

MUSICAL EXPRESSION IN ARCHITECTURE:
A PROPOSED MUSIC COMPLEX FOR DURBAN

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ABSTRACT

The purpose of this dissertation is to explore the relationship that may exist between architecture and music. This study has two folds. The first is a focus is on the social and cultural aspects which connect the field of architecture and music. In this, view architecture and music may be understood metaphorically. Focus is based on 'expression'. The second focus is on the principles of composition that exists between the two fields. This part, mainly focuses on a comparative analysis between the 'form and structure' of architecture and music. This, as a result, would create an image that would best express architecture musically.

DECLARATION

I declare that this dissertation is my own, unaided work and carried out exclusively by me under the supervision of Mr Dumisani Mhlaba. It is being submitted for the degree of Master in Architecture in the University of KwaZulu-Natal. It has not been submitted before for any degree or examination in any other University.

.....

Nokuthula Ngcongco

.....day of.....year.....

DEDICATION

TO MY PARENTS, SANDILE AND THANDEKA NGCONGCO

ACKNOWLEDGEMENTS

First and foremost, I thank the Almighty Father for having provided me with an opportunity to undertake my Master's work.

I am deeply thankful to Dumisani Mhlaba for his professional assistance. As my supervisor, it is my pleasant duty to express my most sincere gratitude to him for providing direction of this work.

I owe also a great deal to my colleagues for their support.

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My warmest appreciation goes to my parents, Sandile and Thandeka Ngcongco. Your words of wisdom, love and financial support has helped in overcoming the challenges throughout my study career. Therefore I am dedicating this dissertation to both of you.

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MUSICAL EXPRESSION IN ARCHITECTURE:

A Proposed Music Complex for Durban

1.1 Background

Architecture and music are two fields which relate in that they are both art forms and have commonly been used as a medium for expression. These two fields transform with time through composition and differ in style and one's preference. They are the instruments of history for specific social environments and cultural identity.

Architecture has been used in the past as an expression for power and as a tool for capturing history that may be passed from one generation to another. This would include such historical moments, among others, as the Apartheid era in South Africa or even the French Revolution. An important aspect about architecture during such historical events is that the built form was relevant for its time. Music has also been used as a medium of expression till this present day. The subject of music is diverse to a point where even the notion of expression could be viewed from different angles; particularly in reference to the composer's intentions and performance or the listener's response to the musical piece.

The world has people of different backgrounds, cultures and religions, but it is intriguing that in all this diversity a common practice is shared. This is experienced globally in music as it is used in celebration and in mourning. Music is a language that all cultural groups speak, it is universal. All people find it natural to dance to the sound of music regardless of the language it comes in. To some people music is therapeutic, especially to the listener and a tool of expression for the composer. Music has the ability to tell a story about a specific relevant event. Architecture and music govern and direct social behavior and activity.

1.2 Definition of the Problem

South Africa has transformed from a policy of apartheid to a democratic country over the past 17 years. Diversity and integration have become tools for the gradual creation of a new image. Cultural diversity is one of the issues that require re-imagery.

As a democratic country that is breaking the boundaries, the pace of integration is suffocated. An appropriate image and identity for a city that has transformed is an issue that is still to be acknowledged.

Indeed monuments, halls, museums and sculptures still stand to this day as a reminder of the past and the influence of international architecture. These architectural features are an example of a heritage and a reminder of the past, but say nothing about the new, democratic city. Architecture may be a symbol for a specific place and its people, but may fail to express the culture and, furthermore, create barriers in terms of accessibility to the public.

Durban is still in need of social gathering places where cultural diversity may be expressed. The city is also in need of a landmark or an iconic place that would celebrate this cultural diversity. Places that serve as catalysts for urban renewal and also promote night life for the city are still much needed in the city.

1.2.1 Aim

The aim for this study is to explore the relationship between compositions and social aspects of music and architecture. This, as a result, would create an image that would best express architecture musically.

1.2.2 Objectives

- The creation of a place that would be the pride of the city
- Creation of architecture that is not exclusive, but open to members of every culture or religion or society.
- A comparative analysis between the compositions of music and architecture so as to find the elementary principles that co-exist, and which could be synthesized to a tangible physical expression.
- Looking at the general fundamental principles of music composition, rather than each genre and relating those to the different eras of architecture.
- Explore the diverse cultures and traditions of South Africa within the context of music, particularly, and how they can inform architecture.

1.2.3 Delimitation of Research Problem

In understanding the definition of the problem and the aim of this dissertation, it is important to do an investigative comparative analysis of the fields of architecture and music. Architecture and music are broad fields; the focus is then mainly on the principles of composition of music, the historical and social aspects of both fields. In view of this, the study does not focus on the different types of musical genres, but rather the general aspects which govern music. This dissertation will include a brief summary of South African Music as it is of significance to the study.

1.2.4 Definition of Terms

- **Allegro:** This term is commonly used in classical music, as indication of a speed of a song in order to evoke emotion. This is then used architecturally in this dissertation, in order to express dramatic forms and to express rhythm.
- **Characteristics:** This term will refer to the qualities of music. This term will be used to refer to the principles which govern the composition of music.
- **Composition:** This term to the arrangement of both architectural and musical elements, as a result becoming a tool for the synthesis of the two fields. It refers to the form, textures and spatial arrangements
- **Crescendo:** This term is commonly musically, as a gradual increase in volume or intensity. In this dissertation the term is used to express the gradual increase of architectural form, as a result, creating musical architecture.
- **Culture:** This term refers to the visual aspect which will be expressed architecturally through form of expression and spaces qualities which will be influenced by the music. It also related to the music that represented by the different groups of people.
- **Expression:** Architecturally it may be described as to showing the nature of a built form. Musically it may be the emotion communicated by a composer through a piece or the listener's emotion that results from hearing the piece. This term is also used to describe the emotions evoked by architecture and music.
- **Identity:** This is mainly the specific, unique quality that architecture has. The term refers to any symbolism that best represents the people. It also refers to the relevant image that architecture will have in relation to the people and context.

- **Image:** In this dissertation this term may be of more value than a picture or an idea as it would symbolise something of meaning to the people both architecturally and musically.
- **Movement:** Movement is used to express the fluidity of music and its relation to architecture. The term, most importantly, expresses how these two fields change with time.
- **Musical:** In the case of this study it is the relationship architecture has with music. It refers also to the fluidity in which architecture may be composed, based on the shared principles and issues.
- **Principles:** This term refers to both architecture and music. It refers to the aspects that govern the qualities of these two fields. These are aspects which include structure, form and textures.
- **Tension:** This term refers to the dramatic build up created through spatial arrangements in order to evoke emotion. These are spatial arrangements, where one is constricted in order to achieve a particular mood and released to achieve another.
- **Variations:** In musical terms, variations exist when there is a distinct change in a piece, through an introduction of a new element. This term is used architecturally to refer to the use of different materials connected together to create a harmonious structure and to express rhythm. This is also expressed through the use of elements of different size and height.

1.2.5 Stating the Assumptions

This dissertation is based on architecture and music, which are two subjects that require a level of understanding so as to achieve its aim. An understanding of music is of importance, particularly when dealing with the principles of composition in music. This may require interaction with musicians and composers as they may be the main primary source.

1.2.6 Hypothesis

There is, in actual fact, a relationship between architecture and music. Both these subjects create an opportunity for social gathering and may govern the psychological behaviour of people or a community. Architecture and music are created and governed by the same principles and processes. Architecture and music are both art forms of expression.

1.2.7 Key Questions

What are the common factors which govern successful architecture and music?

How is a synthesis created between architecture and music?

How are the fields of architecture and music tools of cultural expression?

How is architecture created such that it is musical?

1.3 RESEARCH METHODOLOGY

1.3.1 Research Methods

Architecture and Music can create an opportunity for social gathering. The comparative analysis then, also explores the social aspects such as the role architecture and music play in society. This research includes the psychological behavior of people to spaces and to music. It also includes relevant principles of architectural compositions and characteristics of music which best describe the relationship that exists between architecture and music. These principles are elaborated upon through a selection of different architectural compositions and a comparison to musical compositions. The results and outcomes of the study inform the relevant building which is suitable for Durban.

The qualitative approach is an appropriate method of research for this study, mainly because of its nature of being analytical and descriptive, particularly in terms of expressing architecture musically. This is mainly shown through the field work done, where four case studies in Durban were chosen.

The choices of the case studies are based on their relevance to the topic of the study. The case studies may contribute to the culture, expression, the past and the present of the people of the city of Durban.

The aim is to focus on the aspects that would reinforce expression of music in architecture, in order to support the theories, concepts and the discussions in the literature review. This then means that expression and composition of both architecture and music would play a major role. This is achieved through the analysis of the form or structures of the buildings, the character or atmosphere created and their symbolism and meaning to the people of Durban.

This method allows for the opportunity to explore attitudes, behavior and experiences. The empirical method of research is also used in the capturing of data. It should be noted that this research is to an extent analytical; therefore it includes a degree of intuition. This is mainly the case where the facades of the buildings are compared to the composition of a musical piece, as they share the common principles which are mentioned above.

1.3.2 Research Materials

The aim of the research material for this study is to capture the ways which best illustrate the relationship between architecture and music. It had been ensured that the elementary principles are apparent in these images. Materials that were used in this study include photography and analytical sketches. Books and data that have been written on the subject of architecture and music were also of good use for this study. The questionnaires assisted in the understanding of the role of architecture and music to the people of Durban.

1.4 CHAPTER OUTLINE

The chapter following this introduction is titled ‘_Theories and Concepts’. This chapter creates a framework for this study. The theories and concepts that have been chosen include; Phenomenology, The Place Theory, Critical Regionalism and Semiology.

The following chapter is the literature review. This discussion is structured in such a manner that for each subtopic, writings on architecture are reviewed, followed by music and then the two fields together.

This part of the study begins with a ‘_Brief History of Architecture and Music in South Africa’. This chapter uncovers the diversity of architecture and music and the role these fields play in the country’s development. The purpose of this discussion is to provide an outline of how the country has changed and how some of the political circumstances have changed or influenced the social and racial aspects of South Africa.

This is then followed by a discussion of the ‘_Expression of Culture and Memory’. The discussion on culture and memory is used to connect architecture and music as some of the tools for such expression. Culture implies an understanding on a way of life of a certain group of people. This therefore implies that culture will be discussed globally. Memory is discussed in terms of buildings that are used to commemorate a significant aspect of the past and also in terms of memorable moments and places. Meaning is also of value to this discussion.

The next part of the study is based on ‘_Experiencing Architecture and Music’. This will focus on the way in which different groups of people experience architecture and music. Architecture and music are experienced through ‘_Spatial Qualities’ and through ‘_Listening’. A brief discussion on acoustics is included as it focuses on these previously mentioned aspects. The therapeutic qualities of architecture and music are of significance to this discussion. Architecture and music are also discussed in relation to movement. Dancing is used as one of the ways of experiencing these two fields.

The next discussion focuses on ‘_Form and Structure’, a common aspect in both architecture and music. This discussion focuses on how architecture and music are expressed and the principles or characteristics of composition. It also compares the two fields to art and explains how they may be considered art forms.

The next chapter is a discussion on ‘_Case Studies’. The chosen case studies and the selection criteria were previously discussed in ‘_Research Methodology’. These case studies mainly serve the purpose of elaborating on the study, ‘_Musical Expression in Architecture’. They also emphasize the issues that were discussed in the literature review.

The study continues with an analysis and discussion on the research findings in order to reach a conclusion. In the reaching of this conclusion, recommendations are made in order to create solutions to the problems that were mentioned in the first chapter.

1.5 CONCLUSION

The above mentioned points would create a framework and a guide for this study. In order to put more emphasis on the theories, problems and issues expressed in the back ground and also to deal with the issues of this research, it had been considered vital to capture data and review the relevant writings on architecture and on music.

2.0 THEORIES AND CONCEPTS

2.1 Introduction

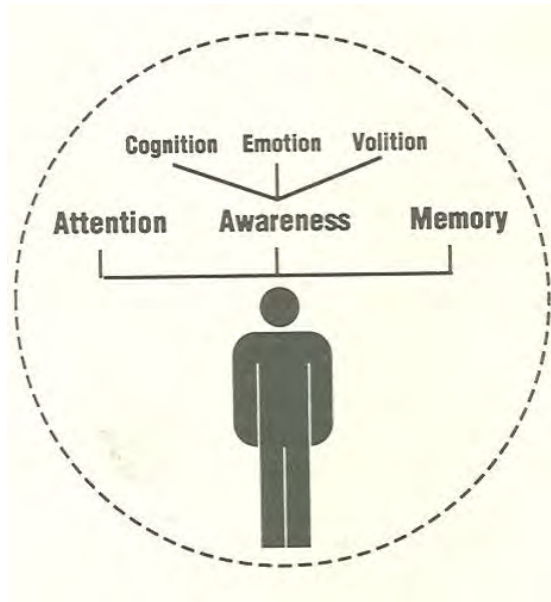
The theories and concepts chosen create a framework for this study and to help understand and reinforce the relationship which may exist in the designing of a building composition and a musical piece. The aim is mostly to create architecture that speaks of both these aspects and to have an architectural language that is new with an image that is relevant to the people and their situations within the city of Durban. The theories and concepts that have been chosen include; Phenomenology, The Place Theory, Critical Regionalism and Semiology.

2.2 Phenomenology

Norberg-Schulz (1980: 5) explains the phenomenology of architecture as a theory which understands architecture in concrete and existential terms. In terms of the concrete and existential, Norberg-Schulz (1980: 6) says that the everyday life-world of human beings consists of what he describes as the everyday phenomenon.

This includes people, nature, buildings and streets. It also includes the sun, moon and stars, night and day and the changing seasons. Norberg-Schulz (1980: 6) then mentions that there is more intangible phenomenon such as feelings. Norberg-Schulz (1980: 5) also says that man dwells where he can orientate himself and identify himself within an environment as meaningful.

Having mentioned that the experience of architecture and music is also based on 'character', Norberg-Schulz (1980: 11) explains this term. Norberg-Schulz (1980: 11) considers character to be interdependent with space. He believes that character is determined by how things are and represents the atmosphere of a place, while space represents the three dimensional organization of elements which make up the place (Norberg-Schulz 1980: 11). In order to relate this more to music, the character of a place may be emphasized by the character of the music.



As a contribution to this discussion Elliott (1995: 52) speaks of ‘cognition’. This term, according to Elliott (1995: 52), refers to the processes by which humans recognise, understand and relate information. This information includes different sights, sounds and recognised thoughts and emotions and all situations and events encountered. Figure 2.2.1 is a diagram explaining the human conscious as explained by Elliott.

Fig 2.2.1 The Human Consciousness (Elliott 1995: 52)

Elliott (1995: 52) then also says that attention, awareness and memory are aspects that consist of human meaning-making systems known as consciousness and what results in the everyday phenomenal experience. These meaning-making systems are also very important in the experience of architecture and music.

In order for architecture and music to be experienced pleasantly and for both fields to have a form of symbolism, it would be essential to discuss how they are perceived by human beings. Elliott (1995: 52) speaks about what he calls ecological theories of perception. These theories state that all forms of perception involve the direct pick-up of information from the environment. In this view hearing and seeing are controlled by qualities of objects that fit human needs and goals. This discussion will progress by reviewing the discussions of Pallasmaa and Scruton and, briefly, Boghossian on the senses of sight and hearing and the connection of these senses to architecture and music. This would also further elaborate the points made by Elliott.

Pallasmaa (2005: 49) says that sight isolates, while sound incorporates and believes that vision is directional, while sound has unlimited direction. He then explains that the sense of sight implies exteriority, but sound creates an experience of interiority. Pallasmaa (2005: 49) points out how the value of sound may be disregarded, where people may be unaware of the significance of hearing in spatial experience. This emphasizes what was stated earlier

on how the character of a place may be emphasized by the character of the music. Pallasmaa uses a cathedral as an example for this point. According to him a cathedral may be experienced as a dark, lonesome space, but with the sound of the organ creates a positive experience for the same space (Pallasmaa 2005: 50).

In relation to architecture with the senses, Pallasmaa (2005: 44) says that architectural work is not experienced as a collection of isolated visual pictures, but in its fully embodied material and spiritual presence. He believes that significant architecture makes people experience themselves as complete personified and spiritual beings. This is particularly important in terms of architecture being of meaning or symbolism to a certain group of people. He then also adds that a work of architecture incorporates and introduces both physical and mental structures (Pallasmaa 2005: 44).

In relation to music with the senses, a discussion by Paul Boghossian shall be reviewed. He first states that when listening to music, one is exposed to sounds. According to this discussion, sounds are vibrations in the air. Boghossian then explains how these vibrations are perceived as sound. They cause the ear drum to vibrate, which in turn causes nerve impulses to travel up the auditory nerve to the brain. These nerve impulses cause certain neurons to fire in the brain and, as a result, are perceived as sound. In certain cases, the firing of the neurons that constitute the perception of sound triggers the firing of certain other neurons, leading to the experience of specific emotions. (<http://as.nyu.edu/docs/IO/1153/explainingmusical.pdf>-accessed 31/05/11-19:40)

Scruton (1997: 16) explains the relationship between music and sound by describing music as the art of sound. Scruton (1997: 1) says that sounds present a single privileged sense-modality in that one has the ability to hear them and not see, touch, taste or smell them. He then also says that sound is not an intentional object of musical perception. In order to hear and experience music, tone is the object of perception rather than sound. Tone, according to Scruton (1997: 96), is characterized by pitch, rhythm, harmony and melody.

This discussion has introduced a number of terms and aspects which would need further elaboration. The discussion has in actual fact created a form of guidance as to how this dissertation will progress. In order to elaborate more on the experience of architecture and music, it would be vital to discuss *place making*, *memory* and the *acoustical* qualities through architecture and music.

2.3 Place Theory

The term *genius loci* comes into mind in the mentioning of the spirit of place. *Genius loci* which simply means *genius of place* is used to describe a place that is deeply memorable for its architectural and experiential qualities (Frederic 2007: 9). Lynch (1981: 132) makes a relevant point, particularly in the notion of a memorable space, by introducing to readers the term *good place*, which he explains to be accessible to all senses.

