
		Changerooms (with showers and lockers)	For the use of the those attending dance classes etc.	2	n/a	+/-100	Natural ventilation and lighting is necessary. Access to these facilities is through the building only and for centre patrons only.

<b>Day-care facility</b>	<b>100</b>		Private run facility that pays a rate to the centre for use of its facilities.	1	n/a	+/- 100	Open to all members of the community. Access to outdoor play spaces that are private and secure is necessary for the well-being of the children. The space must have passive security and privacy methods installed. Space should preferably be situated on ground level to avoid dangerous level changes.
<b>Formalised trading stalls</b>	<b>180</b>		Small daily rentable spaces for the use of members in the community to promote healthy fresh food markets and home crafted items.	20	n/a	+/- 180	These spaces should be used to create an active edge and as a draw card to the facility. The formalised trading stalls can be utilised to create a fresh food and goods market.
<b>Retail spaces</b>	<b>250</b>			5	n/a	+/- 250	These spaces are for permanent leased tenants who will rent the spaces from the centre assisting in generating an income for the centre.
<b>Gift Shop</b>	<b>75</b>	Main floor	Main display area of the gift shop	1	n/a	+/-50	This space will be maintained by the facility and offer trinkets to visitors of the space, generating an income for the facility.
		Managers office	For back of house operations	1	1	+/-15	For administration of the gift shop
		Store room	For the use of the gift shop only	1	n/a	+/-10	Storage for goods of the gift shop
<b>Restaurant</b>	<b>280</b>	Seating area	Main eatery floor area occupied with tables and chairs	1	50	+/- 150	This space will function from late afternoon through the evening, maintaining activity on site into the late hours of the night. The restaurant space will be rented from the centre, but will be a privately run establishment. The space must also be accessible from outside the centre's main entrance.
		Kitchen	For restaurant use	1	n/a	+/-40	Kitchen for the use of the restaurant for the daily

							support staff of the museum.
		Museum curators office	Administration	1	1	+/- 20	This space is dedicated to the private use of the administration official in charge of the museum.
		Open plan support staff	Flexible office spaces for support staff	1	2	+/- 30	For the daily use of the museum support staff only.
		Ablutions	For the use of the museum patrons and staff	2	6	+/-100	For the use of the museum patrons and staff only during exhibitions etc.
<b>Flexible Studio Space</b>	<b>480</b>	Main floor	Main activity space of the studio	4	n/a	+/- 100	Flexible floor space utilised for activities such as yoga, dance, meditation etc.
		Store room	Storage for the studio space	4	n/a	+/- 80	Storage used for each studio space for the storage of furniture
<b>Sports facilities</b>	<b>320</b>	Squash Courts	Indoor sport court	4	n/a	+/-240	Squash courts will be run through the facility and open to all via a rentable fee which will benefit the centre.
		Cricket Practice Nets	Outdoor sport court	4	n/a	+/- 80	Cricket practice nets will be run through the facility and open to all via a rentable fee which will benefit the centre.
<b>Music facility</b>	<b>120</b>	Music practice room	Flexible practice space	1	n/a	+/- 100	Music studio for conducting music lessons and practice sessions.
		Store room	Storage space	1	n/a	+/- 20	Storage facility for the use of the music facility only.
<b>Education facility</b>	<b>290</b>	Flexible seminar rooms	For the use of seminars, small group meetings etc.	4	n/a	+/- 100	Flexible seminar spaces that may be combined to create a large space for the use of small group meetings, seminars etc.
		Seminar store room	For the seminar room use only	1	n/a	+/- 20	Store room for the exclusive use of the seminar rooms to store unneeded furniture etc.
		Classrooms	Flexible teaching space	4	25	+/-160	Flexible learning spaces for the use of language lessons etc. to members of the community.
		Classroom store room	For the use of the classrooms only	1	n/a	+/- 10	Storage facility for the use of the classrooms only.
<b>Auditorium</b>	<b>855</b>	Auditorium	Space for performances and	1	200	+/-500	200 raked seated auditorium for the use of performances of the centre, conferences, and

			only				preparation of fresh meals and beverages.
		Store room	For restaurant use only	2	n/a	+/- 20	To be used to store dry and wet goods for the restaurant.
		Managers office	For the use of the restaurant manager	1	1	+/- 20	For administration of the restaurant.
		Ablutions	For the restaurant use	2	2	+/- 50	Ablution facilities for the restaurant
<b>Café</b>	<b>120</b>	Seating area	Main eatery floor area occupied with tables and chairs	1	30	+/- 50	The café will function through the working hours of the centre, providing light meals and beverages to the users of the facility. The space will be rented from the centre as a privately run establishment.
		Kitchen	For café use only	1	n/a	+/- 30	Kitchen for the use of the café for the daily preparation of fresh light meals and beverages.
		Store room	For café use only	2	n/a	+/- 20	To be used to store dry and wet goods for the café.
		Café managers office	For use of the manager only	1	1	+/- 20	For administration of the café.
<b>Heritage Museum</b>	<b>800</b>	Foyer	Orientation and information point	1	n/a	+/- 30	Foyer area for the exhibition spaces.
		Main exhibition hall	Space utilised to host permanent exhibitions	1	n/a	+/- 300	The fixed exhibition spaces will show the historical timeline of the Hindu religion and culture in South Africa through mixed media art forms.
		Temporary exhibition space	Flexible space used to host temporary exhibitions	2	n/a	+/- 200	The temporary exhibition spaces are utilised to host contemporary artworks from selected artists over a set period of time.
		Store room	Back of house storage area	2	n/a	+/- 20	Spaces are used to store away surplus equipment, furniture, artwork etc.
		Bar area	For staff use only	1	n/a	+/- 70	Bar area to serve beverages and snacks for events held in the space.
		Kitchenette	For staff use only	1	n/a	+/- 30	Small kitchen area for the preparation of snacks and such for events, as well as the use of the



			presentations.				rentable to the public for events.
		Back of house	Backstage activities of the auditorium.	1	n/a	+/- 50	Wings behind the stage etc.
		Dressing rooms	To facilitate the needs of the performers.	2	n/a	+/- 50	For the use of those utilising the stage space.
		Store room	Storage rooms for various functions such as cleaning equipment	1	n/a	+/- 30	For the use of the auditorium only.
		Foyer	Orientation and information point	1	n/a	+/- 30	Entrance zone into the auditorium and spillage space for before and after events.
		Bar area	For staff use only	1	n/a	+/- 70	To cater for the events held in the auditorium space.
		Kitchenette	For staff use only	1	n/a	+/- 25	For use of the auditorium bar.
		Ablutions	For the use of auditorium patrons	2	n/a	+/- 100	For use of the auditorium patrons only.
<b>Offices of the South African Hindu Maha Sabha</b>	<b>220</b>	Permanent staff offices	For the representatives of the South African Hindu Maha Sabha	2	2	+/- 60	Office space for the official representatives of the South African Hindu Maha Sabha to facilitate communication between the community and the organisation.
		Open plan support staff office	Flexible spaces for support staff.	1	8	+/- 100	Flexible office space for the support staff such as secretaries for the officials of the South African Hindu Maha Sabha
		Kitchenette	Tea kitchen for the use of the staff	1	10	+/- 20	For the use of the staff of the South African Hindu Maha Sabha
		Store room	Storage facility	1	n/a	+/- 10	For the use of the staff of the South African Hindu Maha Sabha
		Boardroom	Meeting space	1	10	+/- 30	For the use of the staff of the South African Hindu Maha Sabha

## CHAPTER 3: SITE SELECTION AND ANALYSIS

### **3.1 Introduction**

The research conducted so far has been leading to a resolution of the problem statement in the built environment. The research has covered issues that are pertinent to the design of a structure. However, before the research is resolved into a built structure, the dissertation must analyse the built environment on the principles that have been derived from the literature review and case studies in order to understand the best possible area location for the facility. The locations will then be scrutinized on a set of criteria that have been derived to judge the sites in accordance to suitability.

### **3.2 Issues derived from research**

#### **3.2.1 Hinduism in South Africa**

Hinduism first arrived in South Africa by the introduction of indentured Indian labourers from the country of India in the year 1860. The labourers were brought across to provide labour on the sugar cane plantations along the coast of KwaZulu-Natal. Approximately 90% of these labourers were Hindu (Diesel & Maxwell, 1993: 5). Regardless of the miserable working conditions of the indenture, the group showed tenacity in the commitment to their traditions. Thus, temples and shrines were erected.

### 3.2.2 Historic Sites in Durban (fig 1)

After the period of indenture was over, most of the immigrants chose to stay in Natal, especially in central Durban. The government provided living quarters for these immigrants in what is known as the Railway Barracks and the Magazine Barracks, where thousands of people were housed. As explained, the Hindu society were committed to their traditions, thus to cater for these traditions and spiritual needs three temples were erected in the area of these Barracks from 1880 onwards to serve the community. Of these three temples, only one remains: The Durban Hindu Temple in Somsteu Road (Diesel & Maxwell, 1993: 5).

Another area deemed to house the immigrants was Block A.K in Greyville. The area is noted as of holding approximately 5000 Indian families. However in 1950 the Group Areas Act was passed and the area was earmarked for urban renewal and White only ownership (Luckan, 2008: 67. Thus, the population of Indians, with all their traditions and character, were forcefully removed from the inner city and relocated to areas in the outskirts such as Chatsworth, Phoenix and Springfield.



Figure 1: Map showing historic settlement areas of Hindus in the greater Durban area (Source; Authors own, 2011/12/05)

The Springfield area was known as Tin Town due to the nature of the built environment that flourished there. The houses of the settlers were mostly constructed out of sheets of tin. The area was flooded in 1976 when the Umgeni River overflowed its banks, affecting approximately 781 families. The settlers were housed in tents at the Asherville Sports Ground awaiting the Durban City Council decision to make housing available in the township, to the north on the outskirts of the city, of Phoenix (scnc.ukzn.ac.za).

Thus, from three areas were chosen for the possible siting of the complex: Durban inner city (Somsteu Road), Greyville and the Umgeni River Valley.

### 3.2.3 Urban Setting

The reasoning behind selecting a site within the greater Durban area or as close to the city as possible, was to assist in proving the objective of the problem statement. The aim is to create a centre for contemporary Hindu culture based on traditional Hindu principles which will have the overall effect of creating an icon for the Hindu society in Durban. Thus the society will be given a sense of belonging and thus be able to reaffirm and strengthen their identity as a group and the personal identity of each of the followers of this religion.

An urban site was chosen in Durban as the city is central and is a major draw point to citizens scattered all over the province of KwaZulu-Natal, thus ensuring that the complex succeeds as an icon for a greater group of Hindu's. If the complex were to be sited in a township or suburb outside of the city, the awareness of the structure to the society for which it is intended will not be as greatly felt. Thus the sense of iconic identity that is meant to be held by the facility will be substantially decreased.

The placement of the facility within the city of Durban creates awareness for the facility in that the space will be able to draw on the pull of major tourist destinations which are located within the city. However, beyond the issue of tourism is the issue of cultural diversity. The space intends to allow a cross-cultural pollination in order to create awareness for the religion and therefore encourage understanding and tolerance amongst the population of the city. Thus the placement of the complex in a greater urban centre that hosts a large and diverse population of varying racial backgrounds will encourage the interaction between different groups with the Hindu culture. The broader racial spectrum is also important as the followers of Hinduism are no longer limited to the racial grouping of Indians. Therefore, locating the complex in the city will create a welcoming atmosphere to all that may be interested in the space.

Another intention of placing the complex in an urban setting is to assist in urban renewal of the city.

### 3.2.4 Building typology

The research conducted has led to an understanding of contemporary Hindu culture in South Africa. It is understood that the followers of this religion are still very strongly tied to the traditions and culture that is derived from the religion itself. However, research has shown a shift in the contemporary culture. Previous generations were very strong to the ritual process of the religion as part of the diaspora effect of leaving India as indentured labourers. Therefore the tenacity shown towards the preservation of their traditions and practices was important for the settlers to maintain the link back to their homeland.

However, 150 years later the society has changed. The society still identifies strongly with the traditions and culture of Hinduism, but the society now relate themselves as being South African first. Thus the focus has moved from ritual to cultural rather. Thus in understanding this shift, an understanding of the needs of this community is gathered. There is no need to construct any new sacred architecture. Research has shown that the historic structures are still very well utilized and treasured by the community. However, what is needed is a space to allow all the other aspects of Hinduism besides religion to flourish. These include the holistic lifestyle dictated in the principles of Hinduism that include well-being activities such as yoga. An analysis of these needs of the modern society reveals a group that respects their traditions whilst practicing contemporary lifestyles. Therefore the complex will create a merger between tradition and contemporary.

The derivation of this typology of space assists in site selection in that an understanding is created between the old and the new. Thus, the selection process reviewed traditions and historical sites relevant to the group, as well as reviewing the existing traditional architecture. Thus the driving principles of the site selection were to maintain a historic link and a traditional link by setting the complex adjacent to an existing sacred structure. This is important to allow a conversation to begin between tradition and contemporary, i.e. old and new.

### **3.3 Site selection criteria**

A list of criteria was derived in order to assess each of the selected sites thoroughly. This process is important to arrive at the best possible site for the intentions of the complex to be carried off successfully.

#### **1. Central location**

The site should be centrally located to allow for the creation of a complex that embodies the identity of the broader contemporary Hindu community all the while encouraging cross-cultural support. The central location will create a draw towards the area, counteracting decentralization and promoting the revitalization of the immediate vicinity.

#### **2. Historic Relevance**

The intention of the dissertation is to create a space that allows tradition and contemporary culture to co-exist in the same space. Thus the site of such a complex should have a historic value to Hinduism in KwaZulu-Natal thus enabling the past and the present to co-exist.

#### **3. Easy Accessibility**

The site must be easily accessible by major transportation methods and reasonably close to public transportation routes.

#### **4. Visual Prominence**

The site must be clearly visible at all times in order to establish a Hindu identity in the cultural landscape of the city, as well as to create awareness for the facility by those passing by, thus promoting cross-cultural relations.

#### 5. Proximity to other cultural catalysts

The site should be located within range of other cultural facilities to assist in a cross pollination effect, thus encouraging the cultural diversity of the city.

#### 6. Space For Future Expansion

The site should have enough space surrounding in its immediate context to allow for future expansion of the complex, as the community grows. Thus the facility shall remain relevant through time and therefore have a longer life span.

#### 7. Ability to enhance the immediate urban fabric

The chosen site should be well situated to enhance the immediate urban fabric as to allow the facility to fit into the context easily.

#### 8. Application of traditional archetypes

- Link to nature and natural archetypes (mountains/ hills, water, trees)
- Vaastu Shastra
  - The site must be open to all cardinal directions
  - One set of boundaries should align with the north south axis
  - The favoured shape of the site is either square/rectangle
  - Relation to nature
  - Topography: the site should slope downwards towards the northeast corner



### **3.4. Selected Sites**

#### **3.4.1 Site A: Somsteu Road (fig 2)**

##### **1. Central location**

The site is located in central Durban city close to the CBD of the city, and near major tourist attractions of the city that draw both international guests and local users from across the country, such as the Durban beachfront and the Suncoast casino. The site will thus be accessible to a variety of users and to all cultures to foster cross-cultural relations and contribute to the rich cultural diversity of South Africa.

##### **2. Historic Relevance**

The site is located next to the Durban Hindu Temple, a structure that is well over 100 years old. The temple is the only remaining part of a trinity of temples that were constructed from the 1880's onward (Diesel & Maxwell, 1993: 5). The neighbouring temple was constructed to serve the spiritual needs of the thousands of Indian labourers that were housed in the inner city Magazine Barracks and Railway Barracks adjacent to the site.

##### **3. Easy Accessibility**

The site is located between two major accessibility vehicular arterials of the M12 and M4 freeways. These freeways provide easy linkage of all areas outside of Durban Central. In general, many users from areas to the north of Durban, such as Umhlanga, Phoenix and Tongaat and areas to the south of Durban such as Umlazi and Chatsworth can be observed using the freeways for easy daily accessibility into the city centre.

Further accessibility is provided to the city by the means of the Durban train station and bus station which is situated adjacent to the site within easy walking distance. Thus accessibility to the site is easily provided for both private and public transportation, as well as easy walkability from major tourist and cultural draw points.

#### 4. Visual Prominence

The site is situated between two major vehicle arterials thus the site has a high visual prominence due to the incoming and outgoing traffic to the city. The site is along a major axis way that links the city with the beachfront. Thus the axis way provides a vehicular and pedestrian pathway which is quite popular.

The buildings surrounding the site in the immediate context are low, with a maximum height of approximately three floors. As one moves away from the site, the building heights increase for residential purposes and office spaces in the form of high rise buildings. This is especially evident to the east of the site along the Durban beachfront, and the south of the site in the inner city.

#### 5. Proximity to other cultural catalysts

The site is adequately located adjacent to a cultural icon to the Hindu culture in the form of the Durban Hindu Temple. This facility has historic value to the Hindu community as well as traditional value which have kept the space relevant and functioning up to date.

The site is also adjacently located to other to other prominent cross-cultural sites and tourist destinations which will provide incentive for cultural diversity in the city.

#### 6. Space For Future Expansion

Space for future development is limited due to the vicinity of the Kingsmead Office Park.

#### 7. Ability to enhance the immediate urban fabric

The site is situated in a high density urban environment composed of office buildings and municipality facilities; hence the intended function of the facility will enhance the immediate fabric by adding to the cultural value of the area.

## 8. Application of traditional archetypes

The chosen site in the urban centre of Durban is not closely related to any natural archetypes nor does it satisfy many of the rules of the Vaastu Shastra.



- site
- Cultural Space
- Commercial/ Office Space
- Civic Building
- Transportation Hub
- Green Spaces

Figure 2: Map of the immediate context of site A

(Source: Google Earth, adapted by author, 2011/12/05)

### **3.4.2 Site B: Greyville (fig 3)**

#### **1. Central location**

The site is situated in the city of Durban within walking distance to the inner city. The site is on the outskirts of the Greyville Race course, a well-known popular tourist attraction for local residents and international tourists.

#### **2. Historic Relevance**

The site is close to the historic site of Block A.K. This area was used for housing Indian settlers during the Apartheid Governments rule over the country. The area was reclaimed and the settlers were moved to areas in the outskirts of the city such as Chatsworth and Phoenix, which are still largely Indian population dominated.

Thus the site is located in an area which is rich in historic value to the Hindu community in Durban, whilst being central enough to draw and support the multiracial community of contemporary Hindus.

#### **3. Easy Accessibility**

The site is along the busy major arterial of Sydenham Road which links to the M4 freeway and connects direct suburbs on the immediate outskirts of the inner city of Durban, such as the Berea and Essenwood.

Accessibility is situated closely to the major vehicular arterials of Umgeni Road, and the M12 and M4 freeways. Alternate public transport is easily available as there are nearby taxi ranks within walking distance, as well as stations for the Durban train and bus stations, which ease accessibility to the site by combining with pedestrian movement.

#### 4. Visual Prominence

The site is located along the busy arterial of Sydenham Road which connects the Berea area to the inner city. The site is adjacent to the entrance of the busy and popular Botanic Gardens, which sees masses of users especially on weekends. The site is situated adjacent to the Greyville Race Course which is a popular destination in the city of Durban. Thus the site has a high visual prominence.

#### 5. Proximity to other cultural catalysts

The site is situated closely to other cultural catalysts such purposefully to ensure that a cross-cultural conversation in the built environment is stimulated. The major cultural draw for the siting of the complex in this area is the Sydenham Road Mandir, more commonly known as the Kendra Temple. This facility is a well-known and well-used facility to the Hindu society in Durban. Thus the siting of the complex near this iconic facility aims to initiate a conversation between the two spaces to strengthen the identity of the group in the city.