According to Trancik (1986: 112) the essence in spatial design lies in the understanding of cultural and human characteristics of physical spaces. He further defines (1986: 112) a space to be a place when it has been given contextual meaning derived from culture or regional context. It is the specific and distinct character that make a space a place and as a result the creation of the spirit of place (Tranick 1986: 114).

In his discussion Trancik (1986: 112) considers a space to be a purposeful void with a potential of linking things and may only become a place when it has been given a contextual meaning derived from cultural and regional content. Trancik (1986: 112) also makes an important point as he explains that people require a reasonably stable system in order to develop their social lives and culture.

Lynch also makes some valid points on the topic of *Place Theory*. Earlier in this paper it had been briefly mentioned that Lynch (1981: 132) introduces to readers the term *good place*, which he explains to be accessible to all senses. He also adds further that in sensing the world there is delight. This delight is experienced through the play of light, the feel and smell of wind, touches, sounds, colours and forms (Lynch 1981: 132).

Lynch (1981: 132) makes a point which is valid to this research by introducing the idea of sensible identifiable spaces, where personal memories are likely to be created. He further adds that there is, in actual fact, a close link between place identity and personal identity.

These issues discussed by Lynch are relevant for the subject of architecture and music, particularly because these two subjects affect people psychologically through spatial quality and the sense of hearing. To further elaborate Lynch (1981: 132) explains that a good place is accessible to all senses and it engages to the perceptions of its inhabitants.

This theory will then be helping to assist in the creation of experiential spaces of the chosen building. This would be mainly achieved by the exploration of spaces through architecture and through the music and the role these two aspects play to users in terms of the applicable senses.

2.4 Critical Regionalism

Critical Regionalism is a theory that is worth including in this research, as it offers an understanding of architecture as it is affected by culture, region and, further, the tectonics.

Critical Regionalism, according to Lefaivre and Tzonis (2003: 10) was introduced almost 25 years ago in order to draw attention to the approach of Post-Modernism which, ironically, aimed to succeed modernism. Lefaivre and Tzonis (2003: 10) believe that Post - Modernism aspired to bring architecture out of the state of stagnation and disgrace. This, however, failed as Post -Modernism became superficial and not so different from Modernism (Lefaivre 2003: 10).

In their discussion, Lefaivre and Tzonis (2003: 11) aimed to rethink regionalism within a context which mainly focused on the identity of social and cultural situations of a place and the people as opposed to imposing formulas within the context of the current ecological, political and intellectual crisis. This was done in order to explore and create a development of the design strategies (Lefaivre 2003: 11).

In a book compilation, by Jencks and Kropf, with a number of essays on theories of modernism, Frampton's discussion on critical regionalism is also included. Frampton (1997: 97) makes a valid point for the purpose of this discussion as he explains critical regionalism in six points. According to him these points are to achieve what he describes as architecture of resistance (Frampton 1997: 97). Frampton (1997: 97) introduces the term 'arrire-garde' as he explains that the term holds the capacity to cultivate a resistant, identity-giving culture. According to Frampton (1997: 97) critical regionalism depends on maintaining a high level of critical self-consciousness. Having pointed that out, he further considers critical regionalism to be a cultural strategy that captures world culture as much as it may be a tool for universal civilization.



Figure 2.4.1 School of Plastic Arts (bird -eye view) by Ricardo Porro, Cuba (Lefaivre 2003: 76)

Frampton (1997: 98) explains critical regionalism to be resistance of the place-form. He makes a valid point for the aim of this dissertation as he explains that critical regionalism involves a relationship between culture and nature. Nature, in this case, would be inclusive of topography, context, climate, light and tectonic form (Frampton 1997: 98).

Frampton (1997: 99) expresses the importance of this relationship as he points out how the destruction of an irregular site in order to build on a flat site may result in placelessness. He believes that the preservation of an irregular or terraced site results in what may be described as the cultivation of the site (Frampton 1997: 99). Figure 2.4.1 is a representation of architecture that preserves the vegetation and the topography of the site. According to this image, architecture and nature are in harmony. The building seems to grow out of the site; a quality enforced mostly by the organic form



Figure 2.4.2a and 2.4.2b School of Plastic Arts (visual experience) by Ricardo Porro, Cuba (Lefavre 2003: 77)

He then also clarifies the term tectonic as he explains that it mainly focuses on the architectural autonomy. According to him this autonomy is mainly the explicit representation of the structure of the building and its gravitational forces. He then further describes it to be the play of materials and how they are connected (Frampton 1997: 99).

Frampton (1997: 100) also considers critical regionalism to contribute to one's visual experience as he focuses on the relationship between the visual and what is tactile. This relationship between visual and tactile is mainly concerned with human perceptions.

This idea of visual perception may be viewed differently in the case of music, mainly because music may be perceived through hearing. This is elaborated on at a later stage of this dissertation, where architecture and music are compared to art. Figure 2.4.2a represents a visual experience through a repetition of an element. Figure 2.4.2b represents visual experience through a curved wall and casting of shadows.

1.4.5 Semiology

This term is used by Jencks (1999: 43) to explain the creation of forms through meaning and symbols. He mainly uses the word in terms of understanding meaning of form and how it is perceived by society. Jencks (1999: 43) gives superiority to meaning by expressing how it is not possible for it to exist as it is part of human existence.

The term ‘_context and metaphor’ is introduced in the discussion by Jencks (1999: 43) to show one of the ways in which semiology could be understood. This metaphorical approach could be understood by people based on what they see and how they could convey meaning.

This theory would assist in the understanding of the form of the building, particularly in the way it would relate to its intended context. The form and expression of the building are of extreme importance in the application of this theory.

In terms of what had been mentioned earlier, the term ‘_semiology’ is used by Jencks (1999: 43) to explain the creation of forms through meaning and symbols. He mainly uses the word in terms of understanding the meaning of form and how it is perceived by society. This term gives an understanding to the idea of symbolism. The theory of Semiology is further elaborated upon by looking at a discussion by Lukken Gerard on the semiotics of architecture. His research helps in understanding symbolism in architecture, particularly

how it is perceived by man. Gerard explains the theory semiology in greater depth. Gerard (1993: 13) explains how the meaning of a building takes form through the senses of man. He describes a building as a single independent object which has meaning that is altered or governed by uses to which it is put in daily living. He makes an important point as he further elaborates on the subject of semiotics by adding that there are instances where users of a building define a building even to the extent of altering its original meaning (Gerard 1993: 13). This point then makes it clear that architecture may become more than just a built structure, but dependent on man's activity and to some extent; it may be a tool to govern his social behaviour.

3.0 LITERATURE REVIEW

3.1 Introduction

The purpose of this part of the dissertation is to elaborate on some points that were mentioned earlier in the first chapter and also to emphasize and explain the phrase ‘_musical expression in architecture’. This chapter aims to review some of the relevant published material on the topic of architecture and music with examples using illustrations to support some points. The theories and concepts that were briefly discussed in the previous chapter will be used as a base for these discussions.

3.2 BRIEF HISTORY OF ARCHITECTURE AND MUSIC IN SOUTH AFRICA

This part of the study begins with a ‘_Brief History of Architecture and Music in South Africa’. This chapter uncovers the diversity of architecture and music and the role these fields play in the country’s development. The purpose of this discussion is to provide an outline of how the country has changed and how some political circumstances have changed or influenced the social and racial aspects in South Africa.

3.2.1 Architecture in South Africa

Architecture in South Africa, as in most countries, has evolved over the past years. This point again emphasizes the time factor on architecture. It is worthy of mention that architecture is to some extent influenced or linked to the history of the development of the country. These two aspects were not only linked, but also influenced the music of South Africa.

As already mentioned, South Africa is a country that has undergone radical transformation over the past years. South Africa transformed from being governed on apartheid policies to becoming a democratic country. Nick Shepherd and Nöeleen Murray worked together in compiling a set of essays which examine the notions of space, memory and identity in post apartheid South African cities. Shepherd and Murray (2007: 2) make an introduction to these essays as they give a brief discussion on the history of architecture in South Africa.

In their discussion, they begin by informing readers and researchers about the temporary indigenous settlement patterns which date back to more than 14 000 years ago , which may have marked the beginning of South African Architecture. Some of these settlements may be viewed in figures 3.1, 3.2 and 3.3

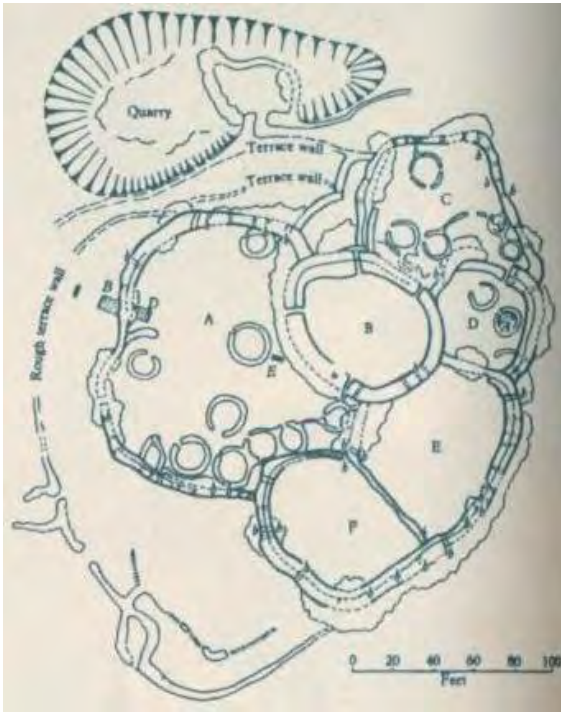


Figure 3.1 First Settlement Communities
(Van Wyk 2000: 156)

These settlements, according to their discussion, became fused into vernacular architecture and in some cases into what was called ‘high style and the vernacular’ by Amos Rapoport (Shepherd and Murray 2007: 2). This category, according to Shepherd and Murray (2007: 3), included what became known as the ethnic architecture of abaNguni and baSotho. In the research by Shepherd and Murray (2007: 3) the term ‘Folk Architecture’ is also introduced. This term referred to the architecture of the Dutch Settlers at the Cape in the seventeenth and eighteenth centuries.



Figure 3.2 Construction of a hut with reed mats
(Van Wyk 2000: 156)



Figure 3.3 corbelled or stone buildings
(Van Wyk 2000: 157)

Folk Architecture was then followed by the popular Cape Dutch Architecture which was produced in the period of Dutch colonisation. This architecture was well known for its built forms with whitewashed gables and the ‘H’, ‘T’ and ‘L’ layout plans. What has been said about this style of architecture is that it not only received international recognition, but it also signified Dutch rule and later became an authentic form of South African architectural heritage (Sheperd and Murray 2007: 3). Figures 3.4 and 3.5 are images which represent some of the farmsteads in the Cape in the 17th and 18th centuries.



Figure 3.4 The Genadendal Mission
(Van Wyk 2000: 150)



Figure 3.5 Posthys (Van Wyk 2000: 150)

As the British occupied South Africa, they also contributed to the architecture. This was made became apparent by their landscape parks and gardens alongside buildings. The British used built form to commemorate great individuals of the time through monuments, memorials, statues and through street and building names (Murray 2007: 3).

South Africa's apartheid policy played a major role in the planning of cities and therefore the architecture. This resulted in segregation which was conducted by the Group Areas Act of 1950. It has been explained by Shepherd and Murray (2007: 5) that apartheid spatial planners used international models of modern town planning approaches to segregate space. This then resulted in the division of people based on different racial groups and promoting prejudice.

As it has been mentioned earlier, South Africa transformed into being a democratic country. As opposed to the above, the country promoted unity and one nation for all people. This transformation had aimed to achieve a better, improved country.

All that being said Shepherd and Murray (2007: 7) point out that South Africa became open to other social challenges as it became a democratic country. These challenges, amongst others, included tension between wealth and poverty which segregated the rich and the poor, migrants and citizens and men and women (Sheperd and Murray 2007: 7).

In terms of architecture Shepherd and Murray (2007: 8) quote Bremner who points out the position of architecture in South Africa's transition to democracy.

“But many questions about architecture’s broader responsibilities to reshape and rebuild our society, and itself, remain unaddressed and unanswered.”

(Sheperd and Murray 2007: 8)

An article by van Wyk (2000: 116) in the South African Architectural Digest, elaborates Bremner's point. In this article van Wyk (2000: 116) raises concerns on the architecture of South Africa and, consequently, that of Durban. In this article it had been pointed out that South African cities lack in the provision of public facilities for their citizens.

van Wyk (2000: 116) also mentions the consequences of apartheid planning as part of this failure. The principles of apartheid planning included the removal of public gathering spaces such as town squares, pavement cafes and city markets. This removal of public spaces was experienced on all levels, as it also included bus stops as they became shelters for the homeless. This according to van Wyk (2000: 118) caused a failure in the planning of the city as public gathering spaces contributed to cultural practice and integration. He then also makes an important point as he mentions that these conditions have not improved as have expected within the new democracy of the country.

The above mentioned supports and emphasizes the point already made as the problem statement of this research was being pointed out. It had been mention by the author, in the first chapter, that as a democratic country that is breaking the boundaries, the pace of integration in South Africa is suffocated. In addition an appropriate image and identity for a country or a city, in the case of Durban, that has transformed is an issue that is still to be acknowledged.

3.2.2 Music in South Africa

South Africa is a country that is rich in cultural diversity. This, then, implies that even the music is diverse as different cultures practice different traditions. Mojapelo, Selimovic and Lucia are some of the authors who have contributed to some of the published books on South African Music. This discussion mainly reviews their writing on the subject of South African Music.



Figure 3.6 Artistic Dance Performance (Selimovic 2002: 33)



Figure 3.7 The Princess Theatre, London (Lucia 2005: 96)

Mojapelo (2008: 1) makes readers aware of the different genres of music as he expresses how South Africa possesses one of the richest popular music traditions in the world. This diversity in music is further expressed by Selimovic. According to Selimovic (2002:

15), South African Music is a complex fabric which has been influenced by Africa, Asia, Europe and North America.

In his discussion Selimovic (2002: 15) creates clarity in how musical development helps in understanding the development of the country. He achieves this by putting focus on music education and by considering it a form of cultural expression. According to him this expression is one of the key spheres of culture in South Africa. Selimovic (2002: 11) considers music to be a tool, amongst others, to shape a new South African identity.



Figure 3.8 Pennywhistlers in Johannesburg (Selimovic 2002: 25)

Selimovic (2002: 16) believes that music is associated with politics more than any other art and also adds that the historical events that occurred in South Africa give an idea of the significance of music in the past and the present. This political aspect of music has been found apparent in musical theatre where political and artistic messages were intertwined to

create a whole. Musical theatre included musicals such as *King Kong*. *King Kong*, the first of such productions, opened in at the Prince Theatre in London in figure 3.7 Along with it, there were other artistic political genres of dance theatre which mainly drew large crowds in black townships. These genres, as viewed in figure 3.6, of dance included productions such as *Sarafina* and *Woza Albert* (Selimovic 2002: 30).

Lucia (2005: 22) believes that the notion of a South African musical territory and set of practices before the first significant European settlement, before colonialism, urbanisation, apartheid or globalisation. She also points out the wide range and diversity of the music as she expresses(see figure 3.8) that it has evolved by a series of migrations from many parts of the world over several centuries, some which are the same as the ones already mentioned by Selimovic (Lucia 2005: 27).

Thorsén, a writer for the ‘Swedish Journal for Musicology’ tackles the subject of Music Education in South Africa. In doing so, he offers a brief summary of the history of music as he looks at some possible influences.

According to Thorsén (1997: 4) jazz played a role in the identity the black people in the fifties. This was a peak in the era of jazz, and where musicals such as *King Kong*, which has already been mentioned above, were produced. Thorsén (1997: 4) also describes places such as Sophiatown, District Six and Cato Manor to be multicultural places of diverse music styles. This created an opportunity for intercultural exchange and a creation of new styles through social experiments and developments.

Thorsén (1997: 4) points out that the interest in American jazz broadened into a movement among black people. Along with the music, the North American artists’ behaviour was borrowed and made into a highly valued aesthetic standard, as a result new forms of jazz developed which combined American and African elements (Thorsén1997: 4).

Thorsén (1997: 4) introduces the term ‘*marabi*’. This was a mixture of African, Asian, and European music which also formed the core of popular music. Along with *marabi* there

was a wider variety of musical styles such as *kwela* and *mbqangaas* well as *isicathamiya* (Thorsén 1997: 4).

Thorsén (1997: 5) also mentions the Dutch farmers as part of the influence of South Africa. This included traditional European folk music, which was later transformed into what is known today as *boeremusiek* (Thorsén 1997: 5).

The above discussion has created clarity on the influence of architecture and music to South Africa and how it has affected the people in the country through its development. In order to elaborate further on this discussion it is essential that more emphasis be put on some of the aspects discussed. Architecture and music play a role in the lifestyles of people and values were put in both fields in order to create an expression and to celebrate the history that has been discussed.

The discussion on culture and memory is used to connect architecture and music as some of the tools for such expression. Culture implies an understanding on a way of life of a certain group of people. This therefore implies that culture will be discussed globally. Memory is discussed in terms of buildings that are used to commemorate a significant aspect of the past and also in terms of memorable moments and places. Meaning is of value to this discussion.

3.3 EXPRESSION OF CULTURE AND MEMORY

Culture exists in every group of people or community and is practiced globally. Kelbessa in Mc Lean (2008: 357) says that human beings have the ability to tell a story of their past through the expression of their rich potentialities through their diversity of cultural, political and symbolic forms. Kelbessa (2008: 357) believes that this serves in understanding and appreciating the historical and cultural background of people living in different circumstances and parts of the world.

Earlier it had been mentioned that Lynch (1981: 132) believes that sensing the world there provides human beings with pleasurable experience. This is experienced through the play

of light, the feel and smell of wind, touches, sounds, colours and forms. In his discussion he explains the different values created in human perceptions and further explains that these perceptions play a role in the creation of personal memories. This notion of personal memory is then also connected to place identity and personal identity and as a result creates meaning (Lynch 1981: 132).

Pallasmaa (2005: 72) says that in memorable experiences of architecture it would be discovered that space, matter and time unite and form the basic material of existence. This unity, according to Pallasmaa (2005: 72) penetrates one's consciousness. In this way one identifies with the space or place, at that moment, creating dimensions that become ingredients of his or her very existence.

3.3.1 Architecture and Music as Tools of Culture and Memory

A place may be influenced by the culture of the people living in it. According to Kostof (1991: 16) cities are combinations of people and buildings. He further adds to his definition that a city may capture the past struggles and glories of the people, therefore their circumstances. This is where the pride of the past is set on display. In this discussion he also adds that a city consists of condense continuities of time and place (Kostof 1991: 16).

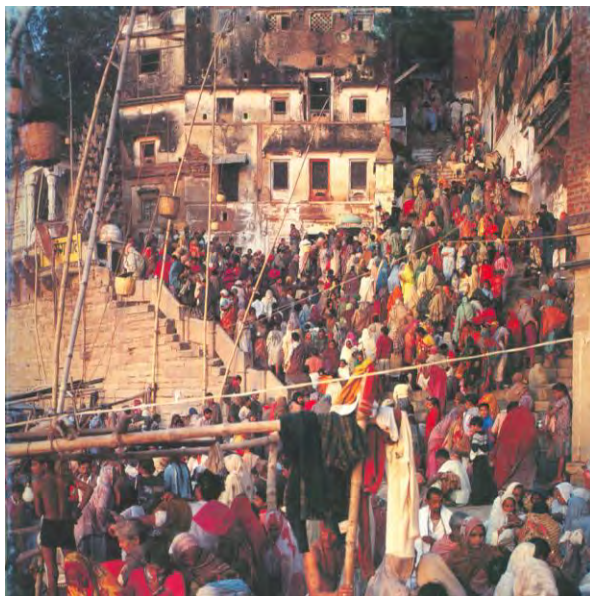


Figure 3.9 Varasi, India (Kostof 1991: 17)

Kostof (1991: 37) describes it to be a large, dense and permanent settlement of socially diverse individuals. He also adds that cities are places where certain energized numbers or crowding of people takes place. Figure 3.9 emphasizes this point. He makes an important point for the purpose of this dissertation as he defines the city to be a point of maximum concentration for the power and culture of a community (Kostof 1991: 37).

Mc Lean (2008: 23) connects culture to the term 'civis' which means citizen, civil society and civilization. This according to Mc Lean (2008: 23) reflects the need of a person to belong to a social group or community, so the human spirit may produce proper results.

Architecture, according to Pallasmaa (2005: 71) enables people to settle in the world, and to place themselves in the variety of culture and time. He says that architecture represents and structures action and power, orders of society and cultures, interaction and separation, identity and memory. In all these experiences architecture implies the acts of 'recollecting, remembering and comparing', which are aspects that would significantly influence culture and memory (Pallasmaa 2005: 72).

One of the main examples where architecture has been used as a tool to express culture is Renzo Piano's Kanak Cultural Centre. This building is discussed by Lefaivre and Tzonis (2003: 82) in their discussion of critical regionalism. According to this discussion, the main aim of this project was to pay homage to culture while putting into consideration traditions and past, present and future (Lefaivre 2003: 82). Figure 3.10 shows a sketch of the traditional Kanak huts from which Piano drew inspiration.

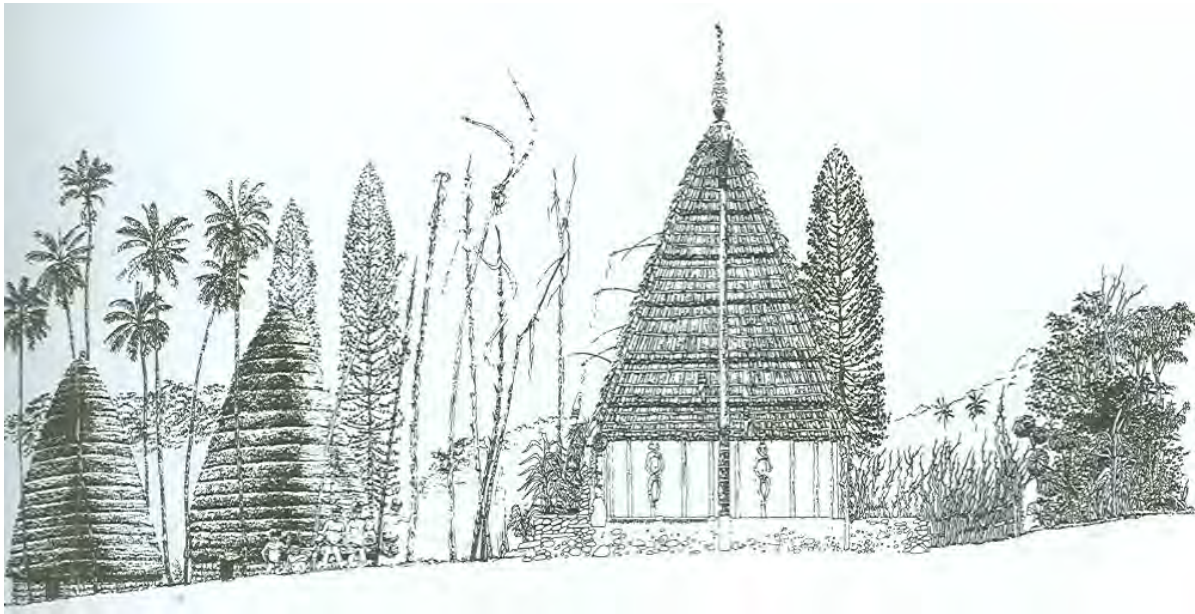


Figure 3.10 a sketch of the traditional Kanak Huts by Piano (Davey1998: 12)

Piano, as a result, creates a new synthesis between the local and global tradition and modernity. In order to achieve this he makes use of materials and building methods of the Kanak. He also respects and draws on natural elements such as wind, light and vegetation (Lefaivre 2003: 82). Figure 3.11 is a view of the Kanak Cultural Centre. This image illustrates the harmony which exists between architecture and the natural elements, as mentioned above.

The Cultural Centre consists of ten huts which have different sizes. The huts are used to accommodate various functions and themes. A portion of the site is used as a temporary and also permanent exhibition space. Some of the huts contain studios for traditional activities such as music, dance, painting and sculpture, as viewed in figure 3.12 (Lefaivre 2003: 82).



Figure 3.11 the Kanak Cultural Centre in New Caledonia (Davey1998: 12)



Figure 3.12 interior view of one of the huts, a performance and study space (Davey1998: 14)

A city according to Lynch (1959: 91) is a multi- purpose and changing organization and a structure for many functions. These functions influence the city's form, particularly when considering aspects such as circulation, major land-uses, key focal points, common hopes and pleasures and sense of community. These aspects are made possible through an introduction or application of ideas and concepts that would create or allow for connectivity, integration and a celebration of special features that may tell the history of a city. These are ideas that would consider the city as a place that connects people, streets and buildings (Lynch 1959: 91).

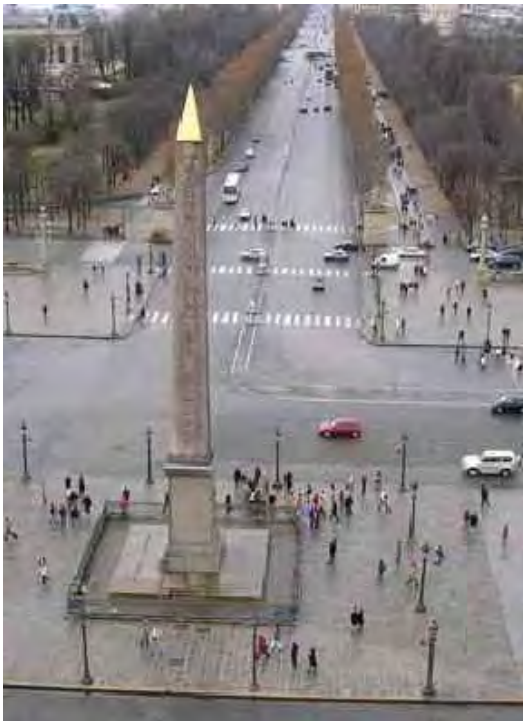
*"We live without her [architecture], and
worship without her, but we cannot
remember without her."*

(Forty 2000: 200)

Forty (2000: 206) contributes to this discussion, as he considers buildings for the purpose of commemoration to be one of the main purposes of architecture. The quote by John Ruskin, in the previous page, is included in his discussion on architecture and memory. Forty (2000: 206) also mentions Aldo Rossi in his discussion. The quote below explains his contribution to this discussion.

“The city itself is a collective memory of its people, and like memory it is associated with objects and places.”

(Forty 2000: 217)



One of the best examples which express the notion of memory is found in an essay by Sarah Bonnemaïson in a book compiled by Arnold and Ballantyne. In her essay Bonnemaïson discusses the topic of places and memory by using the commemoration of the French Revolution as an example to emphasize his point. According to this essay, a committee known as the Bicentennial Commission was established to organise this event (Arnold and Ballantyne 2004: 157).

Figure 3.13 Place de la Concorde, Paris
(Paris-france.me.uk)



Figure 3.14 Arc de Triomphe, Paris
(destination360.com)



Figure 3.15 Tuileries Gardens, Paris
(offrench.net)

According to Bonnemaïson (2004: 158) the main goal of this commemorative event was to complement the architectural transformation of the French Capital. In doing so many buildings were built. Bonnemaïson (2004: 158) then mentions a parade to be the main event of this commemoration and further informs that it was located in the centre of the city between the Arc de Triomphe and the Tuileries Gardens on figure 3.14 and 3.15. Bonnemaïson (2004: 158) also informs the reader that this parade ended in Place de la Concorde, viewed in figure 3.13, which was considered one of the most historical sites.

Bonnemaïson (2004: 158) expresses the significance of this parade to this topic as she mentions that it was the most memorable event of the Bicentennial Commission, although it did not last very long. A highlight of this event was the singing of the anthem by Jessye Norman. This item was extremely symbolic as much as it was memorable, as it was a Black- American born opera singer who was singing the anthem. This was significant in that France was then no longer represented by a traditional blonde peasant.

The second most significant aspect of the parade was the amphitheatre which was a feature specially built for the event. This amphitheatre was the same as the one built for this first anniversary of the revolution (Bonnemaïson 2004: 158). In relevance to the topic of

memory, the new amphitheatre was carried the memory of the old, it captured a happy moment in the revolutionary past (Bonnemaïson 2004: 159).

In the discussion above it may be implied that the creation of memory can be expressed differently, particularly when culture and time are considered; Kelbessa (2008: 357) argues this point. Culture and memory are expressions representing people of a certain place and their way of life, therefore relevance appears to be an important aspect. Lynch (1959: 91) and Bonnemaïson (2004: 158) seem to emphasize strongly on the role of a city as a narrator of the past.

The quote below captures the essence of how Elliott views culture as he discusses it within a musical context.

*“Culture is not something people have, but
something people make.”*

(Elliott 1995: 185)



Figure 3.16 Mali Drummers

http://www.rhythmconnections.com/Cultural_Tours.htm

(accessed 10/06/11-13:30)

Elliott (1995: 197) states that different societies and groups within a society identify themselves with particular types of music. This quote below by Bruno Nettl is used by Elliott to emphasize his discussion on culture and music. Figure 3.16 captures the essence of Mali Culture through music and dress code.

“...musical works are powerful ways of capturing and delineating the character of a culture.”

(Elliott 1995: 197)

Elliott (1995: 197) uses western music as an example. He points out the importance of country music in its influence on the way of life of the people. This way of life includes the dress code, the preferred cars, speech patterns, sports, social rituals and the personalities of the people (Elliott 1995: 197).

Elliott (1995: 197) also point out that most people do not relate or respond to all music made within their national borders as there is no one style of musical sound patterns that all humans may immediately understand or prefer. This then according to Elliott (1995: 197) makes music culture-specific.



Figure 3.17 Asian Drummers http://www.flickr.com/photos/metrix_feet/3610065133/
(accessed 10/06/11-13:38)/

Figure 3.17 is an illustration expressing a different culture of drummers. Music, within its context, according to a dissertation by Jamile (2004: 1) is a rich symbolic expression which people in a particular society use to depict their past and their present situations. Jamile (2004: 1) further adds in his research that music, as an organization of sound is a symbolic expression of social and cultural organizations which reflects the values, the past and the present ways of life of the people who create it.



Figure 3.18 Performers at Orlando Stadium, Soweto
(Selimovic 2002: 8)

Lucia (2005: 210) explains how music and dance work successfully to express and celebrate culture. She explains how the tempo of *maskanda music* became faster over a number of years and had instrumental backing, such as a bass guitar and drums added. This instrumental backing emphasized aspects of music such as the importance of a bass melody and the dance rhythm and beat. This then allowed for the incorporation of *ingoma dance* (Lucia 2005: 210).

According to Lucia (2005: 210) *ingoma dance*, like *maskanda music*, played an important role in the Zulu migrant culture. Selimovic (2002: 67) adds to this as he informs the reader that this type of dancing was very popular in Zulu weddings and celebrations. According to Selimovic (2002: 67) it is one of the proud Zulu traditions that have lived on. Most of the *maskanda music* styles are influenced by the *ingoma dance* to such a level that most of them are named after the dances. These dances include dance forms such as *umzansi*, *isikhuze* and *isishameni* (Lucia 2005: 210).

As mentioned earlier Selimovic (2002: 15) discusses music in South Africa and considers it to be a complex fabric and according to him, it reflects the strands of Africa, Asia, Europe and North America. He mentions a valid point in the case of this discussion, where he points out that the development of music assists in understanding the development of a country and its history. In this view, memory is captured through song (Selimovic 2002: 15).

Makky (2007: 1) agrees with Selimovic as she explains that in studying the role of music in South Africa, various issues related with the social dynamics and cultural history of the nation are expressed. Music, according to Makky (2007: 1), helped people of diverse tribal and racial identities surpass the differences that remained prominent in other contexts. Makky (2007: 1) says that music is embedded in the South African culture and considers it to be a medium which serves as a main tool in defeating the apartheid government. Makky (2007: 7) adds a quote by Sifiso Ntuli to emphasize this point.

“...others were engaging apartheid with guns. Others were engaging them through discussions. Others were engaging „an through song.”

(Makky 2007: 2)

The Group Areas Act of 1950 is an apartheid law which created segregation amongst racial and ethnic groups. This law forces all Africans in government areas which were determined through their ethnic group (Makky 2007: 5). According to Makky's (2007: 5) discussion the Africans of all tribes found common ground through music. Music, in actual fact, became one of the tools they used to unite and oppose the unjust government (Makky 2007: 5).

The ‘tōyi tōyi’, which was described as ‘a weapon of war’, was introduced. This music was accompanied by dancing and was also used as physical training for guerrilla soldiers. This music is also considered to have united South Africans in their journey to the end of apartheid. Music was present everywhere during this time. Music was used in protest,

social events, and religious ceremonies and so on. It created a narrative of the nation which still remains in the present (Makky 2007: 9).

(Makky 2007: 9) and Selimovic (2002: 15) suggest that music is a symbol or tool for telling the stories of the past which are memorable up to this day. It appears that music is a teacher of one's culture and an expression for any felt emotion. It may be remedial for frustration. Aristotle says:

*"Song is to mortals of all things the
sweetest."*

(Aristotle 1969: 83)

3.3.2 Places of Culture and Memory in South Africa

Jowett (1969: 83) says that music is introduced into social gatherings as it makes people happy. Additionally, he believes that music influences character and soul (Jowett 1969: 83). Arnold and Ballantyne (2004: 1) discuss the ways in which places are perceived and appropriated across intervals of time and culture. They explain how landscapes, buildings and the urban environment may be configured in different ways by diverse groups of people. Arnold and Ballantyne (2004: 1) also mention that different groups of people bring different sets of ideas and experiences to bear on the places they encounter and, as a result, they have different experiences. The discussion by Achille Mbembe and Sarah Nuttall is reviewed and quoted below by Sheperd and Murray.

*"A city...comprises actual people. Images and
architectural forms, footprints and memories...
a place of manifold of rhythms, a world of
sounds..."*

(Sheperd and Murray 2007: 8)

Selimovic (2002: 22) considers Sophiatown to be one place, amongst others, that played a role in the social development of South Africa. In a brief summary, Sophiatown was a multicultural community before the forced removals which occurred in 1955. It then became a white suburb called 'Triomf' (Selimovic 2002: 22). Figure 3.19 is a street in Sophiatown expressing the diversity of culture and architecture.



Fig 3.19 A street scene of Sophiatown (photo by Jurgen Schadeberg)
<http://www.disa.ukzn.ac.za/samap/content/7-traunack-and-music-black-townships>
(accessed-31/05/11-19:33)

In the discussion by Selimovic (2002: 22), Coplan describes Sophiatown as a synthesis of African Culture. It was a place of full of character, intensely social and with a strong sense of community despite the poverty and violence experienced by residents. It was a place of gathering for the working class. The people gathered at shebeens, dance halls and private parties. Sophiatown became one of the places where an era known as 'the golden age of South African Jazz' (see appendix C) took place. (Selimovic 2002: 22).

Marabi became more than just a kind of music and dancing, it became a way of life in these shebeens. Music played a role in helping to create identities in the social community of Sophiatown as with District Six in Cape Town and Cato Manor in Durban. This, as a result, allowed for a growth of political awareness and cultural personalities (Selimovic 2002: 23).