Other cultural facilities in the area include the Orient Islamic School, sporting facilities, the historic Botanic Gardens and the St. Augustine's School. The site is also situated adjacent to the popular Greyville Race Course.

#### 6. Space For Future Expansion

Space for future development is limited, can be provided on sites adjacent to the selected site thus forming a precinct and enhancing the cultural character of that area.

#### 7. Ability to enhance the immediate urban fabric

The chosen site is situated amongst other cultural facilities, thus the proposed function chosen to be located on the site will assist in enhancing the function and use of the immediate urban fabric.

## 8. Application of traditional archetypes

The site is situated amongst a strong natural setting; however, the site does not satisfy any of the constraints and rules of the Vaastu Shastra.



Figure 3: Map of the immediate context of site B  
(Source: Google Earth, adapted by author, 2011/12/05)

### **3.4.3 Site C: Umgeni Valley, Reservoir Hills (fig 4)**

#### **1. Central location**

The site is located in the Umgeni River Valley. The site is located centrally to other areas in KwaZulu-Natal, yet is on the outskirts of central Durban. However, the site is located close to central Durban city, an area of mixed racial character. Thus the site is not in an area that will hinder Hindu's of other racial backgrounds from utilizing the complex, allowing the identity of the Hindu society to be strengthened.

#### **2. Historic Relevance**

The Umgeni River Valley once hosted the settlements of thousands of Indian Labourers in the settlement known as Tin Town. After the Group Areas Act was initialized by Apartheid government, the settlers were moved to areas on the outskirts of the city such as Reservoir Hills which shares the Umgeni River Valley. The river valley is also host to a variety of historic Hindu facilities which are still largely used by the Hindu society.

#### **3. Easy Accessibility**

The site is located adjacent to the busy N2 freeway and is easily accessible from the M19 freeway. The area is situated along major public transportation routes provided by bus and taxi movement, thus enabling easy access to the area.

#### **4. Visual Prominence**

The site is of High visual prominence due to its location in the valley of the Umgeni River. The particular position at which the site intersects the valley is prominent as it is visible from all surrounding directions which are composed of the residential areas of Reservoir Hills, Parlock, Newlands and the business district of Springfield. The prominence is further enhanced due to the level surrounds of the flood plains and the high valley hills which erupt from the river. The linkage to the rest of the greater Durban area and the surrounding

suburban areas is enhanced by the major arterial of the N2 freeway which passes by the site, creating a visual connection.

#### 5. Proximity to other cultural catalysts

Major cultural catalysts are located within the immediate vicinity of the site. The most distinctive of all of these is the Clare Estate Crematorium situated at the end of the axis along which the site is situated. Cremation is an important aspect of the funeral process of a Hindu person, and the Clare Estate Crematorium is the busiest amongst one of the few facilities of its kind, drawing guests from all over the greater Durban area and surrounding areas.

Next to the Crematorium is the Divine Life Society, a subdivision of the Hindu culture, *Ghat* facility. The *Ghat* is a set of broad stairs which lead down to the water's edge of a river. It is characterized by the *Ghat* in Varanasi, India which leads down to the Ganges River. The stairs provide a structural platform for ritual and traditional cultural acts to be carried out. For example, the *Ghat* in Varanasi provides a platform for those wishing to bathe in the Ganges River (<http://www.thefreedictionary.com/ghat>). The *Ghat* that connects with the Umgeni River provides a space for the scattering of ashes from the cremations that occur next door in the ritual that ends the funeral process.

Another cultural node point along the axis is the Jeeyan Kara Tennis Centre. The facility provides tennis courts which are utilized daily by residents of the area for recreational purposes. Opposite this facility is the Papa Sewgolum Golf Course which is a population destination for golfers from all over Durban.

Along the axis is the R.P Moodley School for Learners with Disabilities and the Dr. A.D Lazarus High School. Adjacent to which is the Reservoir Hills Shopping Centre which is always bustling with activity.

#### 6. Space For Future Expansion

The site allows for space for future expansion due to the low density nature of the area.



#### 7. Ability to enhance the immediate urban fabric

The site is situated in a precinct that can be identified as the main nodal point of the suburb. However the node is highly under developed. Hence the development of the proposed facility will have the effect of enhancing the immediate urban fabric as well as the urban fabric of Durban.

#### 8. Application of traditional archetypes

The site is situated amongst important natural archetypes, such as the hill towards the north of the site and the Umgeni River that touches the northern edge of the site. The site also complies with all the site selection criteria set out by the Vaastu Shastra planning guide.



- site
- Cultural Space
- Commercial/ Office Space
- Civic Building
- Green Spaces

Figure 4: Map of the immediate context of site C  
(Source: Google Earth, adapted by author, 2011/12/05)

### Overall Rating

The sites were assessed on the criteria but were also given numeric value in order to obtain the best possible location. The scale ranges from 1-5:

Poor (1)      Adequate (2)      Good (3)      Very good (4)      Excellent (5)

CRITERIA		SITE A: Somsteu Road	SITE B: Greyville	SITE C: Umgeni River Valley
Central location		5	4	3
Historic Relevance		5	3	5
Easy Accessibility		5	5	5
Visual Prominence		4	3	3
Cultural Linkages of the Area		5	4	3
Space for Future Expansion		1	3	5
Ability to Enhance the Immediate Urban Fabric		4	3	5
Traditional Archetypes	Link to nature and natural archetypes	0	3	5
	Vaastu Shastra	3	2	5
Total		32	30	39

### **3.5 The Site**

The three chosen potential sites were evaluated against the site selection criteria and awarded scores for strength in each category that was stipulated as important for selection. The importance of the criteria and the evaluation process is to ensure that the facility is located in the best possible location in order to serve the intended clientele well.

Based on the assessment, the winning site is the site in the Umgeni River Valley, amongst the suburb of Reservoir Hills. The location of the proposed facility here will ensure the enhancement of the immediate urban fabric and the urban fabric of the larger Durban area in many ways.

### **3.6 Site Analysis**

#### **3.6.1 Hindu facilities in the area (fig 5)**

The illustration shows the facilities in the area that are part of Hindu Culture and history in the area of Reservoir Hills. Some of the facilities include the Clare Estate Crematorium that services the cultural and religious needs of Hindu's from the greater Durban area. The map illustrates the gap in the urban fabric in that the missing element for this cultural grouping is a community facility. The map also illustrates that the facilities are scattered along the main access route and that there is a concentration of facilities at the bottom of the suburb in the immediate vicinity of the proposed facility.



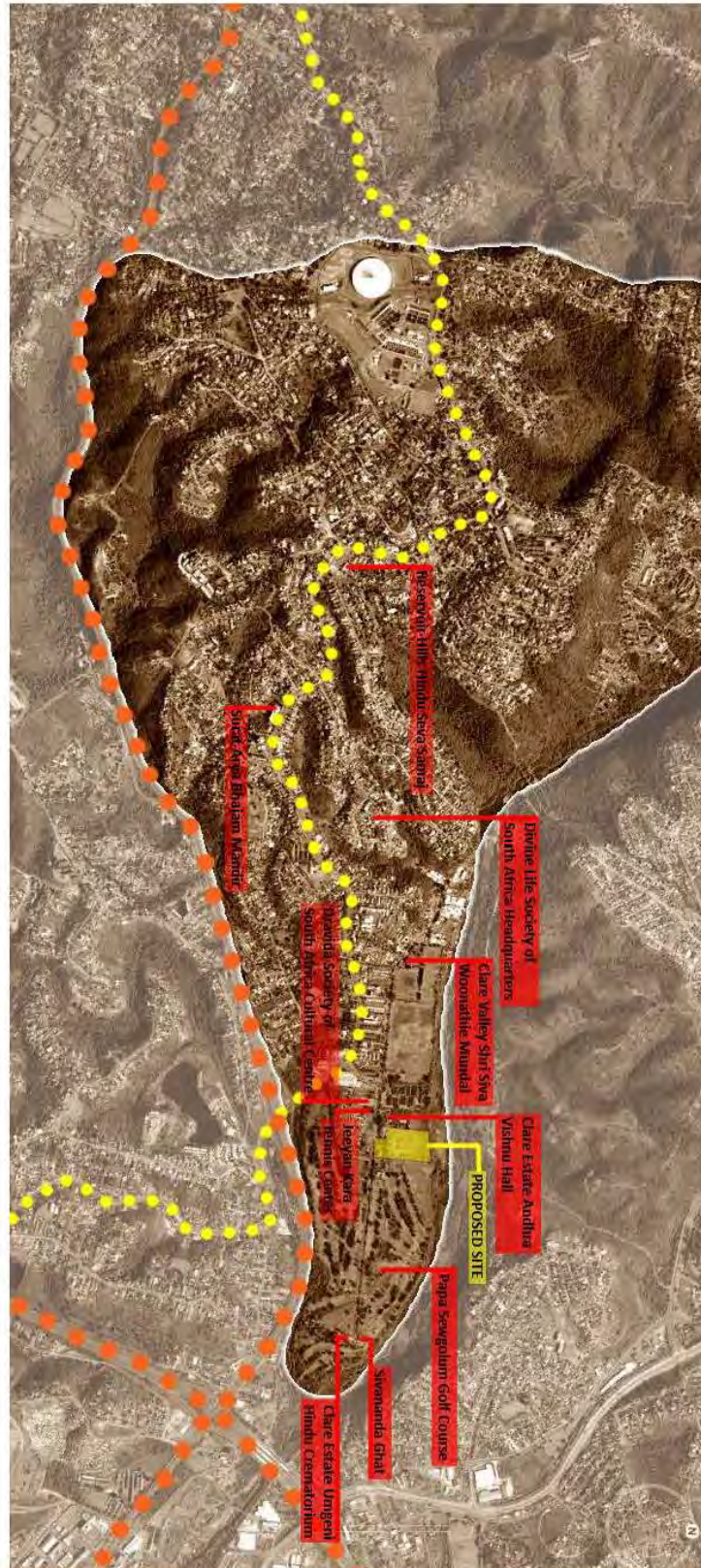


Figure 5: Map illustrating Hindu facilities in Reservoir Hills  
(Source: Google Earth, adapted by author, 2011/12/05)

### 3.6.2 Figure Ground Analysis



Figure 6: figure ground analysis

(Source: author's own, 2011/12/05)



The figure ground analysis (fig 6) illustrates that the site is amongst a densely designed residential area. However, the urban fabric of the immediate vicinity of the site is sparse. Hence the site has a high level of visual prominence from all directions and an ease of accessibility.

### 3.6.3 Zoning Analysis



Figure 7: Zoning Analysis

(Source: author's own, 2011/12/05)

The zoning analysis (fig 7) reveals that the site is within a dense residential area, which is a positive factor considering that the proposed function is aimed at community driven functions. Thus the centre will have a large base of users as the area is home to a large number of practicing Hindu's. The locating of the site amongst a high number of cultural facilities is key in order to create a push and pull effect in which the facility influences the use and function of these spaces, and vice versa.

The area in which the proposed site is located hosts a variety of functions thus the range of interaction of people with the facility will range greatly.

#### 3.6.4. Green Spaces

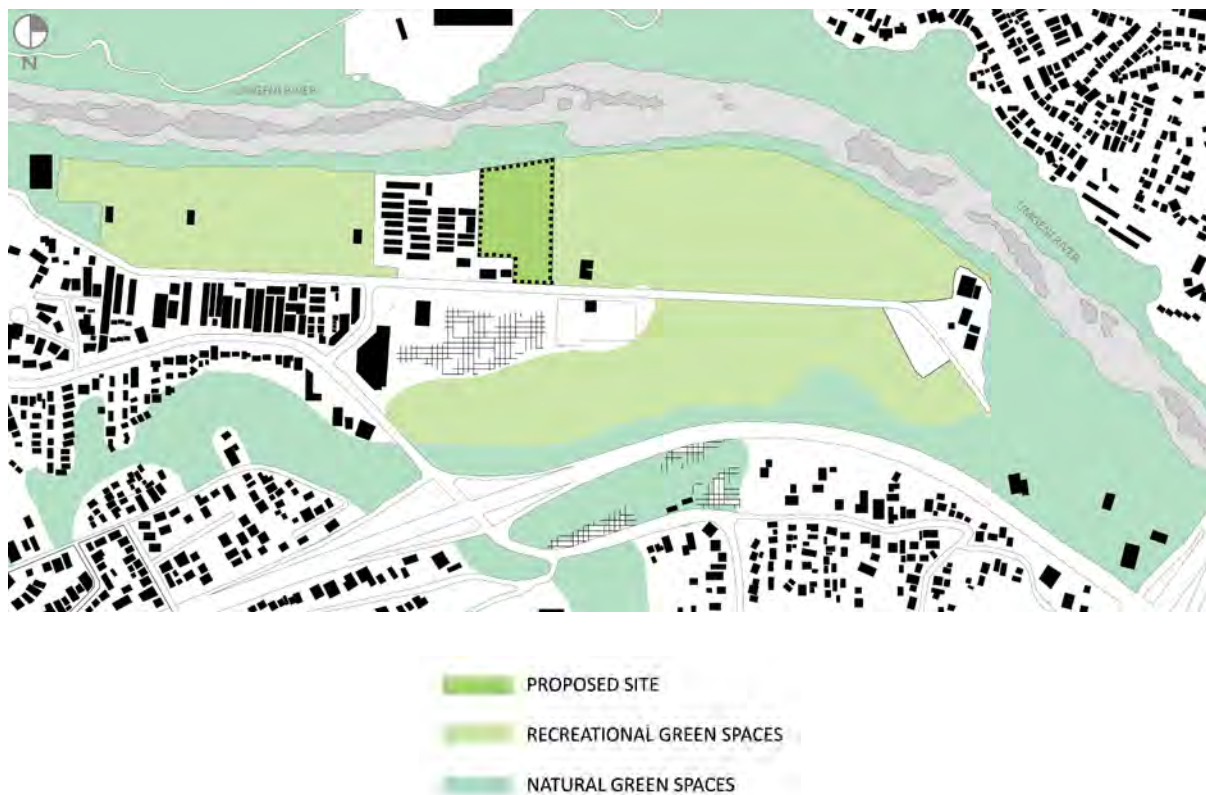


Figure 8: Green Spaces

(Source: author's own, 2011/12/05)

The green space analysis (fig 8) indicates that the site is located amongst a high concentration of recreational spaces and a high level of natural green spaces.



### 3.6.5 Nodes and Movement

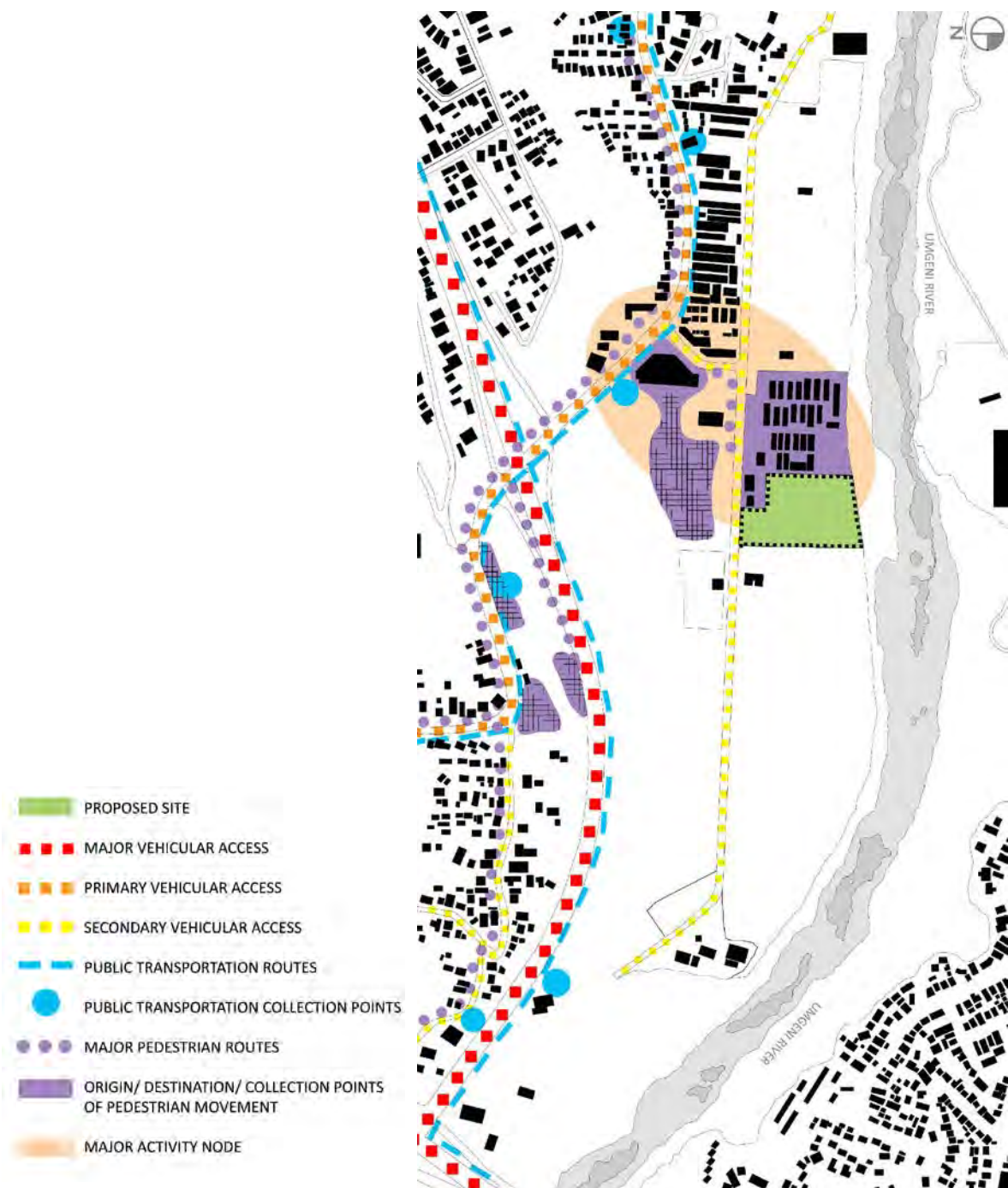


Figure 9: Nodes and Movement

(Source: author's own, 2011/12/05)

The proposed site (fig 9) is accessible by major vehicular routes, dominant public transportation routes and at ease for pedestrian access by local residents. The site is located near the N2 freeway which connects the area to the areas to the north and south of Durban. The M19 freeway runs through the suburb which creates a connection to regions to the west of Durban. The site is visible from these major access routes; hence the site acquires a high visual prominence.

The analysis reveals that the immediate vicinity of the site is the key nodal point of the suburb of Reservoir Hills. It the concentration point of civic amenities, commercial activity and cultural facilities.

### **3.7 Urban Design**

#### **3.7.1 Urban Design Framework**

- Revitalisation of the precinct to create an active zone
- Strengthen the existing movement patterns and infrastructure
- Soften the landscape and improve the quality of the urban landscape along the edge of the site
- Strengthen the commercial node
- Activate the edges of Siripat and New Germany Road
- Strengthen the cultural linkages

### 3.7.2 Urban Design Proposal

The urban design proposal investigates the possibility of enhancing and bettering the nodal point in which the site is situated. The nodal point is a concentration of commercial and civic amenities for the area. However, the node is underdeveloped and disconnected.

The investigation and analysis of the area revealed that the node is an underdeveloped cultural precinct. Amongst the commercial functions such as a shopping enter, and the civic amenities such as schools, are a bevy of cultural facilities intended specifically for the Hindu community that have developed over time such as temples. The area is also home to historically relevant sporting facilities such as the Jeeyan Kara Tennis Centre and the Papa Sewgolum Golf Course. These facilities are scattered along the span of the 2km road that runs adjacent to the site.