Fig 3.20 A Dance Hall in Sophiatown , Johannesburg
(photo by Jurgen Schadeberg)
<http://www.mutualart.com/Artwork/Sophiatown-Dance-hall-1951>
(accessed-31/05/11-22:33)



Figure 3.21 A Dance Hall
(Selimovic 2002: 15)

*“Music was fundamental to the new culture
of the yards. It created the vivacity and the
energy of the shebeen parties.”*

<http://www.sahistory.org.za/places/life-sophiatown>
(accessed-31/05/11-22:40)

According to Schadeberg (2002: 22), dance halls existed from Orlando to Mamelodi to Sophiatown. In these dance halls, the stages were often improvised; sound was produced without any microphones or amplifiers. Figures 3.20 and 3.21 are examples of such dance halls. Shebeens were the pubs of Sophiatown. The shebeen queen or owner would clear her house of furniture in order to turn it into a shebeen and a group of musicians would be hired. This became a place of gathering where people would escape frustration in their everyday life.

<http://www.sahistory.org.za/places/life-sophiatown> (accessed-31/05/11-22:40)



Figure 3.22 The Constitutional Court of S.A
(Sheperd and Murray 2007: 57)



Figure 3.23 Freedom Park, Pretoria
(Sheperd and Murray 2007: 58)

In reviewing the influence of modernism in South Africa Sheperd and Murray (2007: 57) discuss architecture through the role of culture and memory. In their discussion they take into consideration the Constitutional Court of South Africa and Freedom Park as examples that express these qualities. The Constitutional Court is said to mark South Africa's political transition from being governed with apartheid policies to a democratic country, through the new democratic devices such as the 'Truth and Reconciliation Commission' and the 'new constitution' (Sheperd and Murray (2007: 56). The court, as viewed in figure 3.22, represents culture in a new way that is fluid and expresses an identity of the races of Africa.

“New museums that narrate stories of the struggle against apartheid....architects have inadvertently become agents in the re-imagining and representation of history.”

(Sheperd and Murray 2007: 58)

Freedom Park ,as viewed in figure 3.23, not only represents culture, but also the value of memory and heritage through the display of the value of the past (Sheperd and Murray (2007: 57). Bremner is again quoted below by Sheperd and Murray in order to express the value of understanding the role of architecture in the history of South Africa.

It appears from this discussion that architecture and music are tools, amongst others, which may be used in order to express culture and display memory successfully. The examples such as ‘The Kanak Cultural Centre’ and ‘The Constitutional Court of South Africa’ display this architecturally. Selimovic’s discussion on Sophiatown implies that a community together with music may successfully create character in a place or space and therefore experience it pleasantly. There are, however, some other aspects that influence the quality of the space which will be discussed under the next subtopic.

3.4 EXPERIENCING ARCHITECTURE AND MUSIC

Architecture according to Christopher Day (1999: 149) affects human beings and their consciousness, places, and the world immensely. Day (1999: 149) further adds that architecture holds the responsibility to surroundings and also to human individuals who would come to experience a building. This responsibility would not only be concerned with the visual aesthetics and outer senses, but also the spirit of place. Day (1999: 150) considers this architecture to be one that is nourishing to the human spirit and also adds that it must support life, mood and feeling.

Music, according to Shaw-Miller (2009: 46) registers through in the body and the mind. Shaw-Miller (2009: 46) also adds that musical experience is to be understood as a result of

mediations in sight and sound as the experience of it is physical, intellectual, emotional and social.

3.4.1 Spatial and Acoustic Qualities

A discussion on space is relevant for this study, particularly in consideration of the previous discussion on ‘culture and memory’ where spatial experience had been pointed out. According to Tschumi (1990: 12) defining space makes it both distinct and states its precise nature. Tschumi (1990: 12) further adds that space should determine boundaries. In this discussion, Tschumi (1990: 13) also adds that space had been described as a felt volume and later this idea of a felt volume or space was combined with the idea of composition to become a three dimensional range.

*“Space is real, for it seems to affect my
senses long before my reason.”*

(Tschumi 1990: 19)

In a discussion by Norberg-Schulz (1971: 10) Piaget’s research is reviewed and the term ‘schemata’ is introduced. This term is defined as a typical reaction to situations. A schema is explained to form during a mental development through an interaction between an individual and his environment, in this case a space. According to Norberg-Schulz (1971: 10) Piaget describes this interaction as a combination of assimilation and accommodation. In this case ‘assimilation’ refers to the action of organisms on the surrounding objects and ‘accommodation’ referring to the opposite state.

Architecturally the conception of space was focused mainly on deriving the power of volumes, their relation with one another and their interaction. This is most visible in both Greek and Egyptian Architecture (Norberg-Schulz 1971: 12).

Forty (2000: 260) believes that the inherent form of space may become successful to the eye, suggesting that one may be able to define it. He says:

“...for our relation to space finds its direct expression in architecture, which evokes a definite spatial feeling instead of the mere idea of possibility of movement in space.”

(Forty 2000: 260)

Day (1990: 27) speaks of the use of colour in order to give to create spatial quality. He refers to the Steiner Kindergarten room, where warm colours within the pink range are made use of. This achieves an imitative and imaginary activity within a warm, secure and dreamy environment. He also explains that in a classroom for older children, cool blue range colours would be used in order to encourage the intellect to become more active (Day 1990: 27).

Lynch's discussion of space is successful as he views it from an urban context. He considers man's orientation to accept an environmental image as a centralized mental picture of the exterior physical world. According to him, this above mentioned image is a product of both immediate sensation and of the memory of past experience. The world thus becomes an image used to interpret information and guide man's actions. He elaborates on his discussion by pointing out that a good environmental image gives a possessor an important sense of emotional security (Norberg-Schulz 1971: 15).

The discussions on space create an impression to the reader that space is experienced through one's feelings of it before it is seen through the eyes, making this experience an aspect that is personal for each human being. A point is made by Lynch to make readers become aware that space may be viewed from a wider context; a city, for instance, may be a spatial organism.

Beranek (1962: 31) says that music is a sound or a combination of sounds. He explains that this combination of sounds varies with time in rhythm, change of pitch, timbre and loudness.

As it varies in time, it happens in such a way that it communicates something to a listener in its own terms (Beranek 1962: 31). This, as a result, may be challenging compared to architecture. Tanner (1979: 10) elaborates on this as he points out that in man's daily living, he encounters spatial relations which may include high walls, low walls, sidewalks, urban vistas and so on. He considers these elements to be visual and easily identified, whereas in music visual-mindedness should not exist, as attentive concentration is required (Tanner 1979: 10).

The discussion by Tanner on the study of jazz music will assist in understanding how music is experienced successfully. According to Tanner (1979: 9) to appreciate music, a listener must be actively involved. It has been investigated that full appreciation, understanding and enjoyment all play a role in successfully listening to music. The result of careful listening, results in an emotional response. This would then show that music does, in actual fact, have a physiological effect on man (Tanner 1979: 9).

How, then, should music be listened to? The primary aim of listening to music as explained by Tanner (1979: 10) is mainly to centre attention on a specific composition by listening attentively to various musical events. In order for attentive listening to be possible, mental concentration is required. The short coming of music is that many human beings are so used to hearing it in the background, accompanied by daily activities and therefore full attention to listening does not become devoted (Tanner 1979: 10).

Beranek (1962: 13) also dwells on a similar discussion as he states that audible sound involves the ear. He further elaborates on this point as he explains how sound travels to the ear (Beranek 1962: 13). Beranek (1962: 13) explains that it is in actual fact vibration of particles in sound waves that set the eardrums in motion. He further explains that the ear transforms physical vibration into a recognisable sound that may possibly arouse understanding and emotions, which have drawn the attention of psychologists, physiologists and linguists (Beranek 1962: 13).

Another difference or challenge in music is that it moves in time. A painting, for instance, may be viewed at leisure time and its parts may be observed as a whole. Memory is then an

important aspect in the process of hearing music. Memory in this case refers to the idea that the mind has to remember at a later point in time what had transpired earlier, so it is possible that one part of a piece of music be compared or contrasted with the other parts (Tanner 1979: 10).

It has appeared in the above discussion that music is experienced differently as it relies on a listener's ear and to some extent, may be felt. Tanner (1979: 10) makes readers aware of this as he points out the importance of being extremely attentive when listening to music. Tanner suggests that there are other qualities which may be found in music when it is not just heard in the background. This may refer to qualities which give meaning to the listener as explained by Beranek (1962: 31).

Acoustics is a topic that has been researched and explored for a number of years. In her discussion Egner (2003: 2) explains that music has become a vital component to society and, as a result humans have been working for millions of years to create environments that are more pleasant for musical performance. The illustrations in figure 3.24 and 3.25 are examples of designs and arrangements which play a role in creating good acoustical qualities.

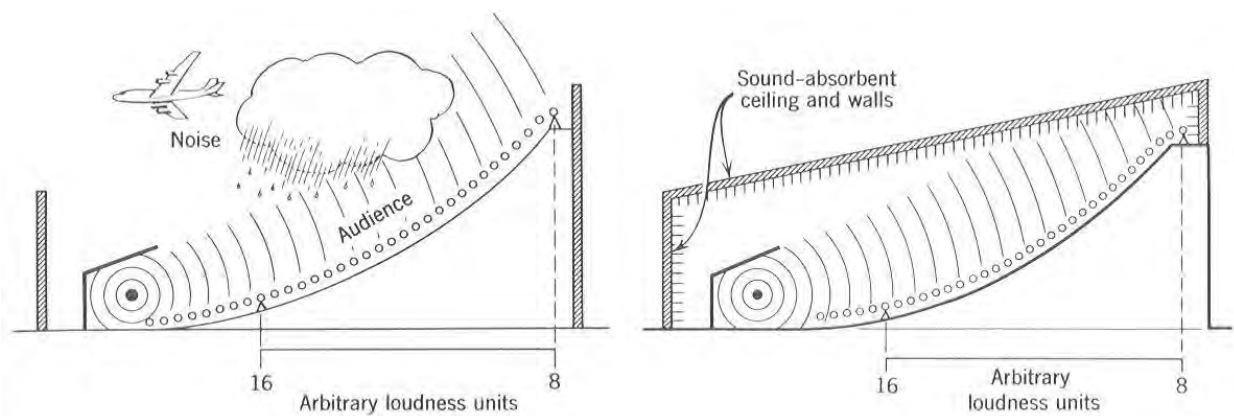


Figure 3.24 The direction of sound in a concert hall (Beranek 1962: 21)

Beranek (1962: 31) provides a broad definition of the term 'acoustic' as he considers it to be a science of sound. Kayili (2005: 3) agrees with Beranek on this definition. Beranek

(1962: 31) additionally explains that acoustics refers to the qualities of space that may affect production, transmission and perception of music or speech.

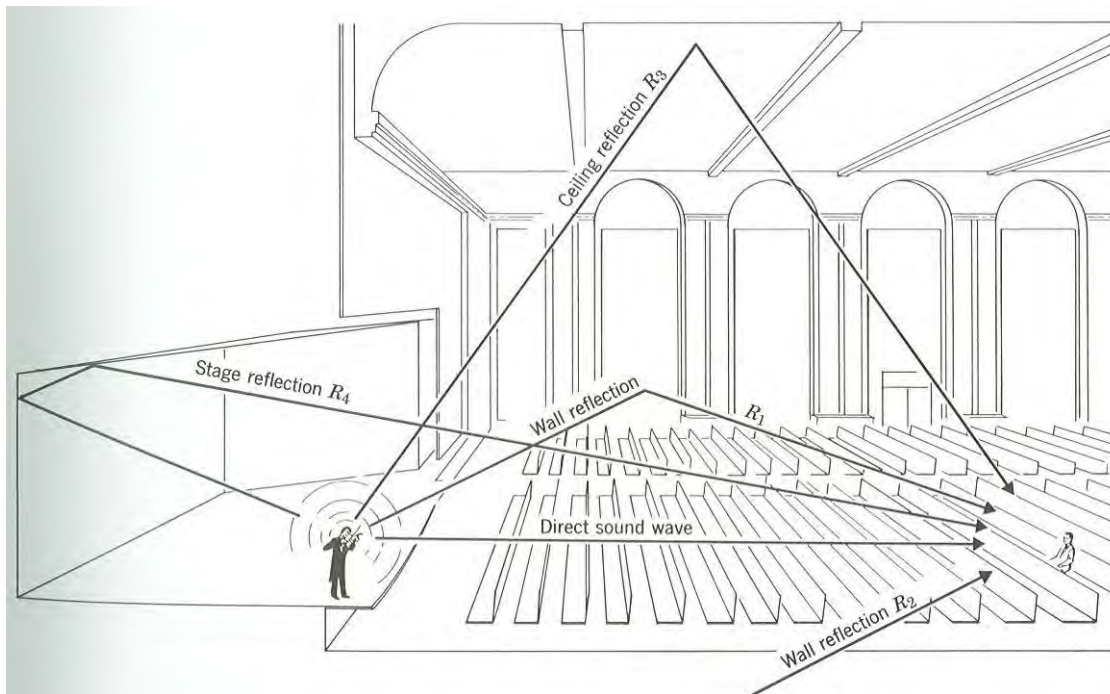


Figure 3.25 The direction of sound in a concert hall (Beranek 1962: 27)

Kayili (2005: 3) researched the earliest works which have dealt with sound and hearing. According to his research such works dated back from 580-500 BC where Pythagoras made numerical observations and up to 384-322 BC where Aristotle researched this topic of sound and hearing. What was discovered in these works was the aim to define sound in order to determine the essential conditions for better hearing (Kayili 2005: 3). Kayili (2005: 3) mentions in his research that today's architectural acoustics, in particular, is formed of two branches such as noise control and room acoustics. These two branches are applicable as the aspects which affect the acoustical qualities of a space are discussed.

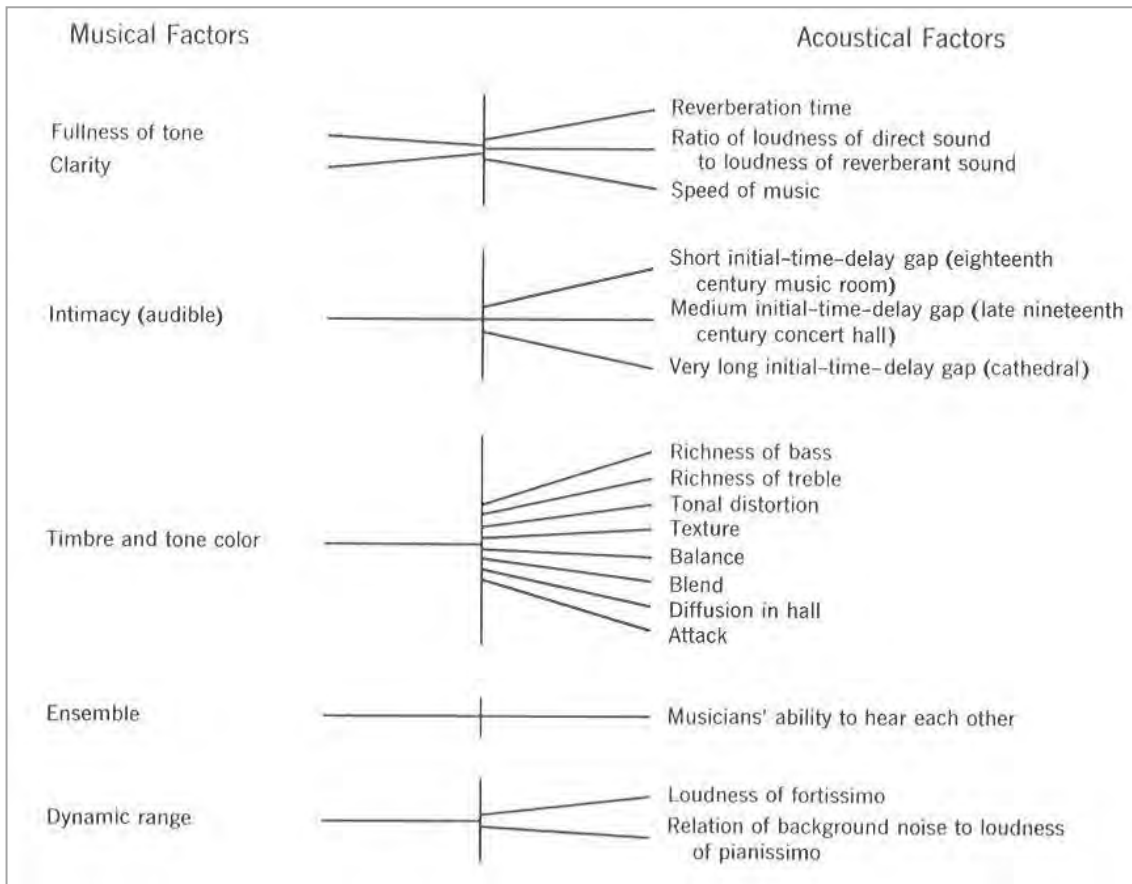


Figure 3.26 The relationship between Music and Acoustics (Beranek 1962: 43)

In relation to acoustics and music Beranek (1962: 31) explains that they must be fused, particularly when one considers a hall for music performance. Music and the acoustics of space have to work in a harmonious way, in order to create a successful space which enhances music. Beranek (1962: 32) believes that this becomes possible when the space transfers the music to listeners while preserving the musical qualities. These musical qualities include intimacy, definition, timbre, balance and dynamic range (Beranek 1962: 32). The table in figure 3.26 represents the musical qualities which are affected by acoustics in performance spaces. It is apparent in this table that the quality of music and acoustics is strongly influenced by the performer's ability to listen.

Beranek (1962: 53) focuses his discussion on acoustics and performers as it progresses. In this discussion he points out most musicians' sensitivity to the sound of their music and explains about their ability to adjust their performances accordingly. He uses the quote below by Isaac Stern in order to emphasize his discussion (Beranek 1962: 53).

“You want to hear clearly in a hall, but there should be this desirable blending of sound. If each successive note blends into the previous sound, it gives the violinist sound to work with; the resulting effect is very flattering.”

(Beranek 1962: 53)

In this part of the discussion, it became essential to also review an article written by Balwant Saini, who is a Professor of Architecture in the University of Queensland. This article is mainly concerned with the effect of music to one's body. According to Saini (2009: 30) researchers commonly believe that music particularly that of composers such as Mozart, Brahms and Bach has the ability to generate what is known as an alpha state; a brainwave pattern creating an almost sleepy state of relaxed concentration. Saini (2009: 30) mentions that Indian Classical Music, be it vocal or instrumental, also achieves this effect.