Hence, the first intent of the urban design is to introduce a tram line that runs along the length of Siripat Road in order to create an ease of accessibility to these facilities. The proposed facility is intended to serve as the main stop and start point of the tram line. Hence, this aids the facility in having a catalytic effect with the cultural catalyst in the area, creating interest in both the facility and the surrounding facilities. To further enhance this effect, it is proposed that the tram line runs along the main vehicular and pedestrian access route of Mount Batten Drive in the suburb of Reservoir Hills. This is in order to connect the cultural precinct to the other cultural facilities scattered across the area. The urban design also proposes that the tram line continue into the city to connect to other existing cultural facilities.

The proposed tram line intends to decrease vehicular traffic in the area. To further decrease the congestion that occurs at this nodal point, the urban design scheme proposes a new road to run along the edge of the Papa Sewgolum Golf Course. This new road is to cater to traffic that will move to the east of the site. The existing road will then end at the intersection of New Germany Road and Siripat Road, with a paved restricted access road running towards the site. This is to create a pedestrian friendly zone in the precinct. Thus in order to cater for the parking needs of the facilities that are within the pedestrian friendly precinct, a precinct parkade is proposed. The tram stop is situated in this parkade as to cater for the efficient movement of people to their required destination.

The new pedestrian zone is further enhanced by the inclusion of a pedestrian thoroughfare that runs from the proposed new road down to the river. The starting point of the thoroughfare is at the new taxi drop off zone. This is proposed as the existing bus and taxi rank is on the main road which causes a lot of congestion and is not pedestrian friendly. The pedestrian thoroughfare is marked by a series of fountains that bring the element of the Umgeni River onto the site and around the precinct. The thoroughfare runs along a north-south axis between the proposed Durban Hindu Cultural Centre and the

Hence, the new movement paths proposed by the urban design create new lots for development. In these spaces functions are proposed to create activity at all hours of the day to feed the function-ability of the proposed centre. Hence functions of the proposed new developments include retail and commercial spaces that spill out onto the paved pedestrian friendly spaces, low cost housing, and workshop spaces.

Adjacent to the thoroughfare is a proposed hard surfaced public square that shares an edge with the site. This square is edged by proposed retail and commercial spaces at one end that will spill out. The other edge of square is the south region of the Durban Hindu Cultural Centre. The main entrance into the facility is off the square. The multipurpose hall shares this plaza to allow for the act of procession and ritual in the Hindu religion that usually occurs outside. There square is also shared by the main restaurant of the facility. Other possible functions of the square include flexible market stalls.

## CHAPTER 4: DESIGN GENERATORS

### 4.1 Hindu Archetypes

#### 4.1.1 The Relevance of Traditional Archetypes to the Hindu Identity

Across the landscape of India, eloquent testimonies to the unrelenting skill of the Indian craftsmen are scattered in the form of temples. Building craftsmen were of great value to society not only for their role as craftsmen, but for their influence on tradition. The skills of the trade were conveniently passed along from father to son, from generation to generation, ensuring the liveliness of tradition (Grover, 1980: 172- 173).

As discussed by Luckan (Luckan, 2008: 22), the built form unique to a culture reflects their cultural character, as the cultural ethos is defined through its vernacular language. Thus the challenge that faces contemporary architecture aimed at reflecting a cultural heritage is to understand, rediscover, and redefine such architecture. Hence, the culture driven architecture should be an amalgamation of past principles and present time and place.

Hinduism is very closely related to nature. The elements of landscape- the hills, trees, caves, mountain slopes, rivers, springs and lakes- are all infused with potential sacredness. Nature is seen as sacred sites as described by the Hindu texts; “the gods always play where groves are, near rivers, mountains and springs and in towns with pleasure-gardens” (Michell, 1977: 68). Traditionally sacredness, which is an essentially part of the culture of Hindu’s, is achieved by the combination maintained by shade, water and seclusion.

As Hinduism is a holistic religion, the transition of its principles into the built form transcends that of solely religious. As listed by Luckan (Luckan, 2008: 22-23), there are a set of universal principles that can be extracted:

- a) The sense of centre and the statement of limits: In Indian architectural archetypes, centre assumes a metaphysical meaning which refers to the ancient interpretation of the centre of creation. In Hinduism, the centre is the source of all energy and is

occupied by Brahman. This centre may be conceptual or a manifested centre that is not necessarily a physical or geometric centre.

- b) Attitude to spatial organisation: Indian place-making is very strongly rooted in the layering of spaces. This is especially true of architecture aimed at the Hindu culture as the religion is in itself holistic. Therefore, the reflective cultural architecture is a composition of layered spaces, both functionally and symbolically, such as sacred spaces and everyday living spaces.
- c) Attitude to order: the Indian architectural response towards order is to create an amalgamation of a variety of spaces that exemplify their attitude towards embracing diversity, rather than simplifying the spaces to create a forced unity. This type of response embraces the contextual generators, contradictions and the imperfect to create a diverse whole in a unified concept of order.
- d) Attitude to form: traditionally, forms are a combination of additive and flexible in arrangement and composition.
- e) Attitude to light: the division between the building and the sky is in constant blur in Indian architecture. This is facilitated through a play on light and shadow, which in turn creates a metaphysical environment. This is important in Hindu architecture, as the importance of light relates to the presence of god.
- f) Attitude to symbols and meanings: symbols in architecture serve as metaphors for cultural beliefs. In Indian architecture, the symbols created in the landscape and spatial symbols create the archetypes that have existing for centuries now. Over time, these archetypes accumulate layers of meanings and patterns.

#### 4.1.2 Natural archetypes

- Water

Rivers are regarded as sacred due to their healing and purifying powers. This can be seen in the celebration of the Ganges River in particular. Water is required for the ritual acts of the religion. Attached to the symbolism of water is the symbolism of the Lotus flower which represents renewal and enlightenment (Michell, 1977: 68).

To provide easier access to the water's edge, a defining architectural element was created. *Ghats* are a series of stone steps which lead towards the edge of the water source. This space defining element is used for everyday practices such as bathing, and gathering water. However, this element is also utilised for Hindu ritual practices and worship (Luckan, 2008: 22).

- Trees

The sacred tree is a symbol that can be found in every village and town. The tree is usually the Banyan tree that is known for its ability to grow for centuries (fig 10). Parallels are often drawn between the large canopy of the tree and the likeliness of shelter that is provided by God to his devotees. Hence the tree is associated with nourishment and care (<http://nayna.in/blog/divine-grace/significance-of-banyan-tree-in-hinduism/>). The shade provided by the sacred tree is usually the place where meditation is possible and traditionally embodies a space in which contact with the divine may be achieved. Thus the Banyan tree is also associated with worship, festivals and rituals (Michell, 1977: 68).



Figure 10: Ritual acts around a tree

(Source: <http://robinstonfernando.blogspot.com/>, date accessed: 09/06/2011)

Hinduism believes that the act of rituals is the manner in which man catalysed the positive or negative energy of the cosmos. Initially, rituals included the acts of animal sacrifices. However, over time, these acts have fallen away and rituals are realised with offerings of food, flowers, milk etc. (Albanese, 1999: 12).

Historically, architectural solutions were reserved for the use of sacred structures such as temples. On a site deemed fit for a sacred building, one of the initial stages of construction was to erect a pole in the centre of the site to which a sacrificial animal would be secured to. The pole symbolises the centre of the cosmological arrangement, around which our universe revolves. Hence, the pole symbolises the connection between the heavens and the earth (Albanese, 1999: 12).

The sacrificial stake is linked to the important spiritual symbolism of the tree. The tree is the symbol of fertility and life. Symbolically, it is rooted in the ground and stretches towards the heavens, thus representing the spiritual path that man must follow. Since ancient times, it has been believed that divine interactions occur under trees (Albanese, 1999: 12). Trees are believed to be the home of guardian spirits.

As affirmed by Luckan (Luckan, 2008: 22), the space under a tree becomes a new zone separate from the space around. Luckan classifies this as an 'outdoor room' which usually defines an outdoor public space.



- Mountains

In Hinduism, mountains and hills are symbolic of the space in which the two hemispheres of the sky and the earth meet, creating a holy dimension. This dimension is believed to be the space in which the Gods dwell and perform sacred ceremonies. Thus Hinduism dictates the summit of mountains and hills to be a space of transference between the world of man and the world of the Gods (Albanese, 1999: 17).

#### 4.1.3 Spatial Archetypes

- Courtyards

One of the more important spatial archetypes in Indian architecture is the courtyard (fig 11). This space is both symbolic culturally and climatically practical. Traditionally, courtyards are used as outdoor public rooms in both public buildings and private dwellings. The space is usually dominated by a tree and a source of water, thus creating a micro-climate. In Hinduism, this space is assigned layers of meanings and symbolism (Luckan, 2008: 22a).



Figure 1: Courtyard of Fatehpur Sikri, India (Source: [http://www.travelpod.com/travel-blog-entries/eadamson/everywhere/1191825360/tpod.html#\\_](http://www.travelpod.com/travel-blog-entries/eadamson/everywhere/1191825360/tpod.html#_), date accessed: 09/06/2011)

- Ghats

One of the most symbolic *Ghats* is known as the Ghats of Varanasi (fig 12) which exists along the important Ganges River. The multitude of people who rely on the river utilise the ghats for a multitude of purposes that range from the mundane tasks of exercise to the act of meditation and the ritual process of cremation and worship ([http://hinduism.about.com/od/temples/a/varanasi\\_ghats.htm](http://hinduism.about.com/od/temples/a/varanasi_ghats.htm)). In a sense, the architectural element becomes a catalyst for an important element of being a Hindu; the sense of community. The ghat becomes a space that facilitates social interactions.



Figure 12: Varanasi Ghat

(Source: <http://www.indianwildlifetourism.com/photo-gallery.html>, date accessed: 09/06/2011)

- Kund

Other sacred spaces that encourage social interactions or meditation are *kunds*. As described by Luckan (Luckan, 2008: 22), kunds are sacred spaces that are defined by terraces or steps. The space is usually a sunken area that, on plan, can be in the shape of a square, rectangle,

circle or even a polygonal. The kund is usually placed in the centre of a building complex. In many existing examples, the centre is sometimes filled with a pool of water, or a tree (fig 13).



Figure 2: Kund in the city of Ujjain, India

(Source: <http://abhisays.com/india/ujjain-the-city-of-gods.html>, date accessed: 09/06/2011)

## 4.2 THE VAASTU SHASTRA

### 4.2.1 Introduction

The term Vaastu is a derivative of the Hindi word Vasa which means habitat (Reddy, 1994: 21). Hence Vaastu Shastra is the science of architecture of ancient India that understands the observations of the law of nature and the effect on human life with regards to the physical, psychological and spiritual order of the built environment, which in turn works in consonance with cosmic energy (Kumar, 2004: 9). It is the science which links the built environment with God and religion (Dutt, 2005: 42). Besides cosmology, traditional Vaastu Shastra combines characteristics from disciplines such as astrology, physics, chemistry, yoga and astronomy (Kumar, 2004: 12).

Vaastu is a science that is between 4000- 5000 years in age. The subject used to be purely a technical construction guide of knowledge that was confined to architects. It was tradition that these architects passed on this wealth of knowledge onto their heirs (<http://www.vaastu-shastra.com/origin-of-vastu-shastra.html>).

Modern Vaastu has evolved and adapted to current circumstances to create an amalgamation of ancient oriental values and modern concepts, with the main aim of uplifting and improving the quality of man's mind and body (Reddy, 1994: 31). As the Hindu religion has spread globally, so has their culture, food and beliefs which include the Vaastu Shastra (Whelan, 2002: 6). Although the science of Vaastu Shastra is rooted in the religion of Hinduism, it may be used by anyone to create a better living environment- whether they belong to the religion or not.

In recent years, the west has welcomed the adaptation of ancient building sciences such as Vaastu Shastra and Feng Shui to create better ordered living environment in our rapidly changing chaotic urban environment. According to the modern interpretation, Vaastu can be applied to residencies, industrial buildings, business establishments, lodges, hotels, etc. (<http://www.vaastu-shastra.com/origin-of-vastu-shastra.html>).

#### **4.2.2 Basic Principles**

Human beings have a built in regulator for our daily psychological processes known as our biorhythm. Biorhythms are intrinsic cycles which control characteristics such as memory, determination, coordination, endurance, character, emotions, and many more (<http://www.degraeve.com/bio.php>). Hence adapting the principles of the Vaastu Shastra to the daily environment of human beings allows the biorhythms of the human beings to match the rhythms of the universe, in which the sun plays the most vital role, thus creating a holistic relationship between man and nature (Kumar, 2004: 9). This results in an orderly, useful and peaceful life for human beings in the built environment.

Vaastu Shastra originates from ancient Hindu traditions and has been utilized in India for many centuries (Whelan, 2002: 6). Historically, the science of Vaastu was reserved for the use of privileged structures such as Hindu temples and Indian palaces. However, over time the science was applied to traditional Indian residential architecture. The adaptation of this building science to residential architecture created structures that were climatically suitable, socially rich and ecologically sound (Dutt, 2005: 41). Vaastu Shastra adapts the mindset in which the building is a living entity, and the people that utilize the spaces are the companions (Whelan, 2002: 10).

The central concept in Vaastu Shastra is the embodiment of energy in the forms of the sun, wind, light and water. Hence the central concept in Vaastu is the environment as it is understood that all matter and energy are connected (Kumar, 2004: 11). One of the more important and basic principles prescribed for the built environment by the Vaastu Shastra is the issue of correct orientation and good ventilation. The correct implementation of these characteristics ensures that man may live a healthier lifestyle and as a result, reduce energy consumption and the dependence on mechanics (Dutt, 2005: 42). Vaastu aims to enhance the positive cosmic energy whilst neutralizing negative energy to create a better living environment (Whelan, 2002: 7).





SPACE



AIR



FIRE



WATER



Figure 3: Symbols of the five elements (Source: Whelan, 2002: 18)

### 4.2.3 The Five Elements

In Hindu folklore, it is believed that there are many ‘energies’ present in the environment which are known as *prana*. These are believed to be the “universal life giving force around which everything evolves” (Whelan, 2002: 18). *Prana* is also present in the human body, but in Vaastu Shastra is commonly utilized in the form of the five elements (Whelan, 2002: 18).

According to the Vaastu Shastra, there are five elements, which are known as the *panch maha bhootas* in Hindi: earth, water, air, fire and sky. These govern the principles of creation by providing energy. These forces work together to create a balance of harmony and disharmony (Kumar, 2004: 9). Thus the Vaastu Shastra is a guide on the correct placement of these elements within the building environment to maximize the positive effects on human comfort levels (Kumar, 2004: 11).

The Vaastu Shastra has created a guide in which each of the five elements is given various associations. Each element relates to a specific room in the building in accordance to the placement of the space within the *Vaastu Purusha Mandala* and the cardinal directions that is in effect on the building. Each element is also represented by characteristics such as a specific colour, direction, shape, Hindu deity (Whelan, 2002: 18).

The five elements or *panch maha bhootas* are represented by a set of symbols which follow a specific order (fig 14). Earth is at the bottom of the vertical ascension and is represented by a square. Above this is water which is represented by a circle. Following is the triangle which represents fire, and then air which is represented by a crescent. Lastly, at the very top, is space or the sky which is

represented by a blank space (Whelan, 2002: 18-19). The five elements and their attributes are as follows:

- Air

Air is the necessary element for the survival of all living organisms (Reddy, 1994: 14- 15). Air is associated with movement and is made apparent by the wind which is the visible demonstration of the air's energy (Whelan, 2002: 19). As discussed by Reddy (Reddy, 1994: 14-15), due to the nature of the wind, air has the characteristic of sound and sense of touch.

The cardinal direction for the wind is the west. Vaastu prescribes that all reflective surfaces, such as glass and mirror, are identifiers of the element air (Whelan, 2002: 19). Air is represented by the colour grey and the shape of a crescent (Whelan, 2002: 19).

In Vaastu Shastra, the element of air is often called the breath of the *Purusha* or cosmic man who resides within the *Vaastu Purusha Mandala*. Air is necessary for healthy life and to create a comfortable living condition within a building (Whelan, 2002: 19).

- Fire

Fire is the release of energy and the production of light. The sun is associated with the element of fire and is seen as necessary to all sources of life upon earth (Reddy, 1994: 15). Vaastu Shastra prescribes that the direction of fire is that of east and the rising sun. Naturally the element is associated with the colour red, whilst the symbol is a triangle (Whelan, 2002: 20). The element is characterized by the property of shape (Reddy, 1994: 15).

As discussed by Reddy (Reddy, 1994: 18-19), the Vaastu Shastra perceives the sun as the source of all creative processes on earth. Hence, throughout history, the sun has been worshipped as a manifestation of God (Reddy, 1994: 19). In particular, the Hindu religion views the sun as the God *Surya*.

Modern man has begun to understand the importance of the sun scientifically, as the rays are harnessed for energy. However, science also understands that the rays of the sun have positive effects on the health and emotional conditions of human beings. Thus the planning of

the Vaastu Shastra dictates the construction of the built environment to allow the most amount of sunlight into the space as possible.

As discussed by Reddy (Reddy, 1994: 19) the Vaastu Shastra states that a site with boundaries that run parallel to the earth's east-west axis is ideal due to exposure of the site to sunlight. The science of Vaastu also dictates that the eastern side of the site should be devoid of any high trees or built structures to ensure that there is unrestricted access to the morning rays of sunlight (Reddy, 1994: 20). This is very important to the Hindu culture for the early morning practice of *Surya Namaskar* or the sun salutation.

Therefore, trees should be located to the west of the site to absorb the strong afternoon sun for the process of photosynthesis, as well as to provide shade. Vaastu also prescribes that the majority of the vacant space of the site be left to the north and east of the site as to allow the maximum amount of natural light onto the site.

- Water

Water is present in all living organisms and is necessary for the survival of all living organisms upon this earth (Reddy, 1994: 15- 16). It is the element considered to be cleansing, cooling and life preserving. The cardinal direction for water is the north and is symbolized by a circle which represents fullness. The associated colour is blue (Whelan, 2002: 20).

- Earth

The earth is the element which sustains all life forms on earth by providing nutrition for vegetation. The cardinal direction for the earth is the south, and is associated with the shape of the square and the colour yellow (Whelan, 2002: 21).

- Space or Sky

Space has no defining characteristics such as a shape or colour (Whelan, 2002: 21). However, space is the connection to the sky which symbolizes the connection to the rest of the world and the rest of the universe, a concept well beyond human comprehension that is subject to the never ending possibility of expansion (Reddy, 1994: 14).



#### 4.2.4 The Relation of the Elements to the Human Body

As described by Kumar (Kumar, 2004: 14), the five elements relate to human functions by interacting with our basic five senses- smell, sight, sound, touch and taste. The five basic senses cannot be separated from human function. Hence, man and nature cannot be separated. Thus, by understanding these characteristics, Vaastu Shastra aims to create a multisensory and stimulating conversation between the built environment and the natural environment. As described by Kumar (Kumar, 2004: 14), the elements have the following effects on the human senses (table 1):

Elements	Sense Organ	Function
Air	Skin	Feeling
Earth	Nose	Smell
Fire	Eyes	Sight
Sky (Space)	Ears	Sound
Water	Tongue	Taste

Table 1: Table of the five major elements that affect the human senses and functions

However, the science of relating human beings to these five key elements is not a new concept in Indian Architecture. The ancient medicinal practice of the Hindu culture known as Ayurveda has been prescribing this principles throughout history. Ayurvedic medicine aims to integrate and create a balance between the body, mind, and spirit to promote wellness. One of the ways in which Ayurveda achieves this goal is by the use of *Chakras*. (<http://nccam.nih.gov/health/ayurveda/introduction.htm>)

Simply put, *Chakras* (fig 15) are concentrated energy centers through which the transfer between external energy- water, fire, space, earth & air- and internal energy within the body occurs. The first *chakra* starts at the base of the spine. Six more follow along the spinal column with the last *chakra* at the crown of the head ([http://www.mysticfamiliar.com/library/1\\_chakras.htm](http://www.mysticfamiliar.com/library/1_chakras.htm)). The alignment of our *chakras* allows the free flow of energy through the human body which in turn has an effect on the state of wellness experienced (<http://healing.about.com/cs-chakras-a-alignchakras.htm>). As described by Kumar (Kumar, 2004: 15), each of the *chakras* is related to a one of the five elements. Thus the appropriate treatment of these elements results in healthy living for human beings.

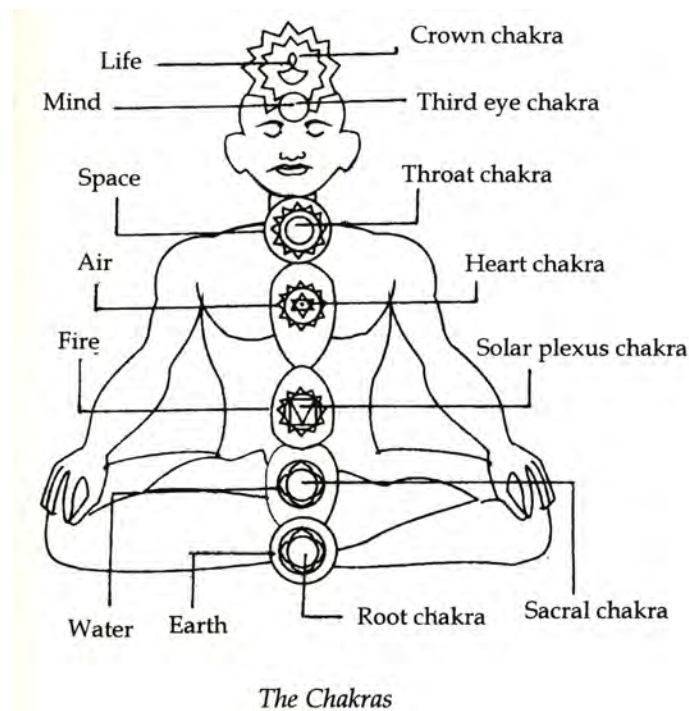


Figure 15: Position and characteristics of the Chakras (Source: Kumar, 2004: 14)

#### 4.2.5 The Placement of the Elements in the Built Environment

The Vaastu Shastra prescribes the proper placement of these elements in the built environment. The center of a building is assigned the element of space or the sky. The northeastern sector is assigned to water (tanks, bore wells, swimming pools, etc.). The northwest is assigned the element of air and is suitable for store rooms or guest bedrooms.

The southwest sector is assigned the element of earth. The element of earth is associated with the characteristic of stability and Vaastu prescribes that sector be utilized as much as possible. The southeast is assigned the element of fire and is suitable for the kitchen, boilers or furnaces (Kumar, 2004: 18).

#### 4.2.6 The Cardinal Directions and Their Characteristics

The Vaastu Shastra describes that the sun affects our energy during its daily journey across of sky. The morning rays are considered to be very beneficial and to have a positive effect on human energy. Thus Vaastu describes that it is considered advantageous for a building to face east as it will receive the maximum amount of the morning sun (Whelan, 2002: 25). Thus it is important that the correct orientation of a building to the sun path is observed. However, the remaining directions have just as important an effect on the built environment as the east.

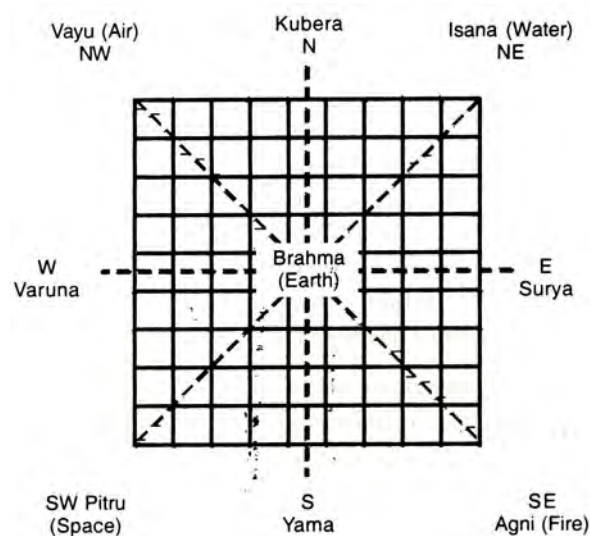


Figure 16: Cardinal directions and the ruling deity (Dutt, 2005: 44)

The four cardinal directions are north, south, east and west, and the four sub-directions are northeast, southeast, northwest and southwest (fig 16). It is believed in Hinduism that a deity

rules each of the directions (fig 17), and that each direction addresses a need, a hope, and a desire (Whelan, 2002: 25).

As described by Whelan (Whelan, 2002: 26- 29), the attributes of each direction are as follows:

- North

The cardinal direction north is ruled by the element of water and by the planet Mercury, thus the main attributes include knowledge, meditation, and truthfulness. The Hindu deity who rules the north is Kubera, the deity of wealth.

- Northwest

The direction of northwest is ruled by the moon and represented by the colour white. The Hindu deity Vayu, the God of wind, is believed to rule the northwest.

- Northeast

The northeast is considered to be the gateway to the Gods and is the source of positive cosmic energy. The direction is ruled by the planet Jupiter with the accompanying attributes of meditation and spiritual wisdom. The Hindu deity Ishana, god of purity, is associated with this direction.

- South

The element of the south is the earth. Thus the related shape is a square, whilst the colour is yellow. The characteristics of this direction are smell, sound, taste and touch. The Hindu deity who rules the south is Yama, lord of justice.

- Southeast

The Hindu deity Agni, the god of ritual fire, rules the southeast. Fire is an important element in religious ceremonies, especially so when it is applied in this sector.

- Southwest

The southwest is associated with our ancestors; this direction is ruled by the Hindu deity Nirriti, the god of misery. It is believed that this sector possesses the positive energy, and thus the principles of Vaastu are applied to correct it.

- West

The west is the direction of the element air. The Hindu deity Varuna- god of waters, rivers, rain and oceans- rules this sector.

- East

The east is characterized by the element of fire, the colour red and the shape of the triangle. The east is the direction in which the sun rises and thus the sun rules this sector. The Hindu deity Indra, god of power, rules the east.



Figure 17: Vaastu Mandala with ruling deities (Source: Whelan, 2002: 34)

#### 4.2.7 The Significance of the Mandala

In order to ensure that the eight directions are equally catered for, the science of Vaastu divides the site into nine equal parts. This planning guide is merged with the planning guide known as a *mandala* (Whelan, 2002: 9). In the basic *mandala*, each part of the main square is in consensus with one of the nine planets in the solar system. This excludes the sun, as the sun is the center around which the planets rotate (Reddy, 1994: 65). Maintaining this subdivision in the planning of the site ensures that the inhabitants reap the best benefits from the science of Vaastu.

The guiding form of Hindu architecture is the design philosophy exemplified in the *mandala*. The form of the *mandala* is the pure, geometrical form of the square, the most basic and rational of all the forms. The symbolic meaning of the square is stability (Grover, 1980: 174-175).

The *mandala* square is divided into many equal squares (usually either 64 or 81). A deity of the Hindu faith is located in each square along a hierarchical order. The central most important space, in the centre of the map, is occupied rightfully by Brahma, the Supreme God, creator, preserver and destroyer (Grover, 1980: 174- 175). The significance of this central space, to the user, is that it is here that man may undergo transformations as he comes into direct contact with the cosmic order (Michell, 1977: 72).



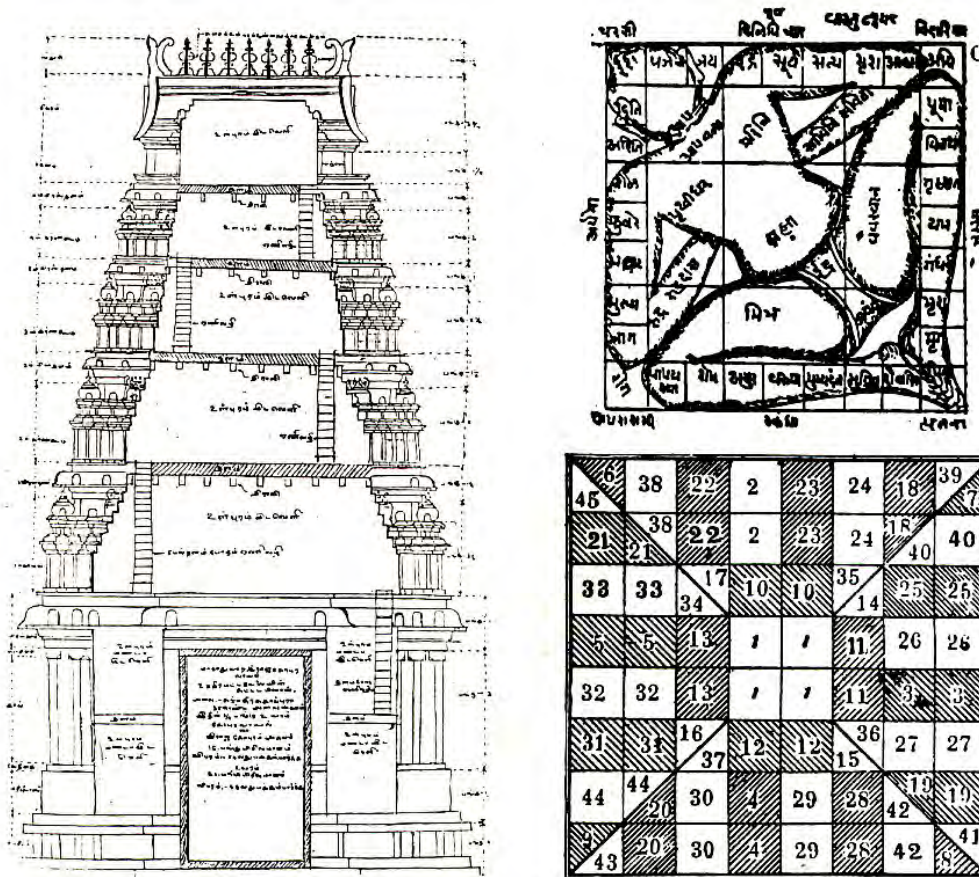


Figure 184: Relation of the Mandala to the proportions of structures (Source: Harber, Kearney & Mikula, 1982: 7)

The arrangement of the central square surrounded by the other squares is also a representation of a microscopic image of the universe. Hence the *mandala* is interpreted as a symbol in which the universe, the realm of the Gods, is bound to the world of man in a spatial and physical correspondence between the two realms (Michell, 1977: 71). The centre of the *mandala* represents the connection to the sky, and is sometimes characterised as an open-to-sky courtyard. The *mandala* is symbolic of the cardinal points and is orientated usually along an east-west axis according to the course of the sun (Michell, 1977: 72- 73).

Traditionally, the *mandala* was the planning guide applied to the creation of sacred structures in Hinduism, such as temples. The *mandala* served as a proportion guide (fig 18) applied to the horizontal and vertical elements of the structure (Harber, Kearney & Mikula, 1982: 7). In temple architecture, the central square of the plan is usually the space over which the dome extends towards the sky.

The depiction of the *mandala* is given a humanistic quality by the accommodation of a human figure in a contorted Yogic Pose with the perimeter of the overall square (Grover, 1980: 174- 175). The figure within the plan is known as the cosmic man (Whelan, 2002: 9).

#### **4.2.8 The Vaastu Purusha Mandala**

The rational order of the *mandala* is accompanied by Hindu folklore as to the formation of the plan in consensus with the spiritual order. According to Hindu mythology, Lord Shiva (the destroyer and part of the holy trinity) battled the demon Andhakarusan. However, before achieving victory, another great demon was formed. Lord Shiva united the Gods to conquer this demon and trapped it within the ground, forcing the demons head northeast and the feet southwest. The Gods then sat upon the demon to contain its force and control its destructive nature. Thus each square in the *mandala* relates to a specific deity within the Hindu religion (Whelan, 2002: 8).

The demon is the *Purusha* or the cosmic man portrayed in the common illustration of the *mandala* planning guide (fig 19). Hindu mythology believes that the *Purusha* is present in every building; hence one of the initial stages of applying the principles of the Vaastu Shastra is to divide the building into a *mandala* square grid of nine equal parts called the *Vaastu Purusha Mandala*. Each square in the grid has a directional value and is ruled by a deity that assists in containing the *Purusha* demon (Whelan, 2002: 9).



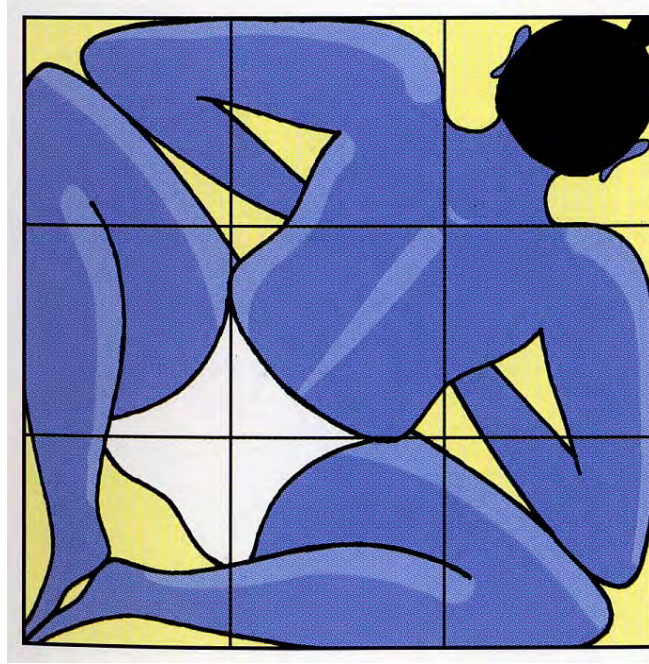


Figure 19: The Purusha demon trapped in the mandala (Source: Whelan, 2002: 8)

Each part of the grid relates to a specific area of the *Purusha* body, which in turn determines the function of the space placed there. For instance, the head of the *Purusha* faces the northeast direction. The head is the center of thought thus the northeast is the prescribed place for a place of worship (Whelan, 2002: 9). The center of the *Purusha* is the part of the body which contains the vital organs such as the heart and the lungs, therefore this space is usually a well-considered space that is well protected and sensitively addressed. The heart of the grid is also the space in which Lord Brahma, the supreme creator, resides (Whelan, 2002: 9). In traditional Indian architecture planned according to these principles, the center of the grid is usually left open to the sky and free of any obstructions.

In a large complex of buildings composed of a multitude of functions, a *mandala* is first laid over the entire site and then within the location for each specific building. A *mandala* can contain any number of squares up to 1024 dependent on the size of the property. However typical *mandalas* contain nine squares (Whelan, 2002: 40).

#### 4.2.9 Site selection

The science of Vaastu Shastra should be applied to the construction process of the built environment from the very beginning, and thus is a key factor for site selection. The science prescribes that the site be open on to all major directions and that the axis of the plot should align with the axis of the earth's magnetic field, i.e. one set of boundaries of the site should be parallel to the north-south axis, and another to the east-west axis (Dutt, 2005: 44). As described by Reddy (Reddy, 1994: 58) a plot that faces due north or east is the best possible site to place a building that intends to follow the principals of Vaastu Shastra (fig 20).

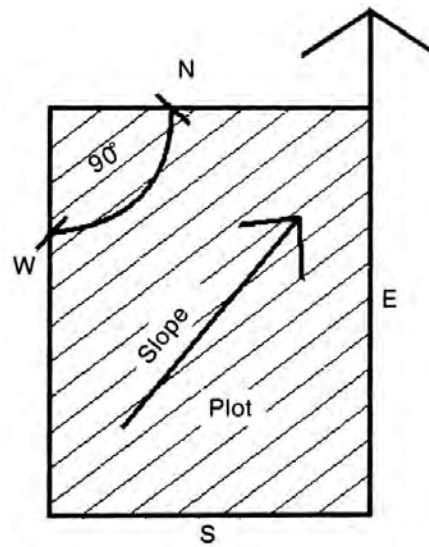


Figure 20: Typical site arrangement (Source: Dutt, 2005: 44)

The favored shape for the site is either a square or rectangle with the length running along the major east-west axis (Dutt, 2005: 44). As described by Reddy (Reddy, 1994: 54), Vaastu prescribes that the surrounding environment be well considered. Indian architecture in general demonstrates a very strong link to nature and bestows important symbolism upon natural elements. Thus a site located amongst natural phenomenon, such as a river or a hill, is highly valued. Therefore the important criteria for site selection are the geography of the site, the shape, orientation and the connection to natural phenomenon.

Vaastu Shastra describes that the topography of a site can affect the life of the inhabitant. The site should be elevated towards the west and south directions, thus sloping in a downward direction towards the east and north (Dutt, 2005: 44). According to folklore, it is believed that the layout of the topography in this manner bestows an abundance of blessings upon the

inhabitants (Reddy, 1994: 56). However, folklore aside, this layout is environmentally suitable as it allows for good climatic conditions across the site.

#### **4.2.10 Building form**

Before the process of construction begins upon a site, the eight cardinal directions should be clearly identified and acknowledged. The site should be altered at this stage to suit the requirements of the Vaastu science. For example, at this stage it should be ensured that the east, north and northeast are at a lower level than the south, southwest and west. (Reddy, 1994: 133)

#### **4.2.11 Requirements for the Building Form on the Site**

- Location

The building should be placed as symmetrically central as possible within the site boundaries. However, if this is not possible, Vaastu prescribes that the building be placed more towards the south and west of the site. This allows more open space towards the north and the east of the site (Dutt, 2005: 45).

- Size

The general ratio (width: length) of the sides should be either 1:1, 1:1.5 or 1:2 (Dutt, 2005: 45).

- Shape

The building shape should maintain the rectangular/ square shape as far as possible, however, allowances for balcony areas and verandahs are allowed as extensions or reductions on the shape (Dutt, 2005: 45).

- Massing (fig 21)

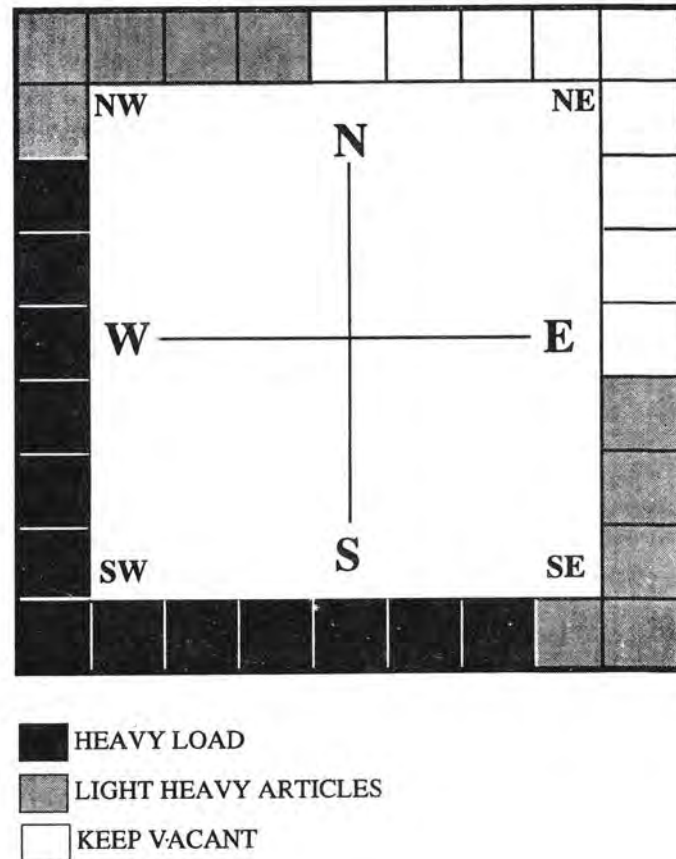


Figure 21: Massing arrangement of spaces (Source: Dutt, 2005: 44)

The planning guide, as seen below (Reddy, 1994: 52-53), prescribes the density of the massing of a building. The diagram shows that the densest regions of the building should be located in the southwest sector of the built envelope. The diagram depicts planning around a central void space that is typical of traditional Indian architecture. This space is usually the courtyard into which all the spaces on the perimeter of the built environment open into. The courtyard is the space in which the elements of air, sky and sun permeate the built envelope the most. The loading diagram also prescribes the finishes used for certain sectors of the building.