Indian Classical Music has, in actual fact, a greater impact as it is based on ragas. Before dwelling on the term ragas, it should be clarified that it refers to the combination of notes. Ragas have the ability to express the right vibrations present in nature and help in maintaining balance of energy in the body. This is mainly successful at the appropriate time of the day and night (Saini 2009: 30). The term raga, according to the discussion by Saini (2009: 30) originated from the Sanskrit word ranja which refers to the dyeing in colour. He then interprets this further by explaining that, musically, it would suggest the dyeing of sound into vivid colours and vibrations of music (Saini 2009: 32).

Day also speaks of balance. He believes that balance is essential in order to create a foundation of tranquility. He explains that balance is life filled and it is concerned with scale and proportion (Day 1990: 140). According to Day (1990: 141), proportions, textures, light and other qualities influence space. If they are not applied appropriately they may be claustrophobic or feel empty (Day 1990: 140).

Figure 3.27 illustrates the use of balance in order to give a space character. The image on the left is a chapel, where balance has been achieved through the use of different elements on either sides of the axis. The figure on the right is a meditation room, where balance is achieved through the use of different light sources (Day 1990: 140).

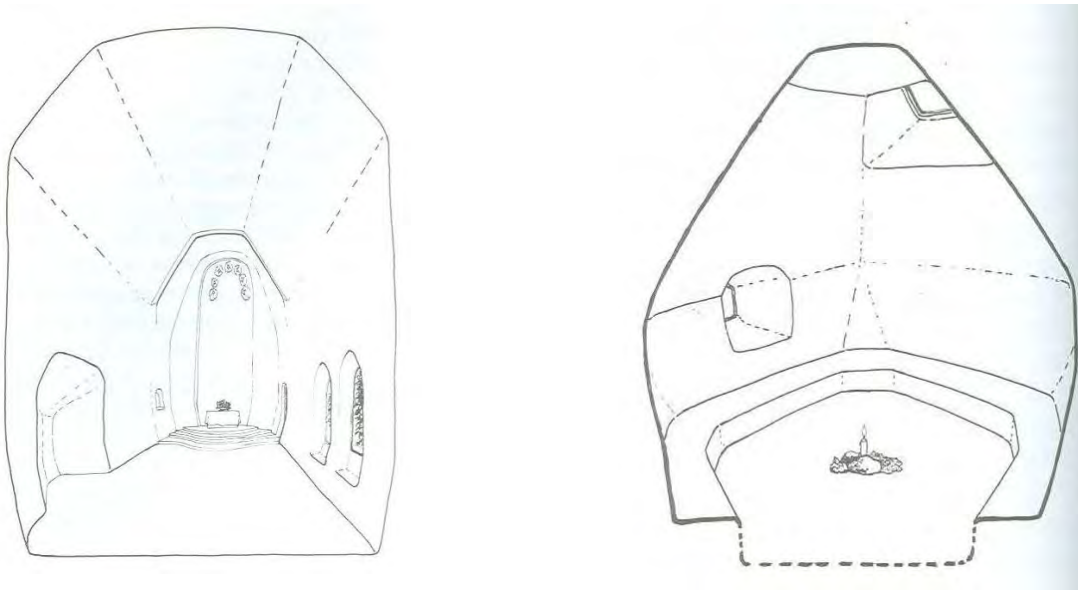


Figure 3.27 Use of balance in spiritual spaces (Day 1990: 140)

Saini (2009: 32) provides more elaboration in his discussion as he explains how music has the ability to bring the body into balance. As music achieves this, Saini (2009: 32) explains that it eliminates extreme swings in the body's rhythm. This was demonstrated by Balaj Tambe who is a researcher in Ayurveda. This researcher believed that Classical Indian Ragas played a positive role for patients who suffered from insomnia, schizophrenia, epilepsy and high and low blood pressure (Saini 2009: 32).

Saini (2009: 32) then further mentions Deepak Chopra, as someone who also used Indian Classical Music. Chopra, according to this discussion, used this type of music in his clinic and also recommended continuous playing of it, regardless of whether a room or a house is empty, in order to change vibrations in the space (Saini 2009: 32).

The sound of music is produced by a source and travels through a space and is eventually experienced by listeners. This is suggested by Beranek in figure 3.6. It seems that this experience is dependent on the nature of the type of space and sound. It may also appear that a space may need to be designed in such a way as to ensure that the sound quality inside is good and also that it is not affected by the outside noise that may be a distraction; Beranek suggests this in figure 3.7. This type of noise may include man-made noise or noise from a natural cause such as weather. Beranek's discussion on acoustics connects architecture and music and the points made by (Tanner 1979: 10), Saini (2009: 32) and Day (1990: 27). Architecture and music both have to be considered in the creation of an acoustically pleasant space.

3.4.2 Movement

Yudell (1977: 59) believes that architecture serves as a potential stimulus for movement, whether it is real or imaginary. He says that architecture is in dialogue with the body. The quote below explains his point (Yudell 1977: 59).

*“...our bodies and our movements are in
constant dialogue with our buildings.”*

(Yudell 1977: 59)

Yudell (1977: 59) also adds that the movement of the body within and around buildings is affected by the senses. He further connects the tactile qualities of surfaces with the way human beings move around buildings. Yudell (1977: 71) explains that smooth surfaces encourage close contact, while rough materials create movement in a wide radius.

These changing textures, according to Yudell (1977: 71) may create a slowing down or a quickening of the pace of movement.

“The movement between rooms is as important as the rooms themselves; and its arrangement has as much effect on social interaction in the rooms, as the interiors of the rooms.”

(Alexander 1977: 628)

Alexander (1977: 628) says that circulation spaces between rooms may be experienced pleasantly or unpleasantly. He considers such spaces to be either ‘generous’ or ‘mean’. In a building where the circulation or movement is mean, the passages are dark and narrow and, as a result, become dead ends. Where the building has ‘generous’ circulation or movement, one finds the spaces to be broad, sunlit and with seating. They may also provide pleasant views (Alexander 1977: 628).

Yudell (1977: 59) first makes an interesting and valid statement by pointing out the relationship that exists between people’s movement and architecture. He suggests to readers that architecture may govern the way people move around buildings. He may also imply that architecture may create and shape routes from one point to another; a creation of a journey to a relevant terminating point. It appears that Alexander (1977: 628) adds to Yudell’s point by elaborating on the relationship that exists between architecture and the movement of people. This relationship creates a psychological experience.

Humphrey (1959: 34), on the other hand, believes that dance art is unique in its medium of movement and in its power to evoke emotion as with music. Humphrey (1959: 132) also clarifies that not all music is suitable for dance and narrows down the list of music suitable to three categories which include melodic, rhythmic and dramatic music. The quote below by Kivy emphasizes Humphrey’s point.

“...expressive music may bear a resemblance to motion of the human body...”

(Kivy 1989: 53)

It appears music opens room for free interpretation and allows for expression based on its tempo and genre. This suggests that music may be translated through body movement. Kivy and Humphrey both make readers aware of this.

According to Sofras (2006: 2) dance makes use of the body to create an expression in time and space. As she explains, she further adds that a choreographer's aim should be to design dance compositions which manipulate the body shape and movement patterns creatively in time and in space with determined energy. This energy is consciously controlled as it reveals an intention which lies behind every movement (Sofras 2006: 2). Humphrey (1959: 49) agrees with Sofras as she believes that dance is an art which involves both time and space.

In terms of his discussion on movement and texture, Yudell (1977: 71) believes that it would be possible to generate a full choreography of movement through the composition of textural changes. According to Yudell (1977: 58) dancers speak of feeling space. He mentions Martha Graham, who incorporates exercises on experiencing space. The students would be asked to hold, push, pull and touch pieces and places in space. These exercises result in the entire body having the ability to touch and feel space (Yudell 1977: 58).

Sofras (2006: 77) says that music, at times, becomes a solution as the pulse played often determines the tempo of the movement to be danced. A choreographer called Alonzo King, on the other hand, believes that the body makes its own music and it is only after a movement phrase has been constructed and taught to dancers that music should be introduced (Sofras 2006: 77).

Yudell (1977: 58) says that dancers feel a critical relationship to the space outside their bodies and sense an essential relationship to the inside. He also mentions Rudolf Laban, who is influential in graphic notation for dance. Laban describes movement in terms of frontal, vertical and horizontal planes. These planes are relevant to the movement in architectural space. Laban says that movement upwards may be a metaphor of growth, longing and reaching, while movement downwards may be of absorption, sinking and compression (Yudell 1977: 58).

Sofras (2006: 93) discusses the notion of tempo of movement in dance further as she compares it with music. She explains that acceleration is generally used to heighten an emotional response in music. She then further adds that a gradual slowing at the end of a composition prepares listeners for resolution of the work. This gradual change of tempo, according to Sofras (2006: 93), is a device used by choreographers.



Figure 3.28 (Sofras 2006: 131)

One of the challenges of the relationship between music and dance is expressed by Humphrey (1959: 140) as she refers to a scenario where a composer and choreographer are expected to work together, yet lack understanding of each other's work, particularly the vocabulary.

She points out the importance of the basic understanding of both disciplines as she expresses that this may permit any collaboration that the composer-choreographer relationship should have (Humphrey 1959: 141).

According to Sofras (2006: 130) a formal structure (see figure 3.28) is used to add unity to dance compositions, just as musicians, painters and writers make use of formal structure to add unity to their work. There are many compositional configurations used in formal structuring. These include the AB form, theme and variation, accumulation and call and response. There is also a configuration known as a ‘_canon’ which refers, in this case, to dancing in unison, but a few counts apart. The canon uses the same principles of movement as other configurations, but varies by overlapping beats in the same phrase. This then means that in dance, the first performer starts a phrase or voice when the principle is applied to music. The second would start the same phrase a few beats later than the first performer and, as a result, creating an interesting spatial relationship (Sofras 2006: 130).

It appears from the discussions by Sofras (2006: 77) and Yudell (1977: 58) that keeping time and experiencing a space through feeling are the main points in relationship between architecture, music and movement; dance emphasizes this. Sofras (2006: 130) mentioned the term ‘_formal structure’ in dance and connected it to music and other disciplines. It seems vital to discuss it architecturally and relate it to music. The following subtopic elaborates this.

3.5 FORM AND STRUCTURE

Gerard (1993: 21) introduces the term ‘_form of expression’, in his research and describes it to be a patterned way in which architectural substance is constructed and recognized. This is a vital aspect of architecture, particularly where iconism is the primary aim. Form in architecture, according to Gerard (1993: 24) refers to the outward shape of a building to which reference is made. Form in terms of semiotics of architecture refers mainly to the network of relationships between the visual and other facets of a building rather than just the shape that meets the eye. It is then very important that form be recognised as abstract units that play a role in the creation of the appearance of the building (Gerard 1993: 25).

Niecks (1986: 135) defines form to be the clarification and grouping of musical thoughts. It is the balancing of parts of a composition. Symmetry is an important element of form. He further explains that if a composition is to be a work of art, the form is to be a clear and

beautiful. Randel (1986: 320) further clarifies the term as he describes form to be the shape of musical composition and adds that it is defined by its pitches, rhythms and dynamics.

3.5.1 Compositional Principles

Ching (2007: 338) discusses these principles of architecture. He explains that they are meant to bring order to the architectural composition of a building. He explains further by adding that this order not only refers to geometric regularity, but also to the condition where each part of a whole is properly disposed with the reference to other parts. This, as a result, produces what he calls harmonious arrangements (Ching 2007: 338). These principles are inclusive of rhythm, axis, hierarchy, datum, symmetry and transformation.

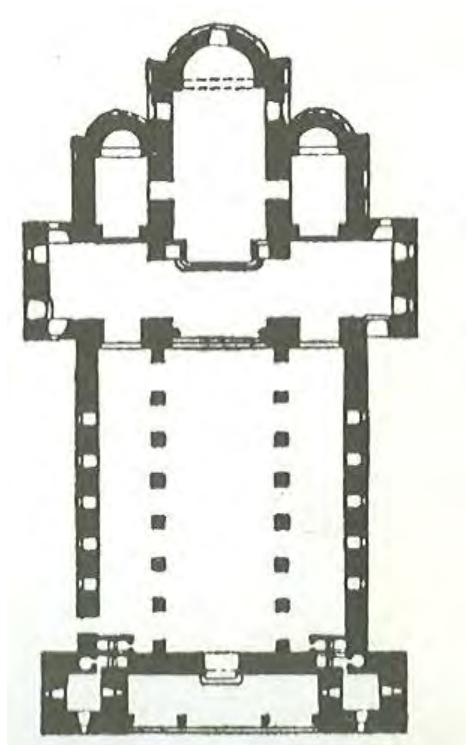


Figure 3.29 Plan of Cefalu Cathedral
(Davies 1982: 145)



Figure 3.30 Vezelay, La Madeleine nave (Davies 1982: 151)

Rhythm is derived from movement that is characterised by a pattern repetition of elements at regular or irregular intervals. Rhythm incorporates the notion of repetition as a tool to organise forms and spaces in architecture (Ching 2007: 382). Rhythm is expressed in Romanesque Architecture through the basilica. Davies (1982: 152) discusses this as he describes a basilica to be spatially planned, while the rhythm is linear. This rhythm, according to Davies (1982: 152), is made up of regular colonnades or arcades edging the nave. Davies (1982: 152) considers the beat of such a basilica to be a-b-a-b-a-b’, where a’ represents a column and b’ a space. This type of rhythm marches the visitors to the building smoothly to the altar. This may be viewed in figure 3.29 and figure 3.30.

This discussion will mainly focus on principles or characteristics which are most relevant. The most common principle found in both architecture and music is rhythm. The images in figure 3.31 and 3.32 are examples where form and expression according to Gerard (1993: 21) may best be represented. In the case of the research centre in figure 3.3.1 the architecture is successful through use of innovative technology, but also the interaction between the oval shape and the water. This research centre by Samyn and Partners is composed of a series of buildings and designed mainly for industrial experiments. Figure 3.3.1 also works successfully, particularly because of the interaction between the architecture and the landscape.

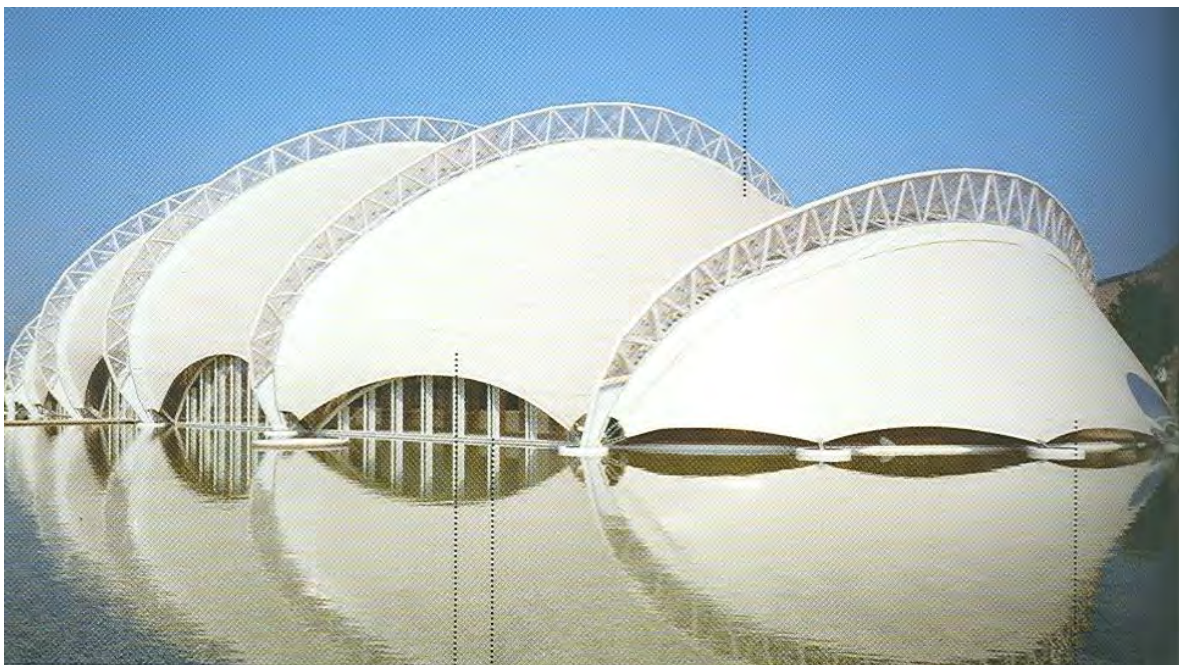


Figure 3.31 M& G Research Centre in Venafro, Italy (Prina 2008: 280)

Figure 3.3.2 is a Winery which was designed by Santiago Calatrava. The fluidity and rhythm of these two examples seem to give the impression of a musical piece.



Fig 3.32 Ysios Winery, Laguardia, Alava in Spain (Lefaivre 2003: 124)

An article by Simon Shaw-Miller was informative on this part. According to his article, a musical composition is a combination of elements and it is a process. This composition has boundaries and shape (Shaw-Miller 2007: 45). These characteristics include rhythm, melody, harmony, form and improvisation.

According to Randel (1986: 700) rhythm is defined as the pattern of movement, grouping of sounds in time. He explains that rhythm includes all the aspects of musical movement as ordered in time, as opposed to the aspects of musical sound which is conceived as a pitch and timbre. He also points out that rhythm always works together with harmony and melody in order to create a composition (Randel 1986: 700). Niecks (1986: 205) on the other hand explains that rhythm may be understood as a group of accented and unaccented notes which may be of the same length, but it may generally be of different lengths and form a small organism. It should be clear that an accent refers to the beat that is more emphasized and creates a rhythm as the emphasized beat makes a pattern (Niecks 1986: 205).