- Floor levels

The height of the north-east sectors of the building should be kept low to allow the maximum amount of daylight into the spaces. The heights of the buildings should increase towards the

west and south. However, the balance of the building should be maintained by the use of symmetry (Dutt, 2005: 45).

- Roof slope

The sloping of the roof should be symmetrical and fall either towards the west or the east to manipulate shading conditions (Dutt, 2005: 45).

- Landscaping

The majority of the landscaping should be towards the north and east sectors (Kumar, 2004: 89).

#### **4.2.12 Requirements for the Planning of Inner Building Spaces**

As seen in examples of traditional Indian architecture, the central space of the building was usually an open, uninterrupted area that was used as the main living space. In this space, the use of daylight was maximized for daily activities such as cooking and entertaining. Therefore, the orientation of the building to the sun path is of high importance.

Vaastu Shastra defined this concept of space, i.e. the division of private and public space around a central open space (the internal courtyard) known as the *brahmasthan* (Dutt, 2005: 46).

- The Brahmasthan

The *brahmasthan* is the central zone of the built envelope that is free from any structure or fixtures. This allows the space to flow freely and to interact with the surrounding spaces. The central zone is perceived as an area of high energy (Dutt, 2005: 46).

- Entrances

The entrance into the building may be placed on any side of the building, as long as that side faces a cardinal direction (Dutt, 2005: 46).

- Prayer places

The prayer areas for the Hindu religion should be placed in the north-east sector of the facility. This is as the room should face east to allow the inhabitants to conduct the daily ritual of Surya Namaskar facing the rising sun in the morning (Dutt, 2005: 47).

- Fire place/ kitchen

Fire places or kitchens should be placed in the south-east sector of the building (Dutt, 2005: 47).

- Staircases

The staircases should be placed on either the north or west sides of the building. The staircase direction should turn in a clockwise direction. Upon emerging on the upper floor, one should be facing either south or east (Dutt, 2005: 47).

- Ablution facilities

Bathrooms should face either north or west (Dutt, 2005: 47).

As discussed by Kumar (Kumar, 2004: 12), it may occur that the science of Vaastu may not have been applied to a building from the initial design process. This may be corrected by implementing characteristics of Vaastu Shastra such as symbols, colours, light and sound (Kumar, 2004: 12).

#### **4.2.13 Hindu Symbols and the Vaastu Shastra**

In Vaastu Shastra, symbols are frequently used to create positive energy. The most commonly used symbols are two sacred Hindu symbols: the *Swastika* and *Om*. The *Swastika* (fig 22) is an ancient symbol which means 'all well', but its meaning is often mistaken to be that of its misuse in Europe during the first half of the twentieth century. The symbol is used to bring blessings to buildings and it is believed to ensure the smooth progress of a project. The symbol is also believed to bestow prosperity, wealth and good fortune (Whelan, 2002: 11).

Traditionally, the *Swastika* was painted onto walls, documents and even onto bridal clothing to bring luck and ward off evil. The vertical lines of in the symbol represent self, whilst the horizontal lines represent the universe. The four sides of the *Swastika* point to the four cardinal points. In Hindu folklore, it is believed that the *Swastika* is the replica of Lord Vishnu, the sustainer and part of the holy trinity. The symbol is often expressed in the colour red (Whelan, 2002: 11).



Figure 22: Swastika symbol (Whelan, 2002: 11)

*Om* or *Aum* (fig 23) is “the visual depiction of the sound from which all matter originates” (Whelan, 2002: 11). In the Hindu religion, all mantras and prayers begin with this word. Traditionally, the symbol is used to decorate ceremonial clothes, doorways and temples with the aim of enhancing the auspicious energy in the building (Whelan, 2002: 11).



Figure 23: Aum symbol (Source: Whelan, 2002: 11)

#### 4.2.14 The Important Colours

The Vaastu Shastra associates colours with energy and emotions. Thus the use of certain colours is believed to enhance the mood and improve the reaction to a space. Traditionally, Indian clothes and homes exude colour and vibrancy. In Vaastu Shastra the important colours are violet, white, blue, green, orange, yellow and red. Each of these colours has a characteristic emotion and sometimes a natural element attached to it (Whelan, 2002: 22). According to Whelan (2002: 23-24), the emotions attached to these particular colours are as listed below:

- *Violet* : stimulates meditation and contemplation.
- *White* : is associated with death and mourning.
- *Red* : Hindus associate red with celebrations and auspicious occasions, which can be seen demonstrated in the traditional red garments worn by brides at wedding ceremonies. Traditionally, the colour was also used in homes to ward off the evil spirits. More commonly though, red is associated with the emotions of passion and desire, and inspires warmth and elegance when utilized.
- *Green* : implies harmony, fertility and harvest.
- *Blue* : is associated with tranquility, serenity, calmness and contentment.
- *Orange*: Traditionally, orange robes are worn as a symbol of purity by Hindu religious men and women. The colour is often in a similar shade to saffron, and has associations with the sacred fire and other traditional instances.
- *Yellow* : stimulates the brain and represents knowledge. The colour also denotes excitement and energy.



#### 4.2.15 Contemporary Vaastu Shastra

The practice of Vaastu Shastra has been executed throughout history in the development of residential and sacred architecture. However, recently there has been a reinterpretation of these principles by architects such as Charles Correa and Raj Rewal. The evolution of these principles into contemporary lifestyle has been spurred on by the fact that the Vaastu Shastra is an age old tradition that works well to create a good living environment.

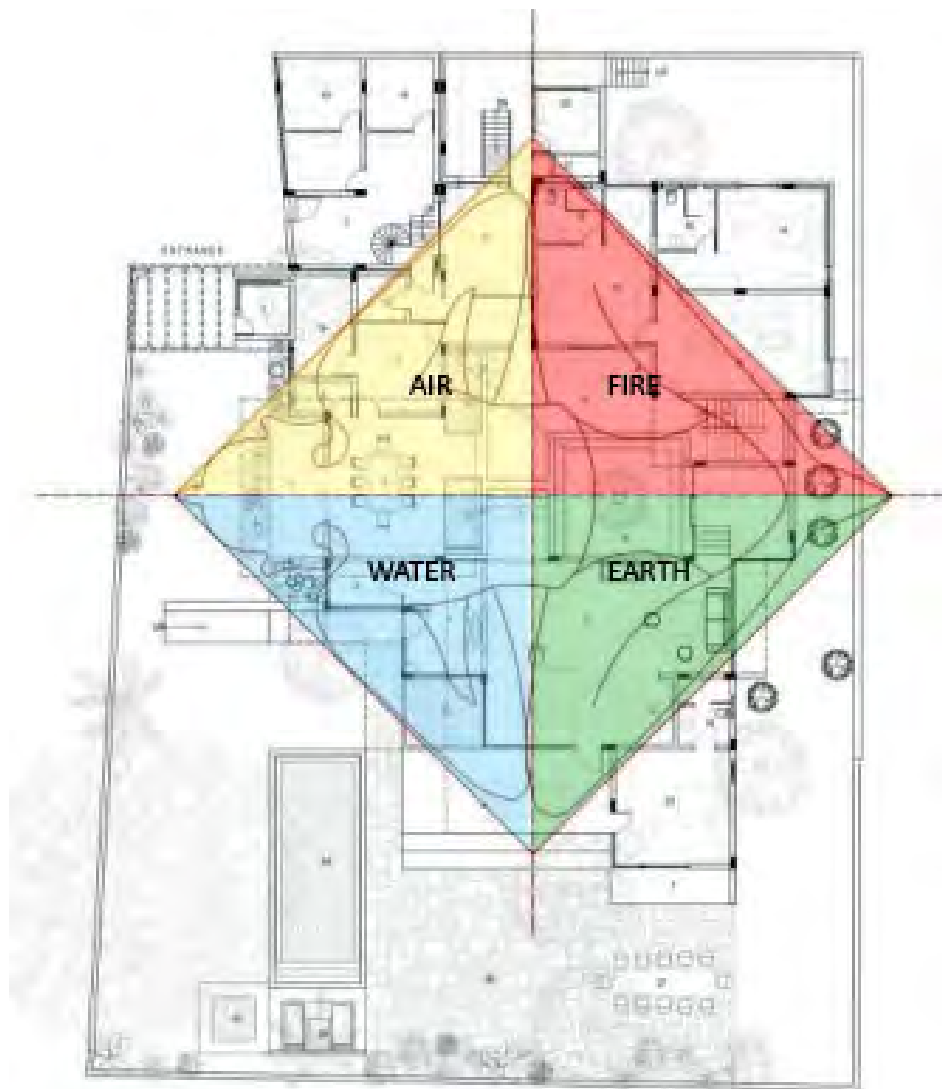


Figure 24: Plan of Vastu House (Source: <http://www.archdaily.com/68535/vastu-house-khosla-associates/>, date accessed: 05/04/2011. Adapted by Author)

- *Vastu House (Kholasa Associates)*

In examples such as the Vastu House by Kholasa Associates, the traditions of Vaastu Shastra have been respected and interpreted to create a contemporary home. The house located in Bangalore, India is compliant with the basic principles of the Vaastu Shastra in that the placements of spaces in the house are in accordance to the plan of the Vaastu Purusha Mandala (fig 24). For instance, the master bedroom is placed in the southwest region of the house as this is the earth zone. The kitchen was placed in the southeast region or the fire zone (<http://www.archdaily.com/68535/vastu-house-khosla-associates/>). Thus the design respects traditional principles for the energy flow of the house.

- *Vidhan Bhavan (Charles Correa)*

Another key precedent for the adaptation of Vaastu Shastra is the Vidhan Bhavan located in Bhopal, India. The complex is a government facility design by architect Charles Correa as an amalgamation of tradition and abstract modern elements which has resulted in a timeless

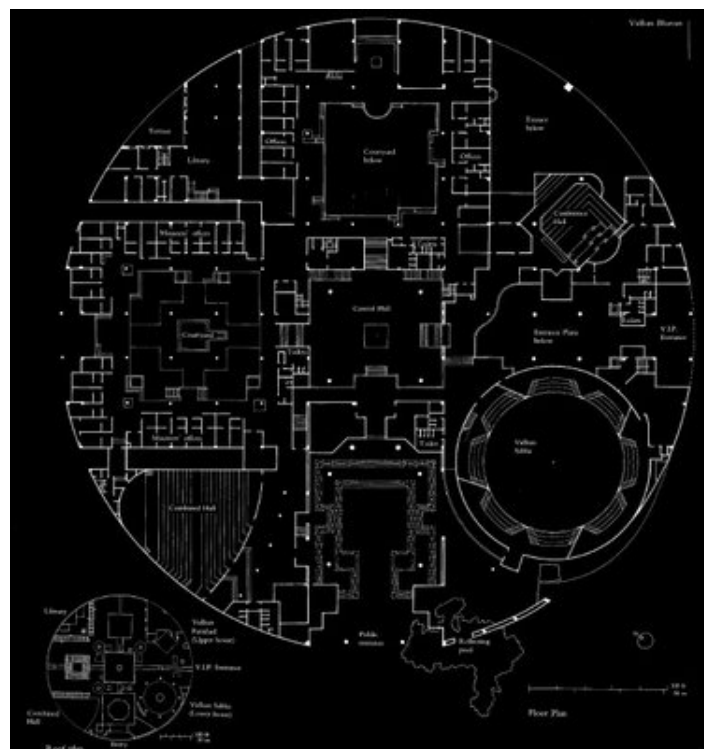


Figure 25: Plan of the Vidhan Bhavan Complex (Source: <http://anuradhachatterjee-arch1201-2009.blogspot.com/2009/04/steven-holl-paviljoen-het-oosten-le.html>, date accessed: 06/06/2011)

contemporary design. This example demonstrates how a cultural history of a society is perceived, reinterpreted and utilized in the present as a process of future continuity.

Correa shows his respect for the heritage of India in that the starting point for the design was the traditional *mandala*, evoking traditional Hindu philosophy. However, Correa adapts the *mandala* by enclosing it within a circle which becomes the outer wall of the complex (fig 25). Within this perimeter, the functional spaces are dictated by the *mandala* structure (Gast, 2007: 27). The obvious symmetrical axes introduced through the *mandala* are emphasized by the placement of the main entrances in these spaces. At the point at which the axes intersect, there is a circular aperture in the domed roof and a spiral motif inscribed upon the floor (Gast, 2007: 27). These relate to the Hindu philosophy that the center of the *mandala* is the center of the universe.



Figure 26: View of Vidhan Bhavan (Source:

<http://fiveprime.org/hivemind/Tags/charlescorrea/Interesting>, date accessed: 06/06/2011)

Correa demonstrates through this interpretation that the ancient traditions of Indian are valued even in a contemporary setting. The introduction of curved forms breaks down the rigidity

and allows the space to flow around more freely (Gast, 2007: 29). Courtyards are used more frequently here as an ordering device for a complex of this scale, and as the spiritual connection to the sky, an important characteristic of the Vaastu Shastra. The courtyards are also a characteristic of Indian architecture in that they provide air and light directly into the rooms of the complex, and allow the users to spend time both indoors and outdoors as required. The courtyard is also an Indian symbol of something shared in that it is a space shared by a variety of people for a variety of purposes. The main courtyard is known as the think tank (Gast, 2007: 29). It is a large public courtyard which is constructed in the style of a traditional Indian *kund* which is a large area of stone steps. This space is used as a waiting area for groups of people, allowing the public to share a unique space in the communal space (Gast, 2007: 29).

The building is decorated in the vibrant colours and local materials that are true to Indian heritage (Fig 26). Correa has proven in this design how the virtuosic interpretation of old forms and traditions can lead to something new without denying itself.

- *Jawahar Kala Kendra (Charles Correa)*

Located in the city of Jaipur, India is the cultural centre and crafts museum dedicated to the memory of one of the country's memorable leaders- former prime minister Jawaharlal Nehru. The city of Jaipur is located within the culturally rich area of Rajasthan, a city rich in cultural history and is just as well known for the majestic forts of traditional Indian architecture scattered across the landscape as the bustling business centre which forms the new part of the city- a balanced contrast of old and new.

The cultural centre is located near an open field, close to the university in a new part of the city. In planning the centre, Correa paid reference to the interesting plan of the city. The ancient city was designed in the mid-17<sup>th</sup> century and is guided in planning by the *Shilpa Shastras*, and based on the previously mentioned Vedic *mandala* of nine squares which symbolise nine houses of the nine planets. The layout was altered slightly to allow for a mountain (fig 27); hence one square was removed and placed to the east of the plan (Khan, 1987: 142).

Correa's plan for the cultural centre draws directly from the nine house *mandala*. He mimics the original city plan in that one square is removed, and pivoted to the east to create an entrance. The placing of the functions into the square has been linked with the myths represented by the particular planet. For example, the planet Mercury is associated with knowledge, hence the location of the library in the square representing the planet, whilst the theatre is placed in the square representing Venus which is associated with the arts (Khan, 1987: 142).



Figure 27: Plan of the Jawahar Kala Kendra(Source:

[http://en.wikipedia.org/wiki/File:Plan,\\_Jawahar\\_Kala\\_Kendra,\\_Jaipur,\\_Rajasthan.JPG](http://en.wikipedia.org/wiki/File:Plan,_Jawahar_Kala_Kendra,_Jaipur,_Rajasthan.JPG), date accessed: 09/06/2011)

The point of the arrangement of the functions in accordance with the *mandala* is to allow the visitor to weave through the squares whilst recalling the Vedic ritual route of the *pradakshina* which is created through openings on the central interior walls, creating a circular path across the footprint of the building. The *pradakshina* is the act of walking a circular route and is utilised as a form of worship and meditation in Hindu ritual. The path is usually acted out

around a either a deity, fire or a tree. At the centre, this act is centred on the central courtyard (fig 28).

Each of the squares is defined by an 8m high wall in which the symbol for the associated astrological symbol is expressed by means of a cut out along the external wall. The central square follows the Vedic Shastras in that it remains void as a courtyard that maintains that connection to the sky and is dedicated to the spiritual presence of the sun or Surya (Khan, 1987: 142).



Figure 28: Internal courtyard of the Jawahar Kala Kendra(Source: [http://www.tamil-nadu.info/Jawahar\\_Kala\\_Kendra](http://www.tamil-nadu.info/Jawahar_Kala_Kendra), date accessed: 06/04/2011)

The centre is a complex of symbolic work which embodies and demonstrates a synthesis of popular culture and archaic cosmology. The regional character of the Rajasthan area is expressed in the use of the red sandstone and Dholpur stone that characterise the traditional structures of the area (Correa, 1996: 11). Thus a memorial is created that reflects the Hindu-Indian identity in a contemporary way.



#### 4.2.16 Summary

The Vaastu Shastra is an ancient science of construction that developed in the religion of Hinduism. The planning guide adapted principles that already existed for the construction of sacred structures to create a set of guidelines that may be applied to everyday structures, such as residential architecture. The basis of the new modified guide was the *mandala* plan upon which temples were based. Traditionally, this plan is symbolic of the recreation of the realm of the gods, to which man was allowed to enter and experience the wonder of this world of the Gods. Vaastu Shastra adopted this plan in order to create a space in which both man and Gods may dwell. The *mandala* plan was adapted to incorporate the study of nature on the built environment.

Vaastu Shastra dictates that there are 5 main natural elements that the built environment must acknowledge: air, water, wind, earth and space. Each of these elements has certain characteristics, such as a colour. Research has shown that each element also relates to one of the five human senses. For example, the element air relates to the human organ of skin and thus the sensation of feeling. The interconnection created between the elements and the human body belongs to the age old tradition and science in Hinduism of catering for the *chakras* that are believed to exist within the human body. These are energy points that assist in the proper functioning of the human body.

Hence, each of these key elements has a prescribed place within the built environment in order to assist in promoting human wellness. The placement of these elements relates to the cardinal directions and is thus tied back to the religion of Hinduism as each direction is believed to be ruled by a deity, which is dictated by the *mandala* plan.

The importance of the cardinal directions to the science of Vaastu is based on the tracking of the sun path across the sky. Therefore, from the initial stages of the design of space, such as site selection, one of the most important criteria that have to be acknowledged is the correct orientation of the site to the sun path. This in turn has effects of the placement of functions and the massing of the building in order to allow the maximum amount of daylight onto the site, whilst taking full advantage of the prevailing winds.

This planning guide is an archetype that has created an architecture that is based in years of tradition that provides meaning to a society of people whilst enhancing their culture and, an architecture that is passively environmentally sustainable. This method is one that has been proven effective over time, and hence, architects have not hesitated to bring the guide into present day design strategies.

Although the Vaastu Shastra planning guide is based very strongly with cosmology and astrology, modern Vaastu does not. It acknowledges the historic and traditional role that cosmology has with buildings, but it is no longer important. Modern Vaastu is more focused on the five elements, good orientation and ventilation and all basic achievable principles which allow a good built environment to evolve. Hence these principles are utilized to create a self-sustainable environment that is not dependent on mechanics to create a good space. The archetypes of the Hindu culture are very strongly linked to nature. The principles dictated by these archetypes create an understanding and maintains a respectful link between man and nature.

The above precedents illustrate the modern adaptation of archetypes that derive from the Hindu culture. However, the question must be raised as to why these principles should be adapted. As the research has discussed previously, the adaptation of archetypes as a representation of the symbols of a culture serve to assist in creating meaning and value in our environment whilst affirm the identity of the culture in the public realm.



## CHAPTER 5: DESIGN CONCEPT

The design generators form the base of the design concept of the facility that directly influenced the spatial relations and form of the building.

In Vaastu Shastra the square is the ideal form. It is a pure geometrical shape which symbolically represents the earth. The purity of the square influences the spiritual balance in people. The square also represents the Vaastu Parusha Mandala, a grid that according to folklore traps positive energy within the building. This positive energy is cosmic energy flow that inhabits all living beings in the universe and is known in Hinduism as *prana*.

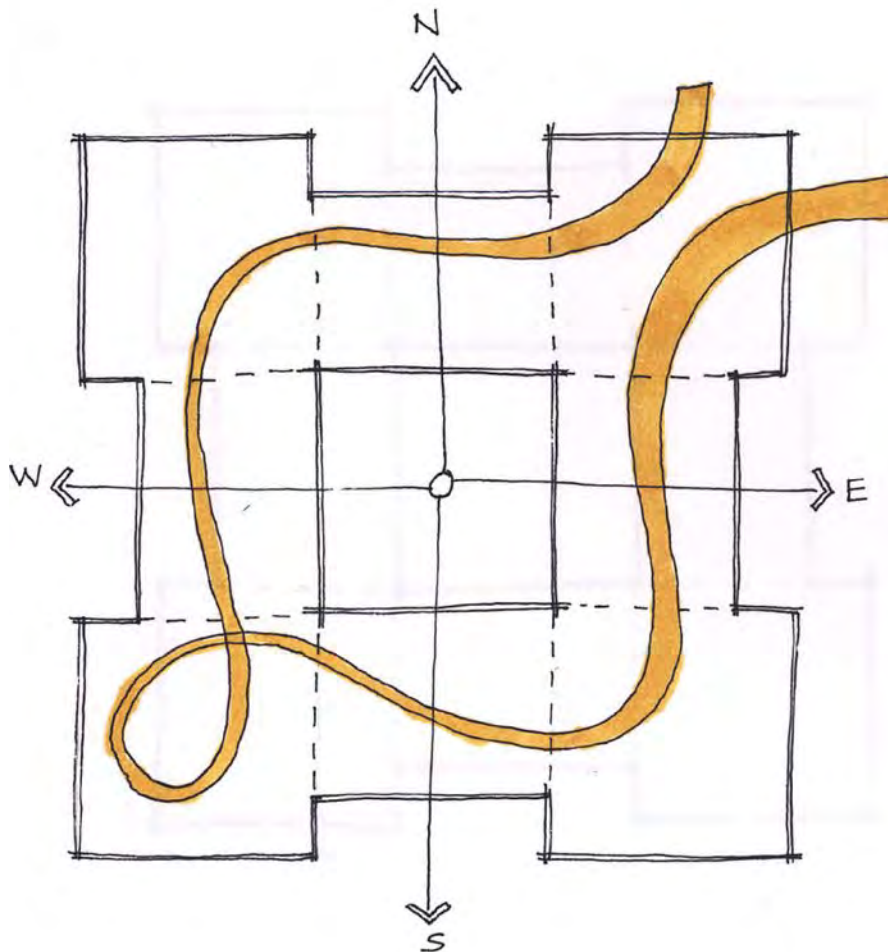


Figure 29: Diagram of the movement of Pranic Energy around the building envelope (source: Authors Own, 2011/12/05)

Prana is said to be an unexplainable force that may be experienced in deep stages of meditation. It is free of any particular form and does not flow in a straight line. The course that the flow follows (fig 29) meanders along moves from the north-east to the south east and south west. Thus the centre of a space is left undisturbed by the flow of energy, allowing large amounts of energy to concentrate here. Hence this is the driving concept for the form of the building. At its purest abstraction the form of the building is a circle enclosed in a square. The circle is where the concentration of energy occurs. This is the central courtyard in which all the spaces flow into, thus enabling this space to become the catalytic activity generator for the facility. The square around the circle is where all the subsidiary functions of the facility occur (fig 30).

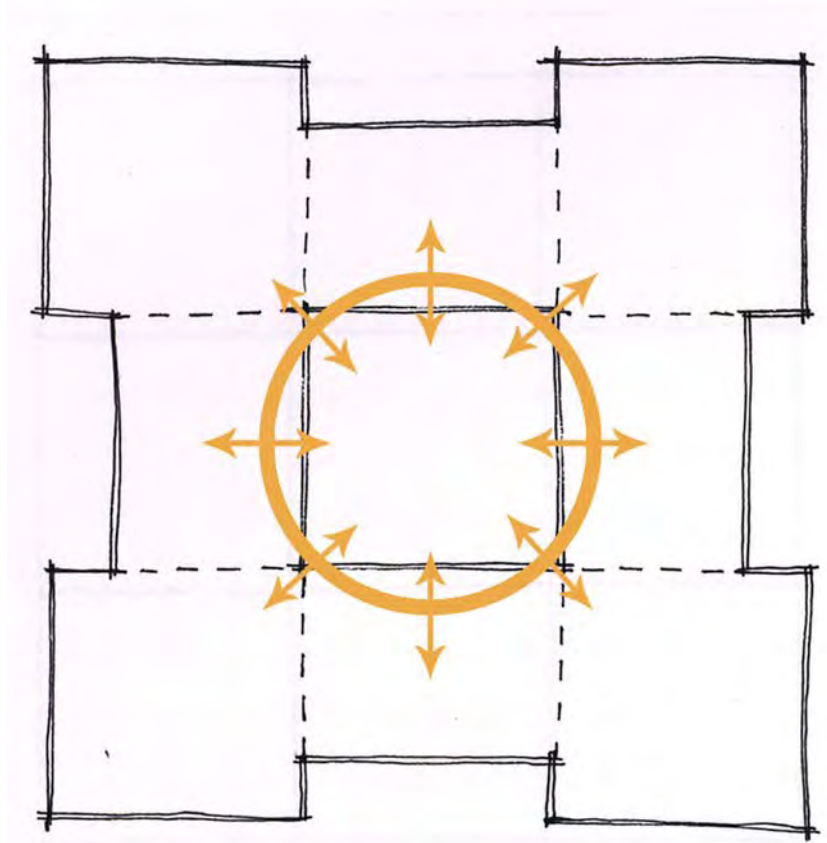


Figure 30: Concept sketch (source: Authors Own, 2011/12/05)

To further enhance the flow of the pranic energy around the building, the boundary between horizontal and vertical has to be blurred. Hence, the spaces are joined by two ramps that link the floors and serve as major pedestrian routes through the facility.

The first ramp begins in the heart of the building, the courtyard, where the cosmic energy is at its highest. This ramp links the ground floor to the first floor and moves in a clockwise direction meant to symbolise the spiritual meditation path of Hindu ritual known as *pradakshina*. The second ramp links the first floor to the second floor. This ramp is contained within the main enclosing square of the facility, as to make sure the energy remains contained, but is a ramp that is essentially external. This ramp is more about the experiential aspect of taking in the natural surroundings of the facility and is expressed in the form of the building.

## CHAPTER 6: PLANNING CONCEPTS

### 6.1 Massing

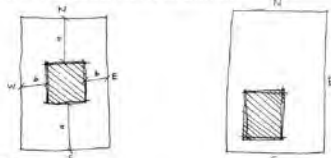
#### Massing Concepts

Requirements for the building form on the site from the Vaastu Shastra

Location:

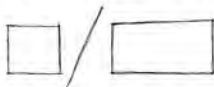
built envelope placed symmetrically as possible

OR in the south-west region of the site



Shape:

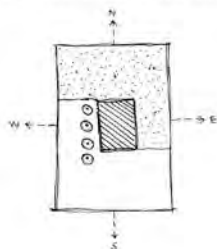
square or rectangle as far as possible



Landscaping:

major landscaped areas to the north and east regions

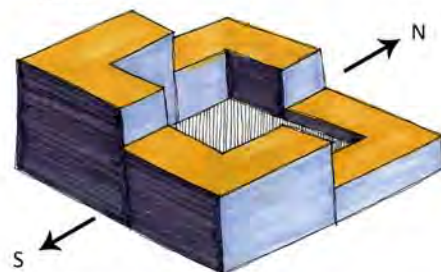
trees to the south and west to assist with thermal loads



Size:

width : length = 1:1 / 1: 1.15 / 1:2

Massing:

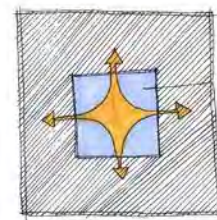


Brahmasthan / courtyard:

central free space

allows surrounding spaces to interact freely

has a social character



The cosmic energy is said to affect the human body and mind very subtly. Hence it is important to maintain a harmonious existence with this energy field. The Vaastu Shastra prescribes that with the earth's magnetic pull to the north and the sun's rays entering from the east that cosmic energy is received from the north east and moves towards the south west. The northeast is called Ishanya meaning purity and representing all that is good in the universe. Hence the form of the building is highest at the southwest corner and lowest at the northeast corner. Hence, the walls of the central courtyard slope down in a north-easterly direction.

## 6.2 Blurred Boundaries and Transition Zones

In order to influence the free casual movement of people through the spaces, the boundaries of the composition of spaces need to be very flexible and permeable. Thus, in order to cater for this permeability and to create informal relationships between spaces, courtyards are used to create a transition zone. These courtyards are informal points in which people may collect before entering into a specific space (fig 31).



Figure 31: Courtyard space of the Vastu House(Source: <http://www.archdaily.com/68535/vastu-house-khosla-associates/>, date accessed: 05/04/2011)

To further enhance the notion of the blurred boundary, level changes are utilised to create a subtle change but maintain a visual link and to maintain the character of the greater space. The concept of the blurred boundary will extend to blur the boundary between inside and outside. The point at which the building meets the outside, devices such as pergolas and overhangs are used to create a zone that is defined by shadow line but yet is a space where outside and the inside interact.

The courtyard spaces are also the space in which the sky meets the building which connects to the earth. Hence all the courtyards have an opening through which natural light and air enter the spaces which surround.

The transition zones are the spaces in which the social interaction, a key aspect of Hindu culture, occurs.



**National Hispanic Cultural Centre of New Mexico**  
**FMSM Design Group, Albuquerque, New Mexico (2000)**

- Aim of the facility is to foster cross-cultural appreciation and understanding of Hispanic culture by encouraging the preservation and showcase of historic and contemporary Hispanic culture.
- Education is the central theme of the facility
- The design of the facility draws inspiration from Hispanic culture: the Alhambra in Spain, the Aztec pyramids, the Mayan pyramids, colonial buildings of New Mexico and modernist Latin architecture

Justification of study:

- Expression of the identity of a culture through the use of building archetypes intergrated with traditional arrangements around courtyard spaces and landscaping.

the complex includes:

- Outdoor amphitheatre
- Educational resource centre
- Restaurants
- Gift shop
- Studios for working artists
- Broadcast & publication facilities



## Vidhan Bhavan: Bhopal, India

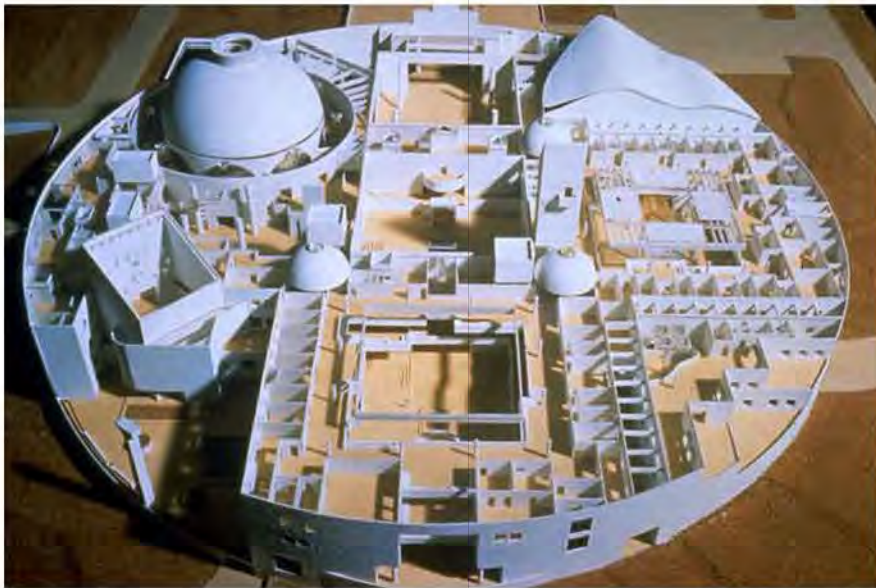
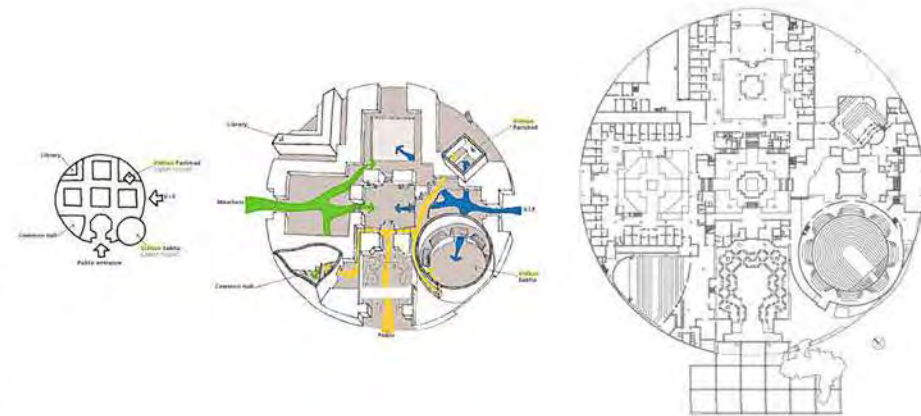
Charles Correa

### Justification of study:

The Vidhan Bhavan is a government complex designed as an amalgamation of abstract modern and traditional elements. The facility demonstrates how a cultural history of a society is preserved, reinterpreted and utilised in the present as a process of future continuity.

### Facts:

- Correa utilised the traditional Hindu planning guide mandala as the base point for planning but adapts it by using a circular perimeter wall.
- The use of curves breaks the rigidity of the grid of the mandala, allowing the space to flow freely .
- Courtyards are used as ordering devices which provide a constant supply of fresh air and sunlight. The courtyards also blur the boundary between indoors and outdoors. The main courtyard is known as the the “think tank” is the large indoor communal courtyard space.
- Vibrant colours and local material, true to the nature of Indian heritage, contribute to the authenticity of the building





### Jean-Marie Tjibaou Cultural Centre Renzo Piano Building Workshop (1998)

Justification of study:

Jean-Marie Tjibaou Cultural Centre is an well established icon of the Kanak culture. The centre embraces Kanak traditions and reinterprets these to create continuity for the culture. Renzo Piano's interpretation illustrates the importance of creating a reflection and adaptation of the tradition rather than a return to these principles in order to create a unique symbol rather than a parody.

Facts:

- Situated in New Caledonia in a sub-tropical climate
- The aim of the centre is to celebrate Kanak culture

- The objectives of the centre are:

1. Documentation, promotion and development of Kanak cultural heritage
2. Promotion of contemporary forms of expression of Kanak culture.
3. Study and development of cultural practices.
4. Promotion of cross-cultural relations.

#### Adaptation of traditions

Piano aimed to create a symbol of the Kanak civilization, creating a representation of the culture for future generations and as to foreigners. Kanak huts were traditionally constructed of iroko wood. Piano observed this tradition and reinterpreted it by incorporating the wood with glass and steel to create the huts that characterise the centre. The huts are surrounded by vegetation indicative of Kanak culture and their relationship with nature.

**Layout:** the centre is organised into villages echoing the traditional axial approach and layout of Kanak settlements

Village 1: dedicated to exhibition spaces

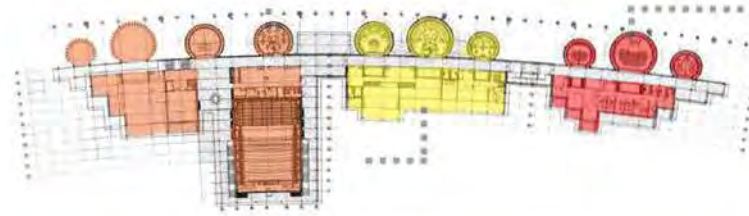
- permanent exhibition spaces that introduce visitors to Kanak culture, history of the environment & the natural environment
- temporary exhibition space
- 400 seat sunken auditorium
- outdoor amphitheatre

Village 2

- office spaces for the centre's historians, researchers, curators of exhibitions & admin staff

- conference hall and multimedia library

Village 3: dedicated to creative activities





# THE INFLUENCE OF TRADITIONAL ARCHITECTURE ON CONTEMPORARY CULTURE

## BACKGROUND

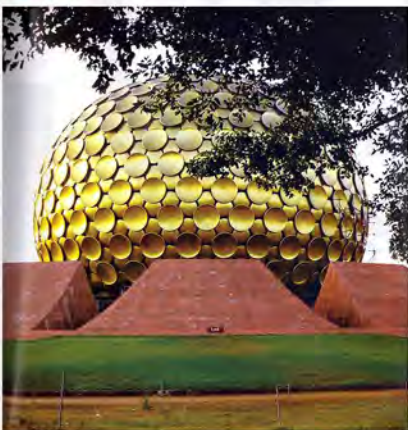
**Aim**  
The aim is to create a symbol for the Hindu society of Durban ensuring the continuity of their cultural memory into the future, whilst encouraging cross-cultural relations.

**Objectives**  
The objective is to create a centre that facilitates the development of the culture of the Hindu people thus creating an environment in which any member of the society might find their sense of belonging, thus affirming their identity.

**Conceptual framework**  
Constructivist view  
- Gravett (2001: 19): construction of meaning can be built up from a personal point of view, but is often a social process that leads to shared meaning or the construction of knowledge. Knowledge is thus built up, or constructed, and not simply transmitted from person to person.

**Linakages Theory**  
Blurring Boundaries  
- between social and economic classes etc  
- the notion intermediate spaces or transition zones that encourage social interaction and encouraging cross cultural pollination  
Place theory

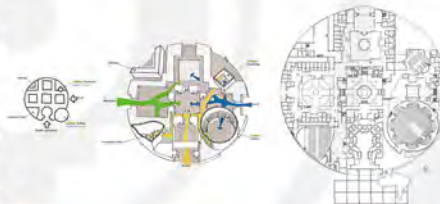
**The Matrimandir**  
Auroville, India



**Summary of the research**  
The Role of Culture and Tradition in Society  
- Culture is the driving force behind the patterns that our lives follow  
- A strong sense of culture provides a sense of identity for a society  
- Traditions adapt over time with societies, ensuring continuity  
- Traditions are generated by various factors such as religion or local identity  
- Traditions are a form of cultural expression often illustrated in the built environment by the use of symbols and archetypes which are embedded with built up cultural memory  
- Cultural memory is a shared group memory of a society, but it also provides a platform for individual interpretation. This contributes to the identity of a place which contributes to wards the identity of a society and thus individual identity.