The first piece to be analysed is a classical piece, *Symphony No. 3 in E-flat major, opus, Eroica* by Ludwig van Beethoven. This piece may be found in “*The Best of Beethoven*” album collection which was issued in 1997. Beethoven achieves a dramatic or a build up up through the concept of call and response between the lead instrument and the rest of the sections of the orchestra. This up tempo piece or allegro, in classical music terms, has a 4/4 time signature. The structure of the piece is made up of a main theme and variations; the theme is repeated and varied throughout the piece. Figure 3.33 expresses this piece in diagrammatic terms.



Fig 3.33 Diagrammatic Expression of *Symphony No. 3 in E-flat major, opus, Eroica* by Ludwig van Beethoven (by author)

The second piece (see Appendix 1) to be analysed is a jazz piece, “*Someday my Prince will Come*”, by Miles Davis. This piece may be found in “*In Person Saturday Night at the Blackhawk, Vol. 2 disc 2*”. This piece consists of a lead trumpet, which is muted, and a rhythm section which keeps time. This rhythm section consists of an acoustic piano, an acoustic base and a drum kit played with brushes. Tension is created through the use of a single note, by an acoustic bass, as an introduction; this technique is called a pedal. The tension is released, a theme starts and then it returns to the pedal. This medium swing, relaxed tempo piece has a 3/ 4 time signature. The structure or form of this piece is expressed diagrammatically in figure 3.34.

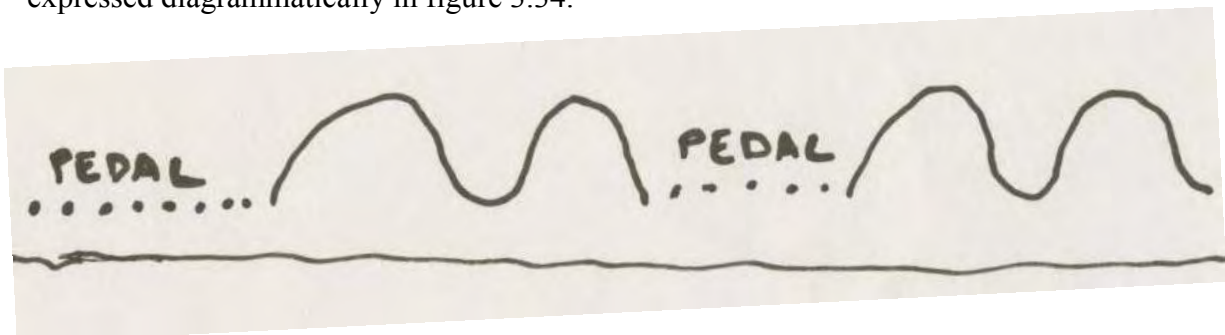


Fig 3.34 Diagrammatic Expression of *Someday my Prince will Come*, by Miles Davis (by author)

Simon Shaw-Miller (2007: 45) makes readers aware of the vital role of music composition. Randel and Niecks both agree that rhythm is a patterned way of musical sound. Niecks, however, also makes us aware that the group of notes that occur in rhythm may be of different lengths, clarifying the variations that exist. This may concur with the definition Ching (2007: 382) provides in terms of architecture.

Earlier in this dissertation it had been mentioned that expression in music could be understood through the arrangement of sound and also the type of musical instruments used. The trumpet for instance is an instrument that has a significant symbolic meaning. A trumpet that has a strong loud sound, and according to Wallace (2009: 17) the trumpet is symbolic of freedom and it may be used to tell a story.

—...you can pick up a trumpet and tell the truth,
the whole truth and nothing but the truth.”

(Wallace 2009: 15)

The trumpet, according to Wallace (2009: 17) is the most appropriate instrument to rhapsodise on freedom. In his discussion he mentions a number of highlights where the trumpet had been used as a medium to conceptualise freedom. Wallace (2009: 17) mentions that this instrument had been used in the past as a religious and military instrument. It was because of such events that it became identified with battle. Wallace (2009: 17) uses the Scots as an example of people that used the trumpet as an instrument to express victory in battle.

Wallace (2009: 17) also mentions a French composer, Marc-Antoine Charpentier. The significance of this composer is that he wrote a composition in order to celebrate military victories of the French. This composer according to Wallace (2009: 17) opened this piece with a memorable trumpet tune. Wallace (2009: 17) then also mentions the French Revolution, in order to explain the role of the trumpet as an instrument which expresses freedom. It was at this moment in history that this instrument became universal. In the French Revolution, the trumpet became a symbolized the freedom of common men and women as heroes as well.

Wittkower (1949: 9) considers music and geometry to be the same. According to him, music is a geometry translated into sound. Wittkower (1949: 9) further adds that it is the harmonies of music that inform the geometry of the building. Wittkower (1973: 107) also inquires on the relationship between the harmonic ratios of the Greek musical scale and the architectural proportions of the renaissance. His discussion includes, amongst others, Alberti because of his contributions to Renaissance Architecture. Alberti, according to Wittkower (1973: 110) discusses the correspondence of musical intervals and architectural proportions.

“...the numbers by means of which agreement of sounds affects our ears with delight, are the very same which please our eyes and minds...”

(Wittkower 1973: 110)

The above quote best captures Alberti's theory in terms of the relationship between architecture and music. It also said that Alberti believes that this concept is applicable to the whole of the renaissance idea of proportion as it borrows all the rules of harmonic relations from musicians (Wittkower 1973: 110).

Saini also wrote an article on this subject of architecture and music. According to Saini (2009: 26) music had been considered an essential ingredient to the designers of Classical Renaissance Architecture. Wallace (2009: 15) confirms the relationship between architecture and music by stating that music, like architecture, design and engineering grows out of the environment. He adds that there are instances where the music grows out of architecture (Wallace 2009: 15).

According to Saini (2009: 34) architecture and music are both products of properties in numerical expression, as they both express absolutes. Architecture and music both relate to the common ratio, the golden section found in nature and the man-made world (Saini 2009: 34).

It had been said that music has been used as an essential ingredient by the designers of the Classical Renaissance Architecture. This architecture had been based on arithmetic, geometry and astronomy. Music played a major role in that it provided a philosophical foundation for a variety of visual arts (Saini 2009: 34).

Saini (2009: 34) also introduces Ganapati Sthapati in his discussion. Sthapati makes a sound argument in this discussion as he makes a connection between sound and visual spaces. He believes that these two components are measured by a linear scale which is related to time and rhythm. When a stringed instrument is played, sound spaces travel into syllabic tones and develop into rhythmic spaces, as a result, producing a sweet musical pattern (Saini 2009: 34).

As Saini (2009: 34) concludes his discussion, he mentions the term ‘Tal’, which is a word derived from a foot beat of a dancer. This term refers to the measure of scale mentioned in the previous paragraph. This scale is based on eight units. Saini (2009: 34) explains that a Tal time-measure is used in poetry, music and dance while a Talam as space-measure is applied in architecture and sculpture.

To consider architecture to be frozen music is an explanation that Arora discusses as he finds the synthesis between the two topics of architecture and music. According to Arora (1998: 45) every sound form has a structure which is associated with it. He further elaborates this point by explaining that every material substance has a sound complementary to it (Arora 1998: 45).

Arora (1998: 45) mentions in his discussion that attempts to relate architecture to music had begun with rhythm of architectural and musical composition. This point then makes it essential to provide a brief understanding of the principles or characteristics of composition of both architecture and music.

According to Wallace (2009: 15) it had been suggested that Dufay’s motet was an equivalent to the plan of the cathedral. This was based on how the portions of the plan filter through the structure of both architecture and music (Wallace 2009: 15).



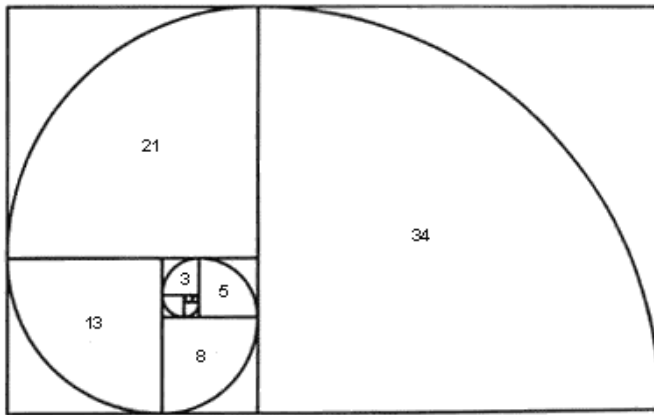
Figure 3.35 DuomoCathedral, Florence
(thejimshelley.worldzonepro.com)

Wallace (2009: 15) had said music grows out of architecture. Wallace (2009: 15) firstly mentions, in his discussion, several composers in order to explain the subject of architecture and music. He first mentions a renaissance composer called Guillaume Dufay, who wrote a motet *Nuper Rosarum Flores*. The significance of this motet is that it was written for the completion of the Duomo Cathedral in Florence, presented in figure 3.35, and was performed in the cathedral for the consecration ceremony (Wallace 2009: 15).



Figure 3.36 Entrance of St. Marks Basilica, Venice (theodora.com)

Wallace (2009: 15) also mentions the music of Giovanni Gabrieli as music that grows out of architecture, particularly that of St. Marks in Venice which is presented in figure 3.36. Some examples would be seen in his *Symphoniae Sacrae* and *Canzone e Sonate*, where a diversity of abstract musical forms was developed (Wallace 2009: 15).



One of the main tools which allow for the synthesis of architecture and music is seen in the expression of numerical ideas. Wallace (2009: 15) elaborates on this as he informs that most architecture of the ancient times has been said to be based on the golden section proportions.

Figure 3.37 Fibonacci Spiral (bestcodingpractices.com)

This has been found apparent in music as well, particularly that of Mozart. Wallace (2009: 15) also mentions a numerical principle based on Fibonacci's Sequence. This consisted of a sequence of numbers which had been presented visually as a Fibonacci Spiral which is shown on figure 3.37 above. This sequence had allowed for musicologists to structure their musical architecture and furthermore their chord structures (Wallace 2009: 15).

It appears from the previous discussion that Wittkower (1949: 9), Wallace (2009: 15), Saini (2009: 26) and Arora (1998: 45) all agree and confirm the relationship that exists between architecture and music. They suggest that there is a certain common process followed in composing architecture and in music. The connection Arora (1998: 45) makes between material and sound makes the synthesis between architecture and music even more applicable in terms of form and structure.

3.5.2 Architecture and Music as Art Forms

Pallasmaa (2005: 12) says that in experiencing art, an unusual exchange takes place; one lends his emotions and associations to the space and the space lends him its sensation, which entices and frees his perceptions and thoughts. Pallasmaa uses this description as he makes a connection between architecture and the senses.

Prina (2008: 6) adds to this discussion by pointing out the primary purpose of architecture, which is to provide shelter and protection. In order for architecture to become a work of art it would have to do more than serve functionally. How does architecture, then become a work of art?

“The tectonic language of architecture, the inner logic of construction itself, expresses gravity and structure, the language of materials as well as processes of construction and details of joining units and materials to one another.”

(Pallasmaa 2009: 113)

Day (2004: 34) describes architecture to be a work of art that is meant to elevate the human spirit. To this he also adds that architecture is concerned with textures and the meeting of different materials. This according to Day (2004: 34) is rich for the senses. Pallasmaa explains Day's point in the above quote by using the term *‘tectonic’*.

Day (2004: 35) also mentions architectural elements in his discussion as they play a role in architecture being a work of art. He believes that elements should be brought into conversation or harmony. Day (2004: 35) believes that things must match what human beings need in order to fulfil nourishment.



Figure 3.38 Church of San Pedro (rose window) in Duranzo, Uruguay (Prina 2008: 194)



Figure 3.39 Palazzo Farnese (spiral stairway) in Caprarola, Italy (Prina 2008: 113)

Figure 3.38 and 3.39 are illustrations of elements which have been designed and built with the notion to enrich the senses. This may have been achieved through the play of light and the aesthetically pleasing qualities.

According to Day (2004: 34) and Pallasmaa (2005: 12) it appears that architecture being an art form is concerned with more than just the beauty. They suggest that a work of art in a building is accomplished through the harmony of structural elements, the materials and the technology of such materials. Human experience seems to be extremely essential in architecture being art.

Musically, Niecks (1986: 149) defines harmony to be a synchronized combination of different consonant or dissonant tones which are next to each other in an easily perceivable relation. Randel (1986: 366) adds that harmony also includes the way in which the relationship of tones is organized in time. In order to understand the relationship between melody and harmony, one should consider, for instance, the notes C, E and G. As the notes are played or sang individually, a melody is created. Harmony occurs when these notes are combined.

In terms of music, this dissertation will also focus on Reimer's discussion in order to emphasize that music is an art form and also to further elaborate on the field as an expression.

"...music is the typical, or ideally consummate art, the object of the great all arts, of all that is artistic or partakes of artistic qualities."

(Reimer 1989: 120)

As mentioned earlier, Reimer (1989: 43) believes that music is an expression for emotion. Reimer (1989: 43) adds to this as he explains that composers use sounds as an indicator of their emotional condition. He believes that these sounds are, in actual fact, a product of their emotions. As he progresses with his discussions, he makes readers aware of the importance of balancing the level of a composer's self expression with the level of musical expression. He emphasizes this point because music may be less musically expressive if too much effort is put on a self expression and as a result, creating a sound that may not be pleasant to the listeners (Reimer 1989: 44).

In order to emphasize his argument, Reimer (1989: 44) considers jazz as an example. He chooses this type of genre, particularly because he believes it requires a high level of involvement. According to him a performer's personal involvement gets transformed into musical materials which are expressive as music. This effect may be very powerful artistically, but music may lose quality if there it lacks balance between self expression and musical expression. This would result in the piece losing its musical expression. In order to emphasize this Reimer uses the term non-musical.

In view of Reimer's discussion it is apparent that music has fundamental principles of governing. These would be principles or characteristics that separate music from sound or noise making. Niecks (1986: 135) elaborates on this as well as he defines form; he explains that if a composition is to be a work of art, the form is to be a clear and beautiful.

It is important to be aware that art is a diverse field. Redfern (1983: 23) points this out as she makes readers aware that there are a number of disciplines that are incorporated under the category of art forms. These disciplines, according to Redfern (1983: 23), include literature, sculpture, music, painting, architecture and dance. This is the first point which states that architecture and music are art forms. Redfern (1983: 23) describes art, on one hand, to be an expression of emotion and, on the other hand, describes it to be a significant form which focuses on qualities of line, colour and shape.

*“Every art form has its origins and traditions,
and when this ontological backbone of a
discipline is lost, the art form weakens.”*

(Pallasmaa 2009: 115)

Pallasmaa (2009: 115) connects his above quote with architecture and music. In connection with architecture he says:

*“Architecture turns into mere aesthetics when it
departs from its original motives of domesticating
space and time, an animistic understanding of the
world and the metaphoric presentation of the act
of construction.”*

(Pallasmaa 2009: 115)

In connection with music, he mentions Ezra Pound, who he agrees with as she says:

*“Music begins to atrophy when it departs too far
from dance...”*

(Pallasmaa 2009: 115)

Day (2004: 34) likens architecture to classical music as he expresses the importance of architectural fundamentals of proportions and geometry.

According to the discussion by Read (1931: 16) artists have the desire to please and as he mentions this, he further explains that art is an attempt to create pleasing forms. Read (1931: 16) elaborates on this as he explains that these forms satisfy one sense of beauty, where it is possible to appreciate unity or harmony of formal relations among sense-perception. Read (1931: 20) also considers art to be an expression.

Read explains the relationship between the performer and his audience in the quote below.

“...in music, it is possible for the artist to appeal to his audience directly without intervention of a medium of communication...”

(Read 1931: 15)

In view of what Read (1931: 16) says, it would appear that his interpretation of art is in some way focused on the artists' intentions of such creation. This seems to be an important aspect as it makes one aware that art is a communication between artist and viewer. This aspect is of extreme importance in both architecture and music.

Read (1931: 20), like Redfern (1983: 23) considers art to be an expression. The fields of architecture and music are forms of expression too. Gerard (1993: 21) confirms this in the previous discussion where he states that form of expression is a patterned way in which architectural substance is constructed and recognized. Jamile (2004: 1) also confirms this point as he considers music to be organization of sound that is a symbolic expression of social and cultural organizations. In terms of these two fields being forms of expression it is then important to know that they work differently.

Architecture and music evoke emotion. This is what has been said to describe art as well and therefore would be appropriate to say that architecture and music are, in actual fact, art forms.

3.6 CONCLUSION

The next chapter is a discussion on ‘Case Studies’. The chosen case studies and the selection criteria were previously discussed in ‘Research Methodology’. These case studies mainly serve a purpose of elaborating on the study, ‘Musical Expression in Architecture’. They also emphasize the issues that were discussed in the literature review.

CHAPTER 4

CASE STUDIES

4.1 INTRODUCTION

The choices of the case studies are based on their relevance to the topic of the study. The aim of this part of the dissertation is to focus on the aspects that would reinforce expression of music in architecture, in order to support the theories and concepts discussed in the previous chapters. This then means that expression and composition of both architecture and music would play a major role. Additionally, it is important to note that the case studies may contribute to the culture, the past and the present of the people of the city of Durban.

It has also become evident in the research that certain groups of people show an interest in a specific building based on the accessibility and on the building's approach to architecture. It has also become apparent that most buildings are successful because of their architectural expression that is based on the understanding of the principles, which govern the composition. The case studies which will be discussed include the BAT Centre, the Playhouse, the ABSA building on Smith Street and the Moses Mabida Stadium.

The BAT Centre is an innovative art centre which has created opportunities for the celebration of the multi-cultural society that exists in Durban. Besides some of the functions of the centre, the building has a strong significance for the city of Durban. Firstly this is seen in the location of the building. The BAT Centre is situated at the harbour, which is one of the qualities that Durban is well known for; owning the second biggest port in the country. The second significance is the social role that BAT Centre plays. This is a place for the arts, where people of different cultures and identities are given an opportunity for expression. It is a place for gathering. In addition to the every day events through the arts, workshops that would benefit the developing skills of young people have been included in the activities held.