**Contemporary Hindu Culture in South Africa**  
- Research indicates that there is a dual identity that exists amongst the South African Hindu society; Hindu identity and the South African identity  
- To create a space where the dual identity are amalgamated, critical regionalism has to be applied to traditional archetypes.  
- Hindu archetypes: natural archetypes (water, landscape features), spatial archetypes (courtyards, ghats, kunds), Vaastu Shastra

**Case Studies**  
- The buildings that exist in the urban fabric are driven by religious orientation in which the main spaces are dedicated to worship. However, the research indicates that in the less considered spaces, most of the activity occurs. These are culture driven activities such as language classes. These spaces are often tucked away, and not designed to suit the functions.



**Notional Client**  
South African Hindu Maha Sabha  
- Parent organisation that manages the various streams of Hinduism in South Africa  
- Main aim is to process and deal with all matters of importance that pertain to the Hindu community of South Africa  
- Aim to ensure the spread of knowledge about religious and cultural practices of Hinduism.  
**Client Brief**  
- To create a icon for the culture  
- Create a facility that enhances the cultural character and identity of the Hindu community  
- The facility must foster and encourage the cross-cultural dialogue between the various cultures that exist in the city  
- The facility must be both a cultural centre and a community centre in that members from the community will be allowed to utilise the space as part of their daily life.

**Cultural Centre**  
A cultural centre aims to celebrate the history and tradition of a place.  
**Community Centre**  
Community centres are public locations where members of a community tend to gather for group activities, social support, public information, and other purposes

## PRECEDENTS

**Jean-Marie Tjibaou Cultural Centre**  
Renzo Piano Building Workshop (1998)

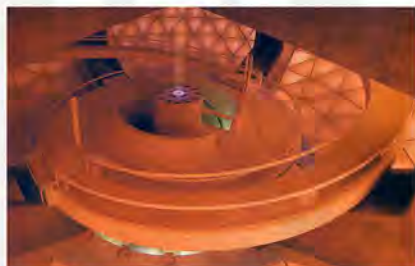
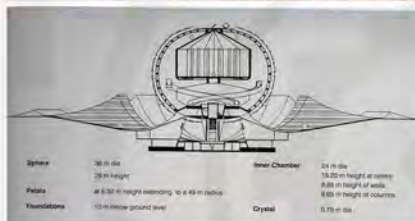
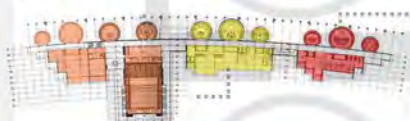
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- conference hall and multimedia library  
**Village 3:** dedicated to creative activities



**Vidhan Bhavan: Bhopal, India**  
Charles Correa

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# introduction

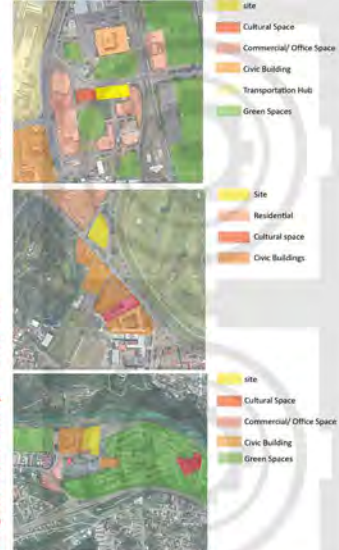
durban hindu cultural centre

nirupa gopidayal



1. Central Durban - Railway & Magazine Barracks  
The Durban Hindu Temple (Somsteu Road)
2. Greyville - Block A.K
3. After the Group Areas Act: Phoenix, Chatsworth  
and Springfield  
Umgenti River Valley (Siripat Road Reservoir Hills)

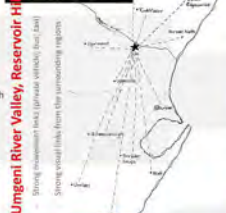
**Site C:**  
**Umgeni River Valley**



Primary Movement Route

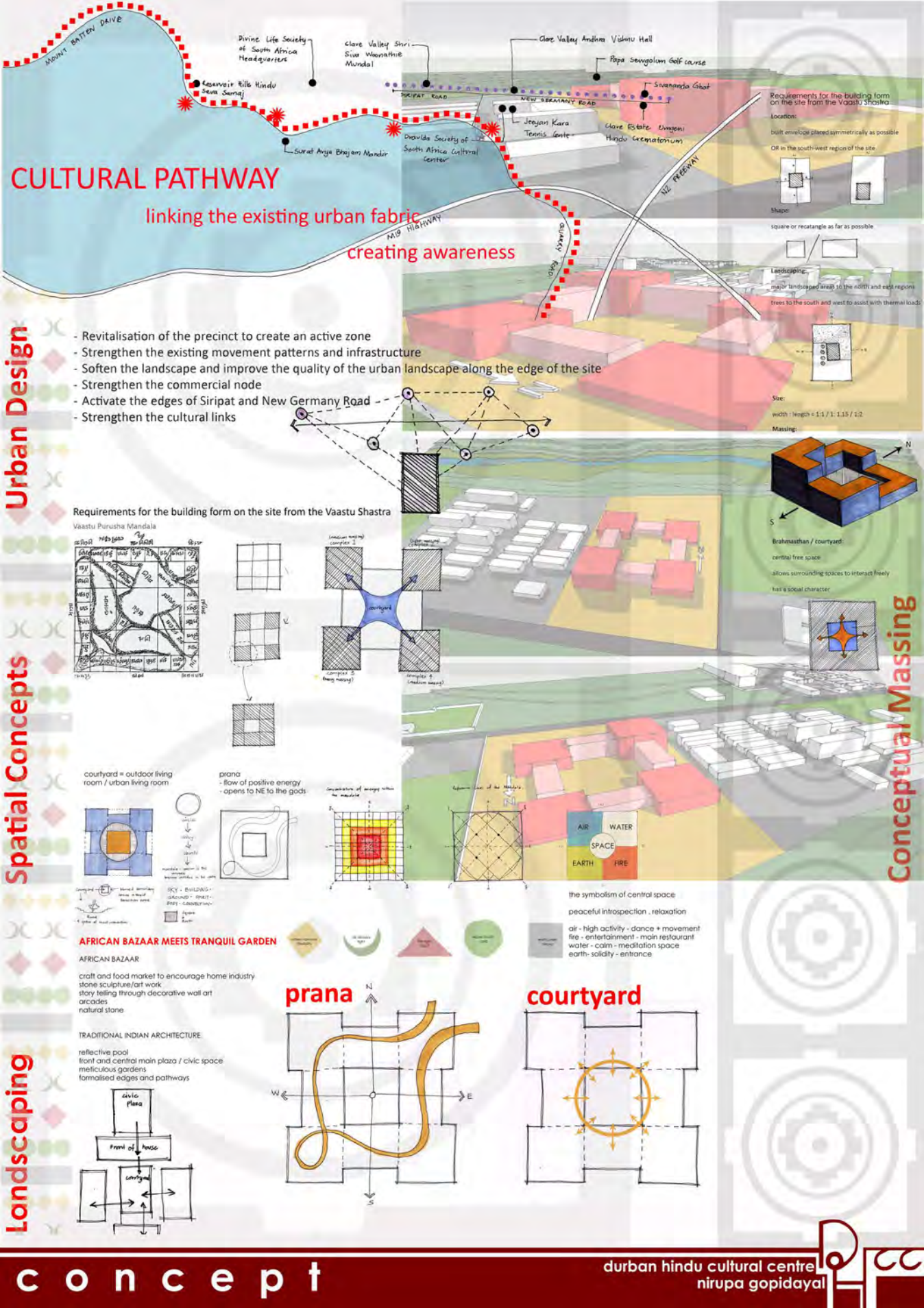
Secondary Movement Route

### Umgenti River Valley, Reservoir Hills

[illegible]

**durban hindu cultural centre**  
**nirupa gopidayal**





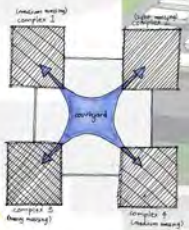
# CULTURAL PATHWAY

linking the existing urban fabric  
creating awareness

- Revitalisation of the precinct to create an active zone
- Strengthen the existing movement patterns and infrastructure
- Soften the landscape and improve the quality of the urban landscape along the edge of the site
- Strengthen the commercial node
- Activate the edges of Siripat and New Germany Road
- Strengthen the cultural links

## Requirements for the building form on the site from the Vaastu Shastra

Vaastu Purusha Mandala



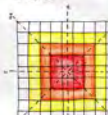
courtyard = outdoor living room / urban living room



prana - flow of positive energy - opens to NE to the gods



concentration of energy within the mandala



reference line of the mandala



- the symbol of central space
- peaceful introspection, relaxation
- air - high activity - dance + movement
- fire - entertainment - main restaurant
- water - calm - meditation space
- earth - solidity - entrance

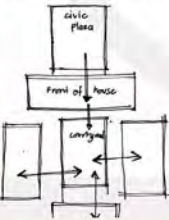
## AFRICAN BAZAAR MEETS TRANQUIL GARDEN

AFRICAN BAZAAR

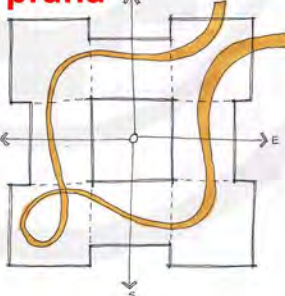
craft and food market to encourage home industry  
stone sculpture/art work  
story telling through decorative wall art  
arcades  
natural stone

## TRADITIONAL INDIAN ARCHITECTURE

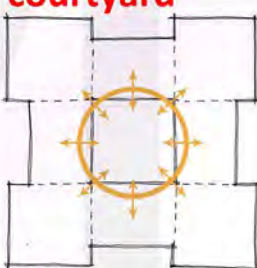
reflective pool  
front and central main plaza / civic space  
meticulous gardens  
formalised edges and pathways