The Playhouse Theatre was mainly chosen for its variety in auditoriums, which may be useful for the proposed Music Complex for Durban. The performance spaces in this theatre are much more formal and permanent as opposed to the BAT Centre theatre hall.

This therefore gives this research an opportunity for comparisons and more variety in functions. Durban's Playhouse complex plays an important role of linking the city's present with its past. The current theatre facade on Smith Street preserves two of the city's most famous landmarks.

The main reason for the choice of Moses Mabhida is that it is iconic and has a landmark quality which it contributes in the city of Durban. This project is an appropriate example of form expression, as viewed in figure 3.73 on page 100, and most importantly, a relevant building in contemporary Africa. Its design concept, based on an 'African Basket', is also relevant for this dissertation as it is an expression of culture. The quote below enforces the aim the design of the stadium.

The ABSA KZN Regional Offices building have also been chosen for its expressive forms. The project has unique articulation and design which is not commonly found in most office blocks. The building displays a good quality of tectonics, as viewed in figure 3.77. Its location is also of importance, particularly the fact that it is surrounded by historic buildings. This is one of the main aspects of this dissertation, where the city's past and present (see figure 5.34) is being viewed and discussed.

4.1 BAT CENTRE

The first case study for this research will be the BAT Centre, which is a multi- purpose arts development centre. This centre contains a number of retail outlets, a restaurant, bar and large hall fitted with sound and lighting equipment. There are large art studios, of exhibition galleries, music practice rooms, a dance studio, a resource centre and a conference room. Figure 3.40 and 3.41 below are two examples, which capture the innovative look that was aimed at in the design of this centre. These two illustrations represent an appropriate example of an artistic expression of architecture. This is mainly apparent on the facades and in the structure of the roof, which over sails the building dramatically.



Fig. 3.40 View as approaching the BAT Centre retail facilities



Figure 3.41 View from parking, showing some retail facilities

4.1.1 LOCATION

The BAT Centre is located in the north east sector of Durban harbour along the tug basin. The Bat Centre faces away from the city and directly towards the harbour, where main façade of the centre is emphasized (Peters, 1996). It is situated off Victoria Embankment or, as known today, Margaret Mncadi as shown in figure 3.42 below. The building stands out in dockyards amongst ships, trains, cranes and trucks (Peters, 1996).



Fig. 3.42 Aerial Photo of the City of Durban indicating the Bat Centre

4.1.2 HISTORICAL AND SOCIAL CONTENT

The Bat Centre was established with an inheritance from Hugo Bartel who started Bartel Arts Trust in 1992. Bartel was an Austrian entrepreneur and adventurer who arrived in South Africa in 1956. The Bartel Arts Trust was established as a result of a successful electrical engineering business and participation in the stock market. In his will he left an amount of money to establish an arts trust and appointed two trustees to see his dream through. These trustees were Paul Mikula, a Durban architect and Dick Breytenbach, a senior partner at Shepstone and Wylie. (http://www.batcentre.co.za/bathistory_milestones.html -accessed 01/03/2011-12:05)

A research project was created by the trust in 1993, to establish the best usage for the funds available. The main aim of this research was to identify the major needs of the artistic community of city of Durban. Having done their research the trustees then decided to establish a multi-purpose centre for the arts. In June of 1994, a tender was submitted to the National Ports Authority for the SAS Inkonkoni building, which was a former navy building in the small craft harbour, as a proposed position for the multi-purpose art centre.

The SAS Inkonkoni building was mainly a naval training establishment .A lease was eventually signed on the 1st January 1995 and the project commenced. It was until the year 2000 that the Bartel Arts Trust was involved with the BAT Centre. It was at this point that the centre formed its own trust fund, which is called the ‘BAT Centre Trust’. This trust became responsible for the continued operations of the centre.(http://www.batcentre.co.za/bathistory_milestones.html -accessed 01/03/2011-12:05)

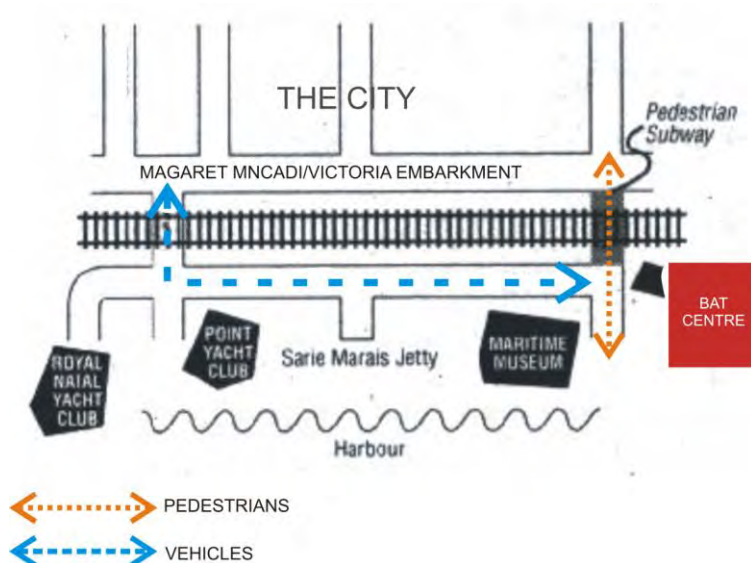
The BAT Centre has played a major role in impacting the cultural life of the people of Durban. This has been made possible through a number of performances by local and international musicians and the hosting of music festivals. An Artist in Action Residency Programme was established and has been operating successfully since the year 2001. The BAT Centre has also hosted several cultural evenings, some of which have been related to some of the international conferences held in city. This, as a result, has given the BAT Centre a reputation as a successful tool for showcasing new talent and creating an opportunity for employment for artists and musicians. Some of the events hosted at this centre include fashion shows, drumming evenings, poetry festivals and workshops (http://www.batcentre.co.za/bathistory_milestones.html -accessed 01/03/2011-12:05)

4.1.3 EMPIRICAL DATA

Traffic Routes and Context

One of the main disadvantages of the BAT Centre is the access route.

This may be said as it is not welcoming; as a result, the centre is hidden and unknown by many people in Durban. There are two options to take in order to get to the BAT Centre as shown in figure 3.43



It is, however, a much bigger challenge for pedestrians. This is caused mainly by the railway line that divides the city and the edge of the harbour.

Fig. 3.43 Diagrammatic Site Plan showing routes to the Bat Centre
<http://www.durbanet.co.za/bat/pics/batmap.gif> (accessed 01/03/2011-22:25)

The vehicle route tends to be an inconvenience for the pedestrians as it is quite a distance to walk. The underpass or subway is of much shorter distance, but unpleasant to walk through and most of all unsafe. Figure 3.44 and 3.45 are images, which show the subway.



Fig. 3.44 Entrance to the Pedestrian Subway

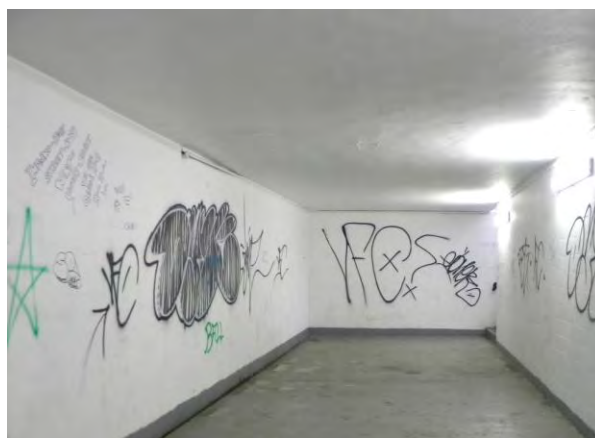
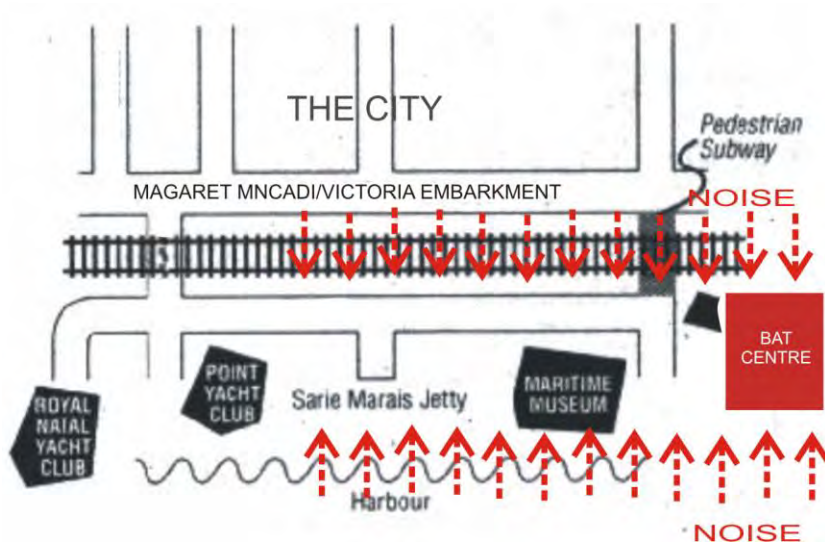


Fig. 3.45 The Pedestrian Subway

The boats, yachts and ships on the harbour, along with the traffic from Magaret Mncadi (known as Victoria Embankment) may cause some noise. Figure 5.7 shows the directions of such noise.

Noise Level



The Noise is mainly caused by vehicle traffic on Victoria Embankment by the train that occasionally uses the railway, as there is no proper noise barrier, figure 3.47 and 3.48 shows the boundary fence used.

Fig. 3.46 Diagrammatic Site Plan showing noise direction
<http://www.durbanet.co.za/bat/pics/batmap.gif> (accessed 01/03/2011-22:25)



Fig. 3.47 View of Railway as approaching the centre
(By author)



Fig. 3.48 Boundary Fence and the City
(By author)

Interior Spaces

The interior spaces that will be discussed and analysed are mainly spaces where most performances occur. This would be significant for the purpose of this research and for the proposed Music Complex for Durban.

The BAT Hall

The hall is where the main events are held at the BAT. It can hold up to 750 people or 500 people seated. The hall has dressing's rooms and ablution facilities, next to a basic stage. Three phase power is supplied, as well as normal electrical points, but allows for lighting to be brought in. In order to generate a form of income the centre rents out this space on a daily rate. The roof structure is an interesting feature in this space. Figure 3.49 and 3.50 show the interior of the hall. (http://www.batcentre.co.za/venue_hire.html -accessed 01/03/2011-12:12).



Fig. 3.49 a view of auditorium showing seating
(By author)



Fig. 3.50 a view of auditorium showing a basic stage
(By author)

The hall is located on what was the core of the Inkonkoni Hall as shown on figures 3.51 and 3.52. As seen in the images below, a steel roof truss, which is a recycled material of the Inkonkoni Hall, is supporting the corrugated roof sheeting. The stage and the seating are not fixed, this suggests that this hall has a potential of being used for other functions (http://www.batcentre.co.za/venue_hire.html -accessed 01/03/2011-12:12)

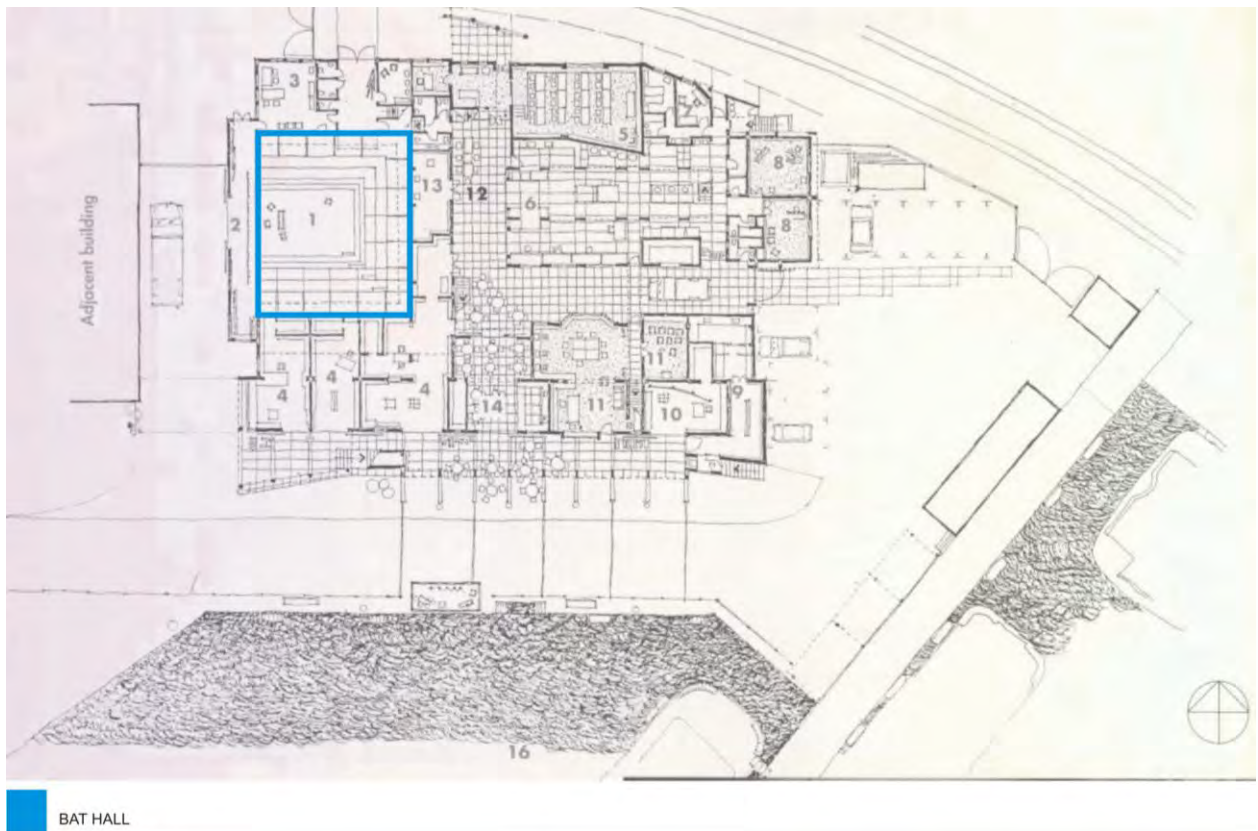


Fig. 3.51 Ground Floor Plan of the BAT Centre (Peters, 1996, p. 2)

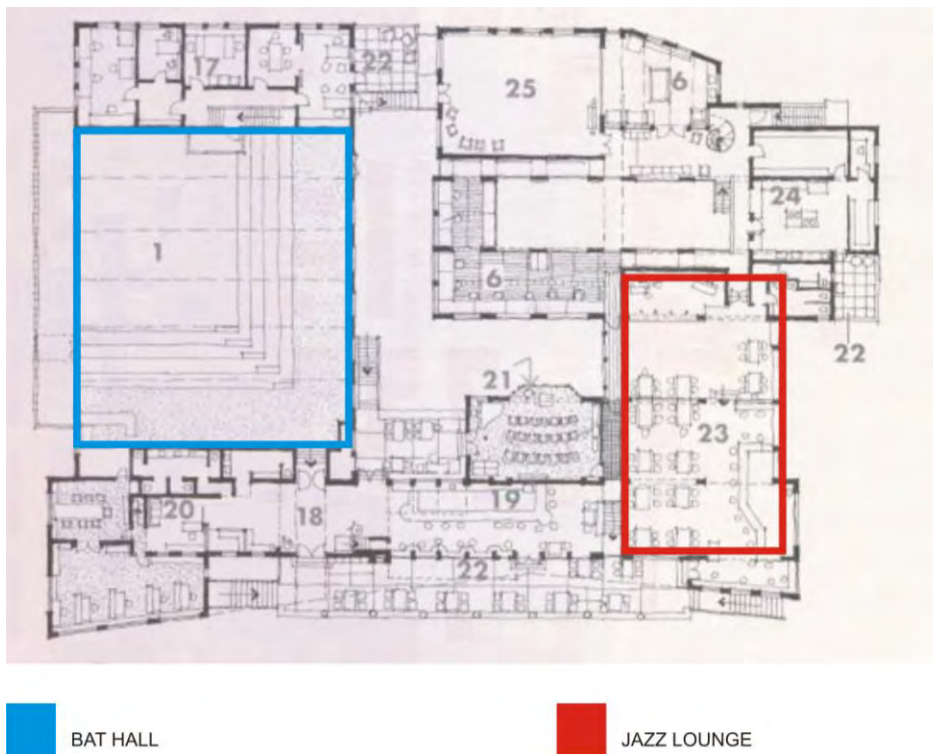


Fig. 3.52 First Floor Plan of the BAT Centre (Peters, 1996, p. 2)

Artistic and Cultural Expression- The Jazz Lounge

Located on the first floor as shown in figure 3.52, with views of the harbour is the jazz lounge. The jazz lounge has become an additional entertainment and performance place of the BAT Centre. This sophisticated, space adds to the cultural quality that the centre aims to express. This has been achieved through the interior décor, with dark brown laminated timber flooring and carvings on the telephone poles which fulfil the purpose of purlins. The lounge is open and spacious allowing for flowing movement and an opportunity for interaction. A black cloth has been placed on the stage as a back drop and to cover the window which may cause glare and a distraction during a performance. This also shows that this space has a multi functional quality



Figure 3.53 shows the unique quality of the purlins in the jazz lounge. As seen on the image they have been carved with African images. It is also apparent in this image that lighting has been fixed on to these members. This expresses the level of craftsmanship that has been used to ensure the success of this centre.

Fig. 3.53 a view of the detail of the purlins in the jazz lounge
(By author)

As mentioned earlier the BAT Centre has created an opportunity for local and international artist performances. Along with the hall this venue has allowed for that. With events held on Sundays, Tuesdays, Thursdays and Fridays. Figure 3.54 and 3.55 capture the spatial qualities of the lounge.



Fig. 3.54 a view of jazz lounge showing the stage
(By author)



Fig. 3.55 a view of jazz lounge showing seating

The BAT Centre represents a good quality of innovative ideas and designs through the use of recycled materials. The artistic quality of the place is not only seen in the functional aspect, but also in the décor. This, as a result, has allowed for the use of patterns that are of significance to Durban. Effort has been put into making every space unique and successful. The images on figure 3.56 are a representation of some of the finishes and decorations that may be seen in this art centre.

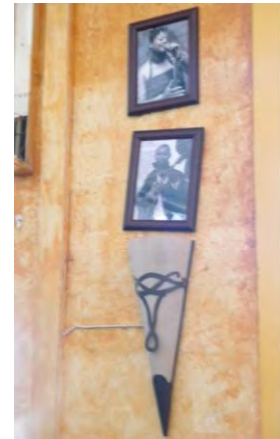


Fig. 3.56 Views of finishes on floors and walls
(By author)

4.2 THE PLAYHOUSE THEATRE

4.2.1 LOCATION

The Playhouse Theatre is located in Durban in city's business district. The Theatre is on Smith Street or what is known today as Anton Lembede Street. This building plays a major role in this context architecturally, particularly in terms of old and new buildings. Within its context one would find the Durban City Hall, the Art Gallery, the Museum and the Post Office, which are all preserved old buildings. The Playhouse is close to the city centre where a large population of Durban goes and is on a taxi route, which then makes it accessible to people. It is also within walking distance to the harbour.



Fig. 3.57 Aerial Photo of the City of Durban indicating the Playhouse

4.2.2 HISTORICAL AND SOCIAL CONTENT

The playhouse was first conceived as two venues which were cinemas, known as the Prince's Theatre, which was created in 1926, and the Grand Playhouse, which first opened its doors to public fanfares and capacity house in 1935(Peters, 1983).

These two entertainment venues underwent specialist renovation and conversion. Work on the restaurant section began in 1931 up until 1933. The project then became abandoned as

the company architect, Mr Rogers Cook travelled to England and America. In his travels, Cook studied the latest theatre plans so as to improve what had been first proposed for the Playhouse Theatre (Peters, 1983).

More delays on the project were caused by the search for an appropriate location for the ventilation plant. This plant was to serve the whole complex, which included the Prince's Theatre, a four storey broadcasting studio and an office block. When the basement which was below the water table was completed, it allowed for the housing of the largest plant in the Southern Hemisphere. This plant supplied cool and dehumidified air. The theatre was built in the same style as the restaurant. Elizabethan Architecture was made use of. This was considered appropriate for playhouses due to Durban's colonial status at the time, was made use of (Peters, 1983).



Fig.3.58 Preserved Playhouse Theatre façade (Peters, 1-1988, p. 38)



Fig. 3.59 Preserved Playhouse Theatre façade 2011 (By author)

While taking into consideration that it was vital to preserve as much as possible, the Playhouse Theatre was to become an opera auditorium with 1300 seating and the Prince's Theatre would become a drama theatre with 500 seating. A grand foyer was created on the former entrance of the Playhouse on Smith Street. This foyer became the most appropriate location for productions and exhibitions. The shops, which were under the Prince's Theatre, were removed and as a result, created a porte-cochere and a main entrance to the whole complex. In addition to the opera and drama theatres and the grand Foyer, there is a basement rehearsal or recital room for music housing 300 seats and an attic studio theatre with 150 to 200 seats (Peters, 1983).

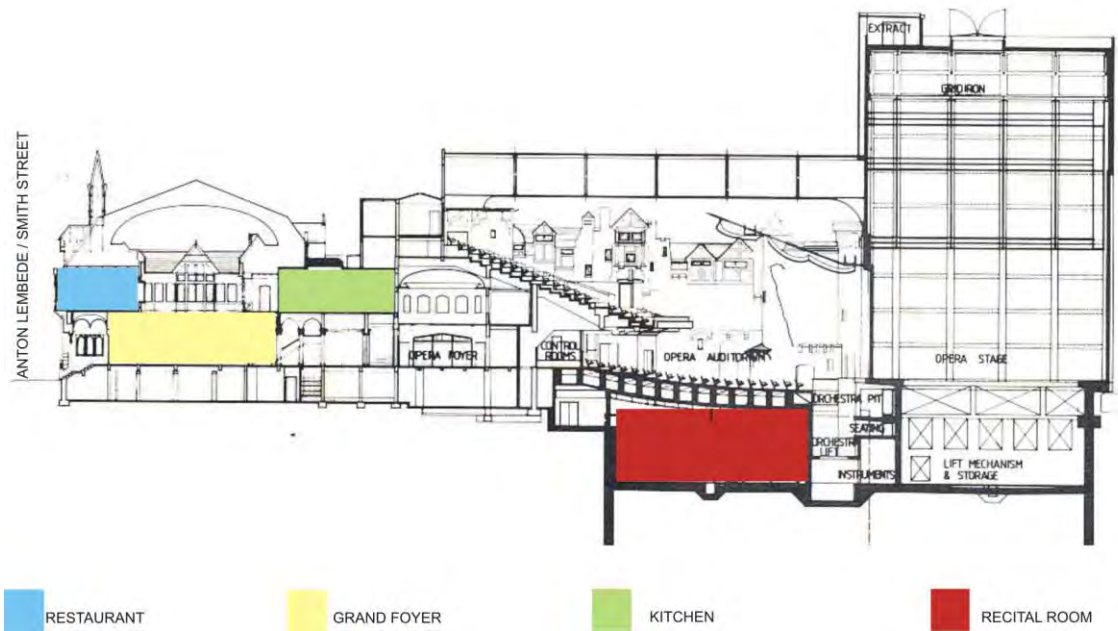


Fig. 3.60 Longitudinal Section (Peters, 3-1983, p. 2)

The complex had phased openings with the restaurant and Grand Foyer in October 1984, the Drama Theatre in October 1985 and the Opera Theatre in December 1985(NPIA). This multi-venue theatre complex was then officially opened as The Natal Playhouse, later became known as The Playhouse, Kwazulu-Natal's premier theatre complex and home of The Playhouse Company, up to this day (Peters, 1983).

4.2.3 EMPIRICAL DATA

Facade Composition

The ordering principles which have been used in the design of the Playhouse may be compared to music. This is mainly suggested in view of Wittkower's (1949: 9) comment as he considers music and geometry to be the same, where music is a geometry translated into sound. Perhaps even Arora (1998: 45) who believes that the relationship between architecture and music began with rhythm of architectural and musical composition. The Victorian building expresses a symmetrical facade, where the fenestration has been arranged in a rhythmical manner (see figure 3.61).

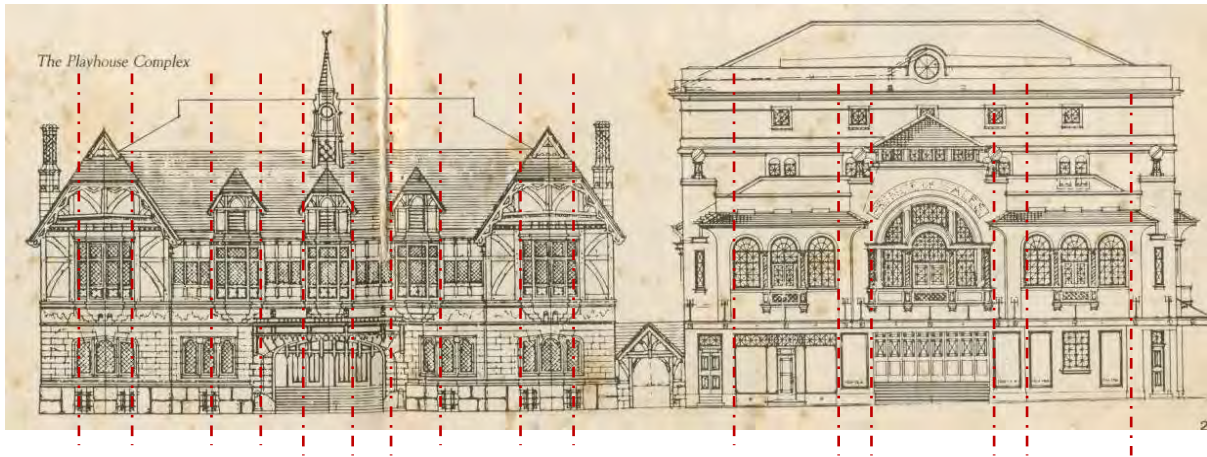


Fig. 3.61 Facade of the Playhouse Complex (Adams and Brusse, 1987, p. 28)

Traffic and Context

Figure 3.62 and 3.63 are images showing the context of the Playhouse. Figure 3.62 is an image of the City Hall which is opposite the Playhouse on Anton Lembede or Smith Street. Figure 3.63 shows the pedestrianised Albany Grove, where an old unused entrance to the theatre is.



Fig. 3.62 is a view of the City Hall from the Playhouse
(By author)



Fig. 3.63 The Playhouse from Albany Grove
(By author)



Access to the Playhouse Theatre is not as challenging as with the BAT Centre mainly because this theatre's entrance is in one of the busiest streets in the city. Anton Lembede or Smith Street is a one-way Street, which always has vehicle and pedestrian traffic throughout the day. The main challenge with this street in terms of traffic is that pedestrian and vehicle paths cross. Bus parking has been allowed for on this road for visitors to the Theatre. Most vehicles use the parking which is accessed from Albany Grove. Figure 3.67 is the aerial view of the Playhouse and some of the historical buildings within its context.

Fig.3.67 Aerial Photo of the City of Durban

Interior Spaces

The Opera Theatre



The Playhouse Opera theatre in Elizabethan decor style is one of South Africa's most famous performance venues. The Opera Theatre has 1300 seats. Figure 3.68 shows the interior of the Opera Theatre and Figure 3.69 shows where it is located in the building.

Fig. 3.68 Interior view of the Opera Theatre

(<http://www.durban-tourism.com/Durban-Playhouse.html> (accessed 01/03/2011-12:22))

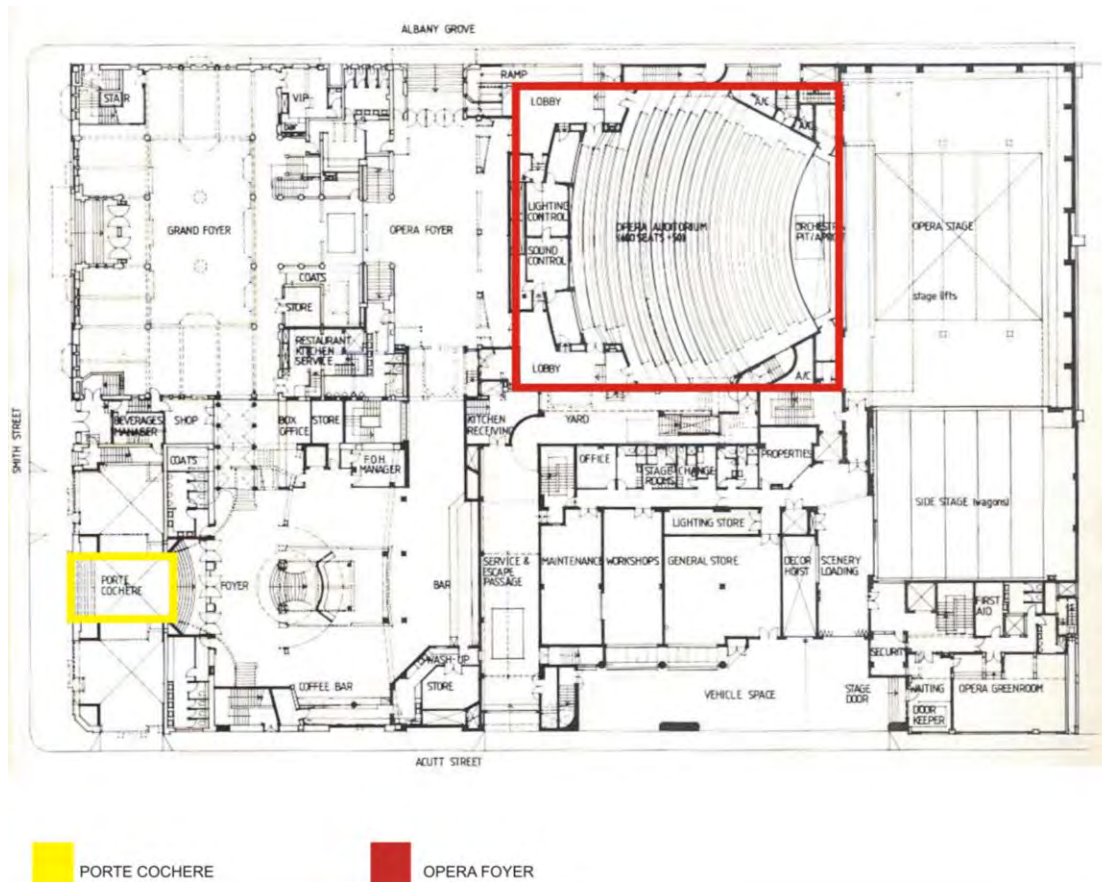


Fig.3.69 Ground Floor Plan (Peters, 3-1983, p. 2)

The Drama Theatre

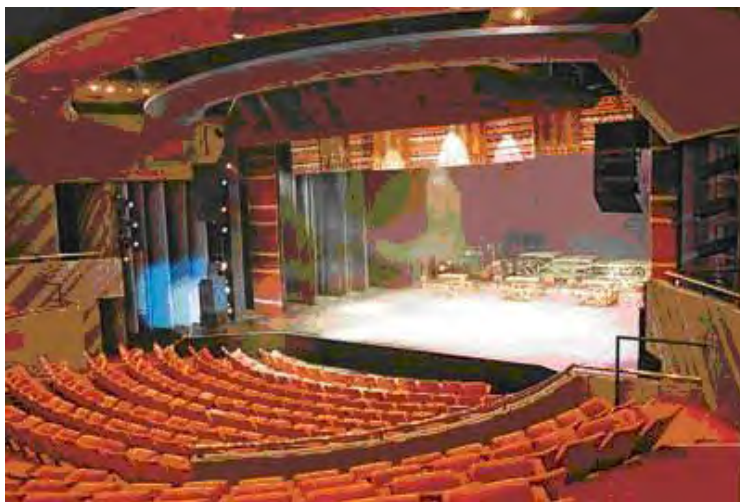
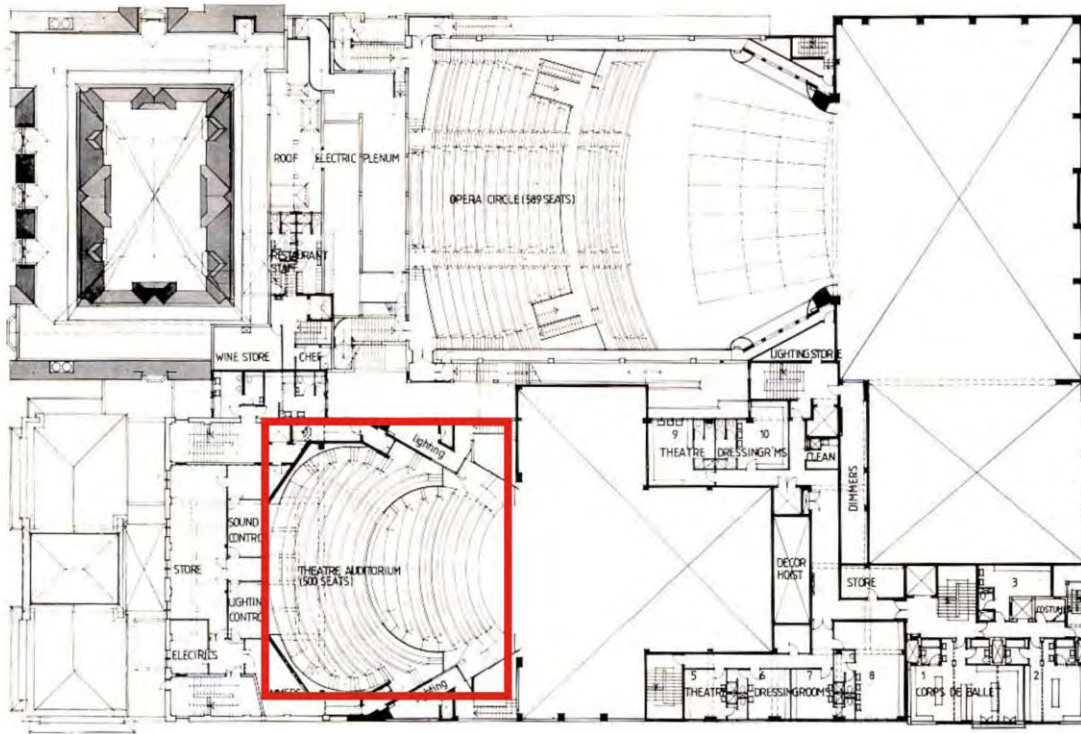


Fig.3.70 Interior view of the Drama Theatre (<http://www.durban-tourism.com/Durban-Playhouse.html>)(accessed 01/03/2011-12:22)

The Prince's Theatre was transformed into a venue for live drama performances. This Theatre has 500 seats. Figure 3.70 and 3.71 represent the layout of this theatre.



DRAMA THEATRE

Fig.3.71 First Floor Plan (Peters, 3-1983, p. 2)

The Loft



Fig.3.72 Interior View of the Loft Space

(<http://www.durban-tourism.com/Durban-Playhouse.html>)(accessed 01/03/2011-12:22)

This multipurpose performance space which is designed and equipped for intimate theatre and stage works of an experimental nature, is more informal. This space could accommodate approximately 136 seats.

The Playhouse has hosted many performance events in Durban and is quite successful as a performance place. A major challenge that is found, however, is the exclusive impression that it has created amongst most people in Durban. The types of events held have to some extent attracted a certain group or culture of people.

4.3 MOSES MABHIDA STADIUM

“...the brief emphasised that the new stadium was to be iconic. Yet beyond object or building, the term iconic was to be understood as „placæ, spirit, memory“.”

(Peters 2010: 4)



Fig. 3.73 views of