## prana



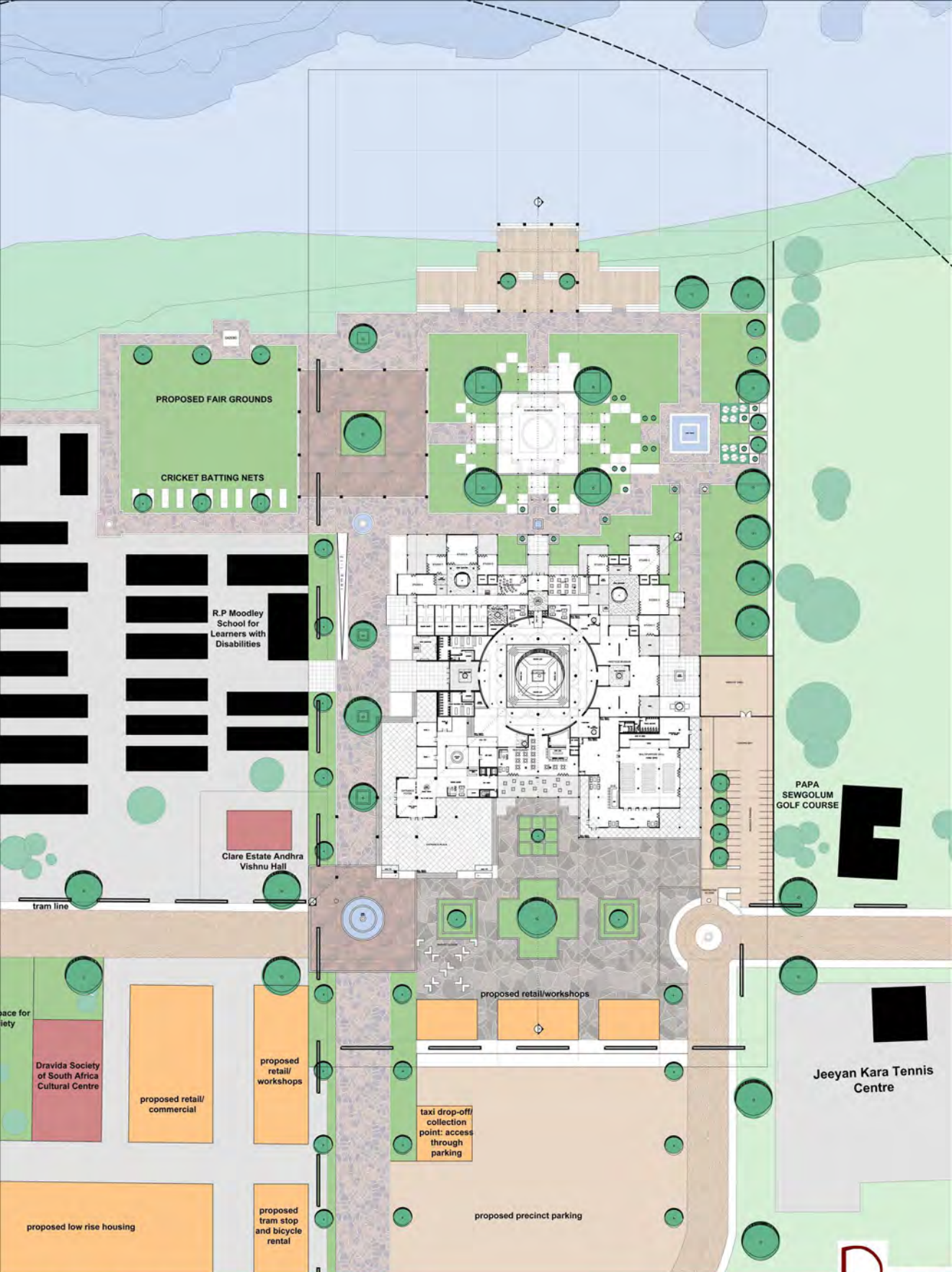
## courtyard







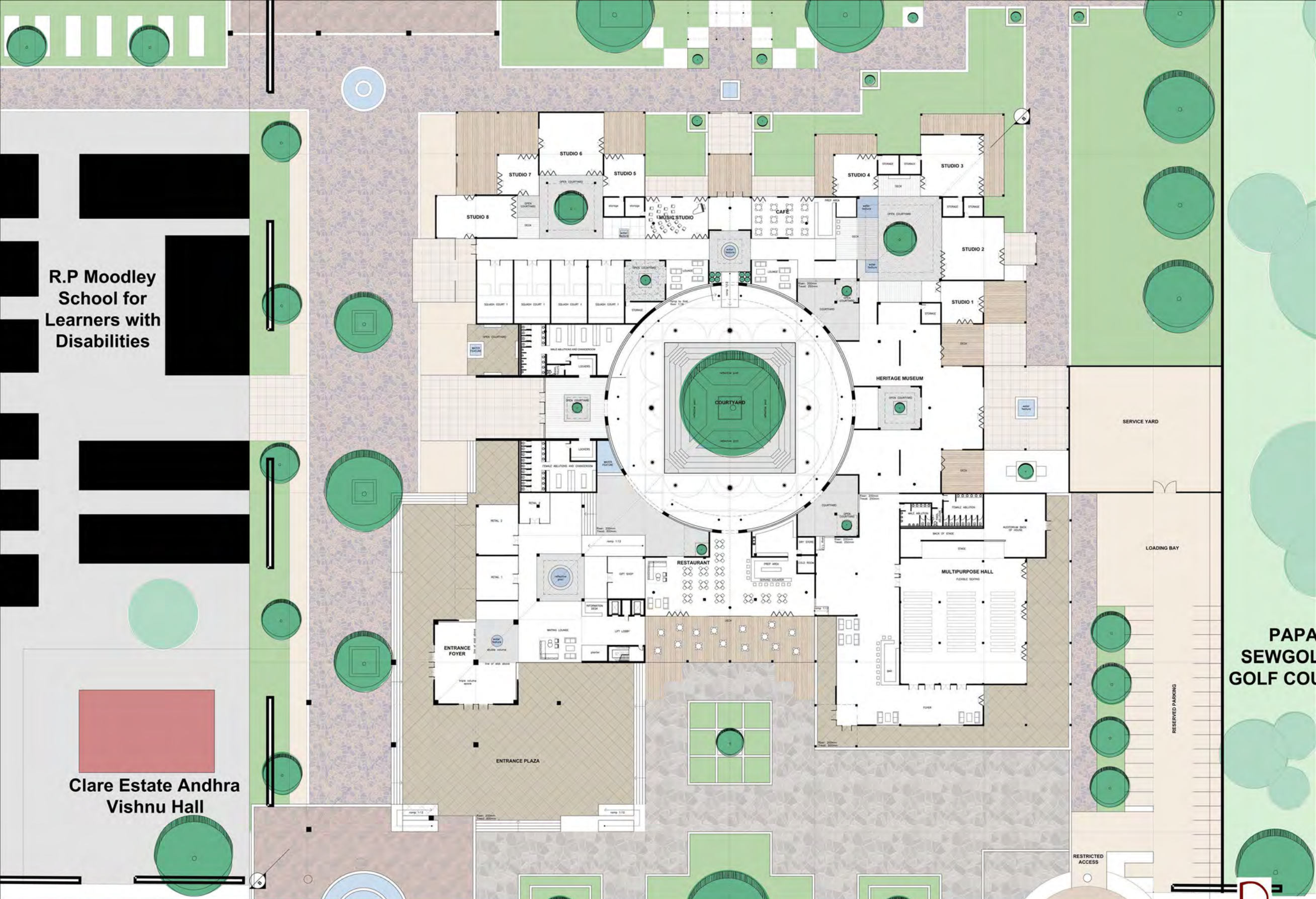




# site plan

**durban hindu cultural centre**  
nirupa gopidaya  
scale 1:600



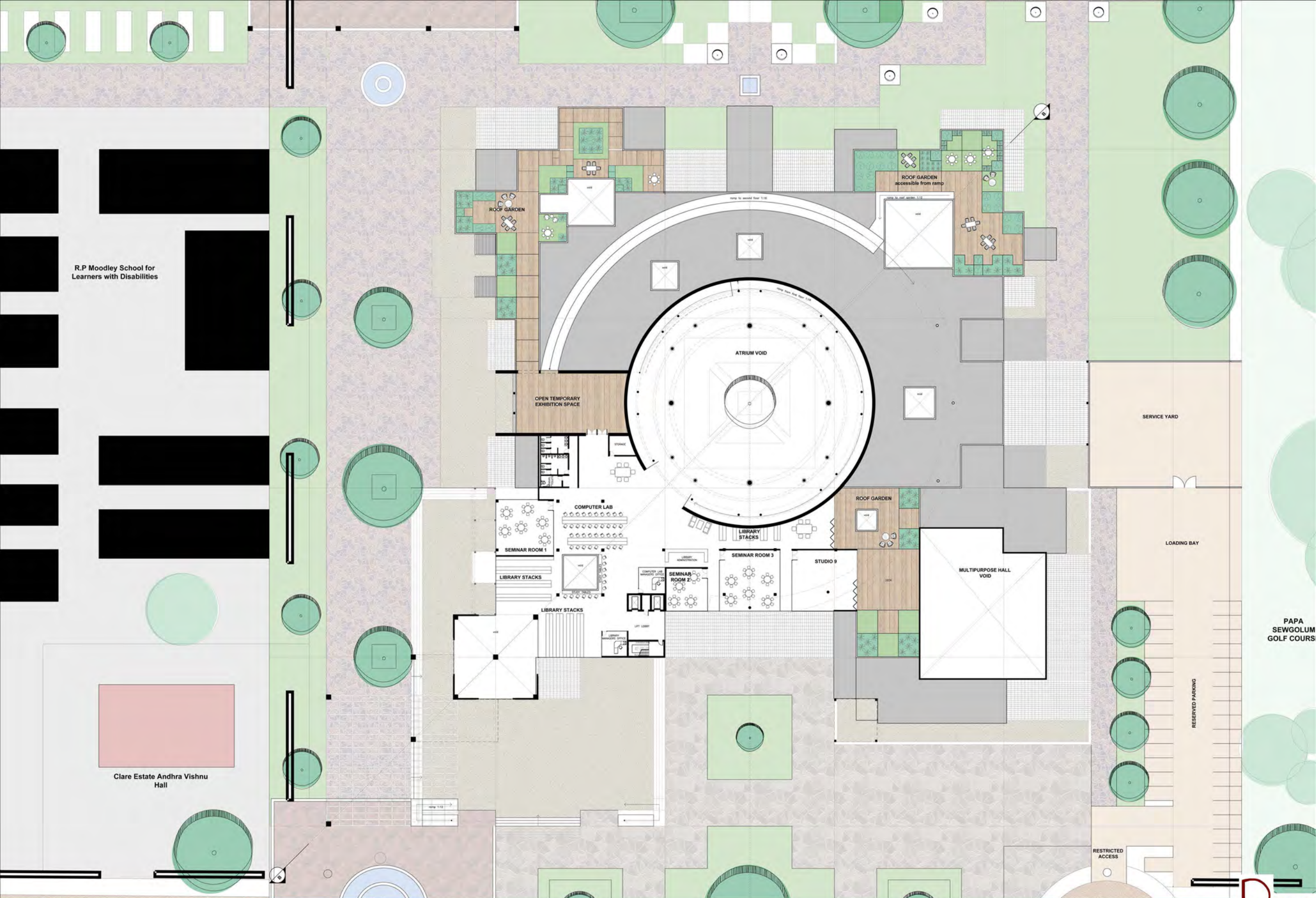


R.P Moodley  
School for  
Learners with  
Disabilities

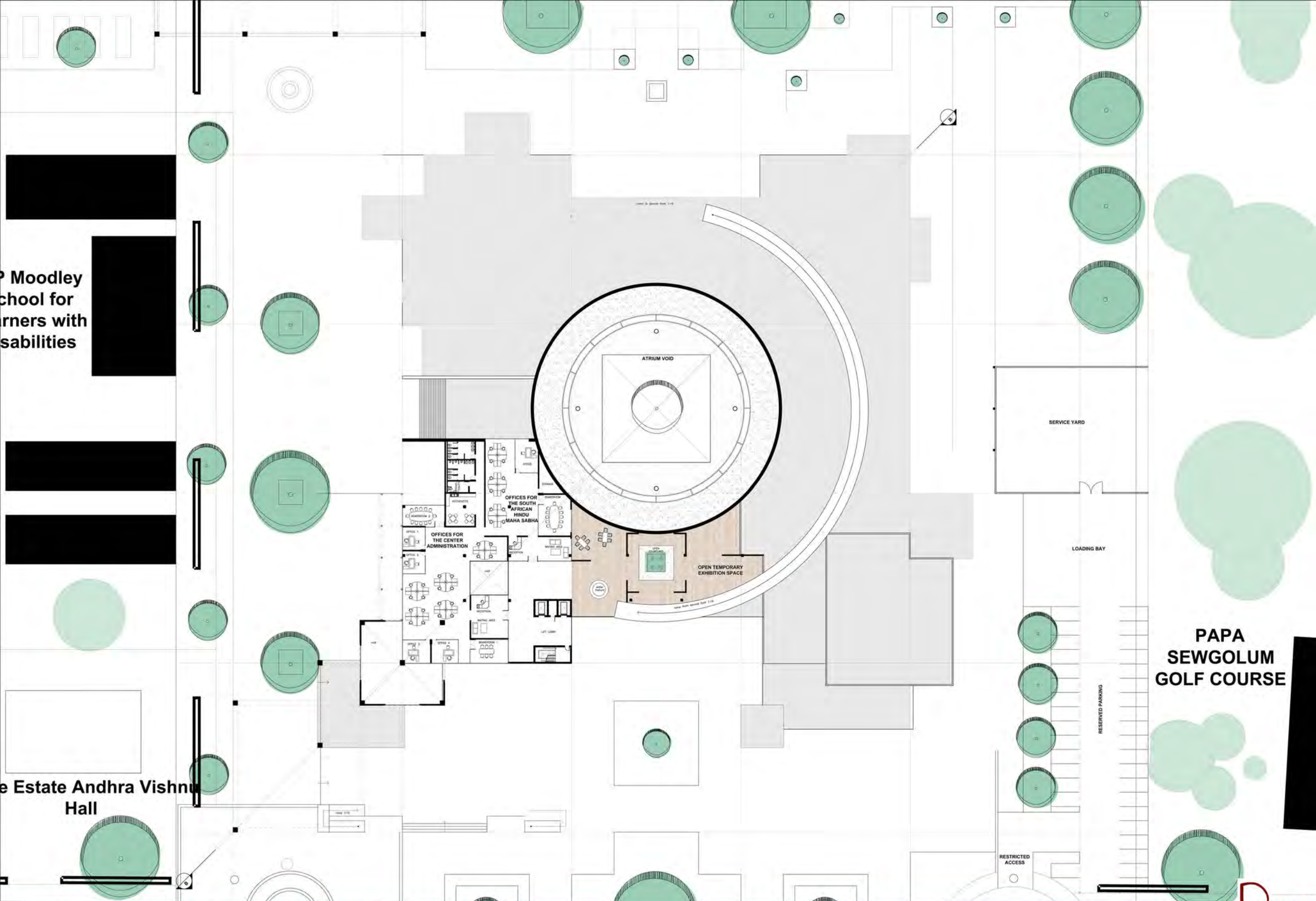
Clare Estate Andhra  
Vishnu Hall

PAPA  
SEWGO  
GOLF COU









P Moodley  
chool for  
rners with  
abilities

e Estate Andhra Vishnu  
Hall

PAPA  
SEWGOLUM  
GOLF COURSE

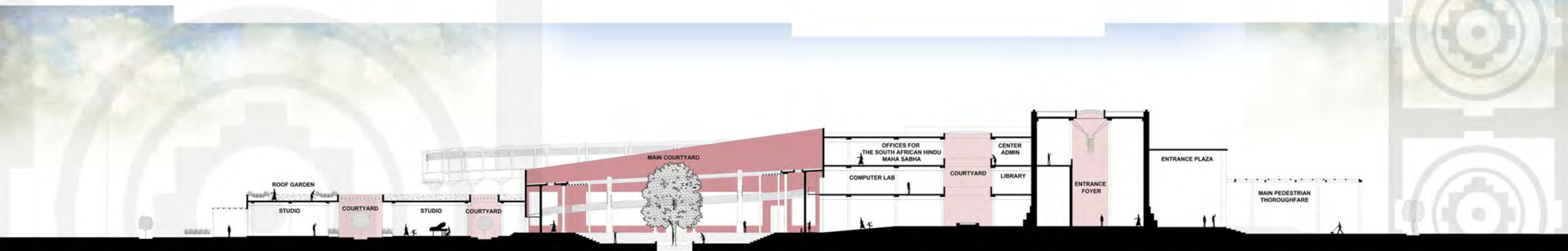
second floor plan

durban hindu cultural centre  
scale 1:200  
nirupa gopidaval





SECTION A-A  
Scale 1:500



SECTION B-B  
Scale 1:200

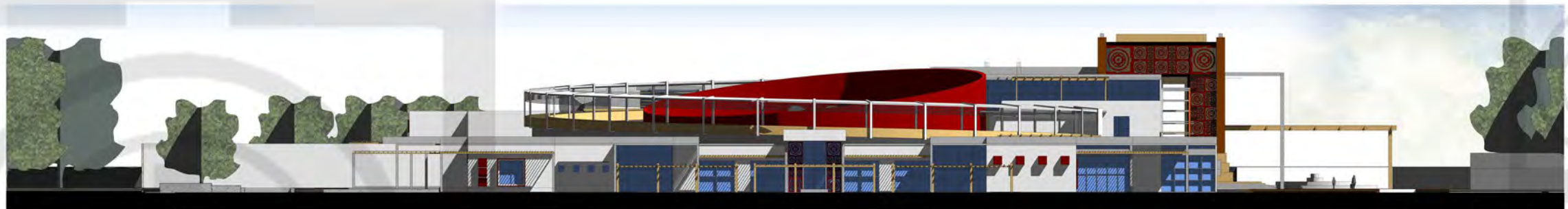




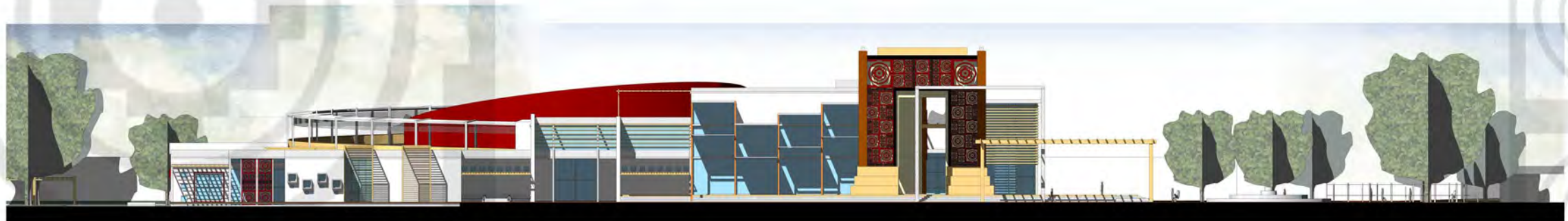
1 South  
1 : 200



2 East  
1 : 200



3 North  
1 : 200



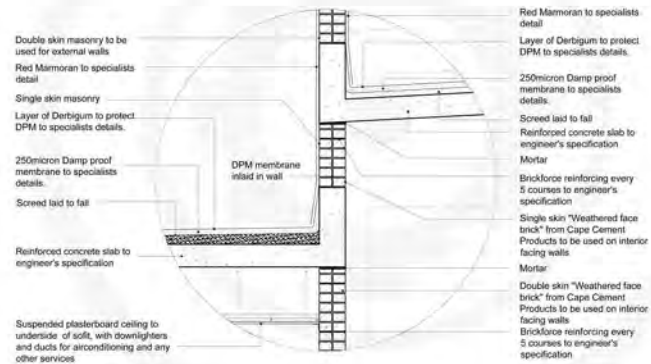
4 West  
1 : 200







**DETAIL A**  
Scale 1:20



**DETAIL B**  
Scale 1:20

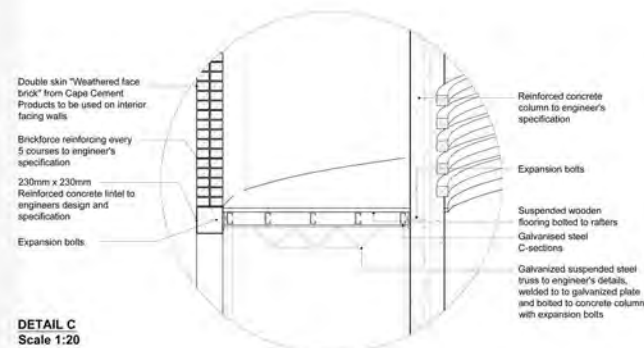
200mm Slab thick reinforced concrete with welded wire fabric reinforcement set slightly above mid-depth, to engineers specification.

Softboard to protect against damage to damp proof membrane.

100mm Minimum base course of gravel or crushed stone to prevent capillary rise of groundwater.

Key provides additional resistance to lateral slippage. Steel dowels anchor the foundation wall to the footing.

**DETAIL D**  
Scale 1:20



**DETAIL C**  
Scale 1:20

25mm Thick screed

Softboard expansion joint between slab and wall.

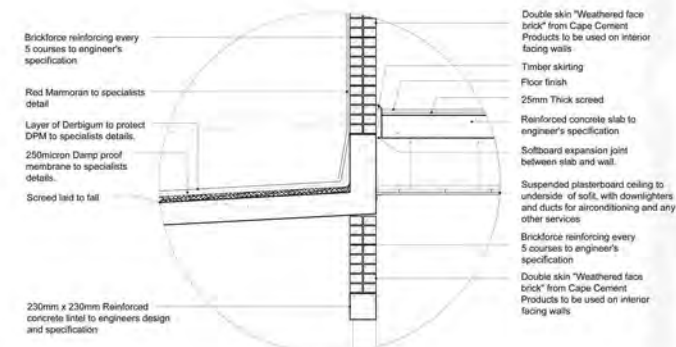
0.15mm Polyethylene damp proof membrane.

Mortar slope to aid subsoil drainage.

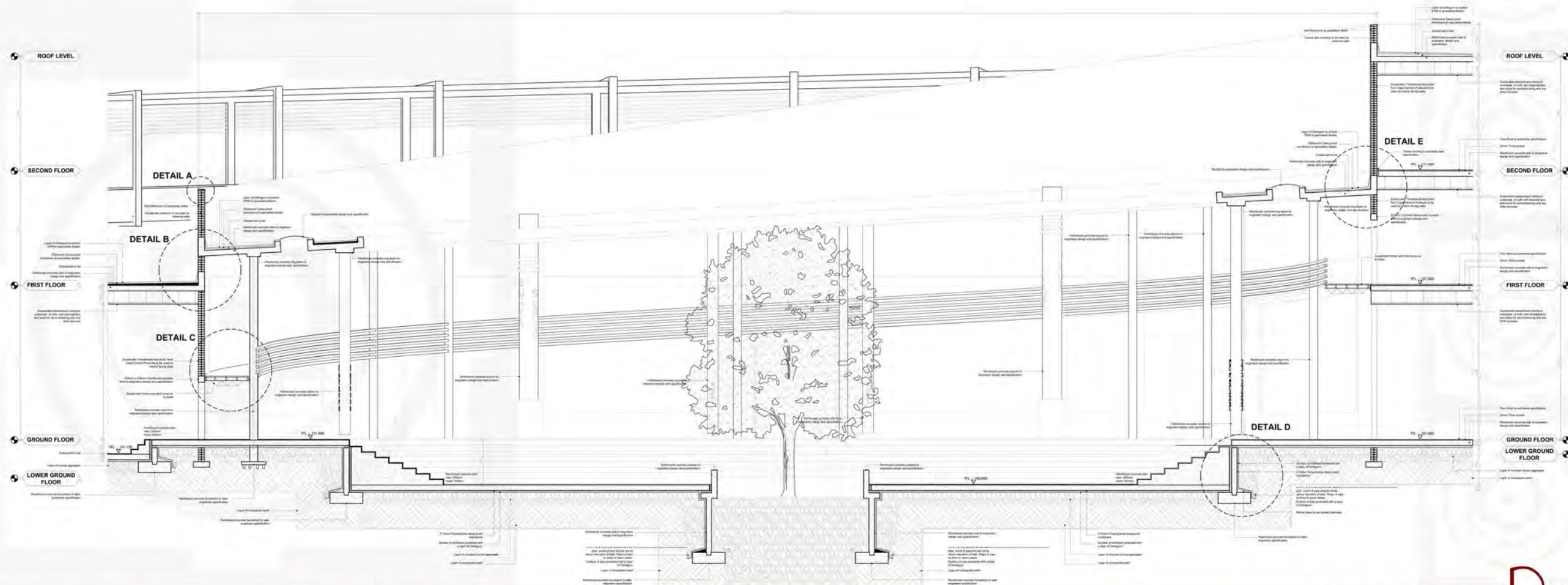
..... Flushing drain of perforated pipe. Invert of pipe should not be above elevation of slab. Slope of pipe to drain to storm sewer.

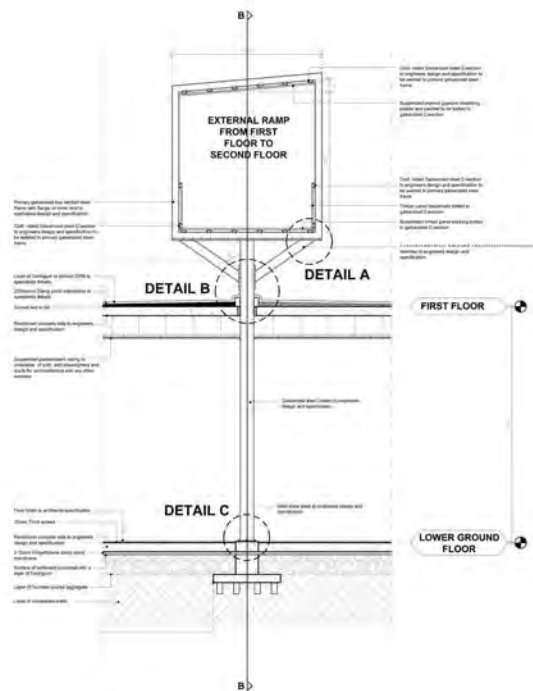
Surface of pipe protected with a layer of derbigum.

Reinforced concrete strip foundations under foundation walls to engineers specification.

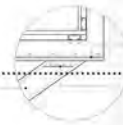


**DETAIL E**  
Scale 1:20





Galvanized steel beam  
engineers design and  
specification



Galvanized steel plate welded  
and bolted to primary  
galvanized steel frame  
Galvanized steel plate with  
flanges bolted and welded to  
angled beam.

**DETAIL A**  
Scale 1:20

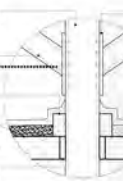
Galvanized steel I-beam  
to engineers design and  
specification

Galvanized steel beam

Single brick course  
around I-beam

Reinforced concrete  
slab to engineers  
design and specification

Mortar flush with slab to  
allow for expansion and  
contraction

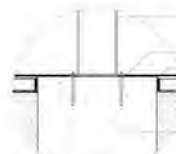


Galvanized steel plate welded  
and bolted to primary  
galvanized steel frame  
Layer of Derbigum to protect  
DPM to specialists details.

250micron Damp proof  
membrane to specialists  
details.

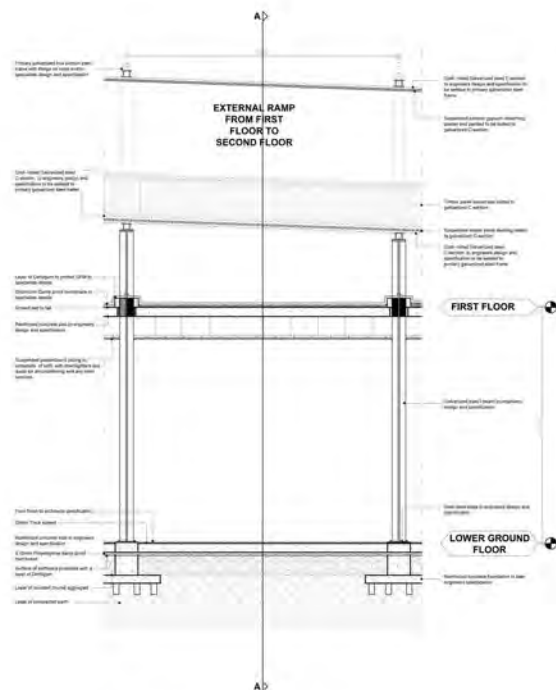
Screed laid to fall

**DETAIL B**  
Scale 1:20



350 x 200 universal column galvanized with  
red oxide and painted welded to bearing  
plate  
Holding down bolts  
25mm Self-leveling cement and sand  
screed  
100mm Concrete slab  
DPM  
10mm Soft board  
sand binding  
Concrete footing to engineers spec.

**DETAIL C**  
Scale 1:20











atrium



restaurant





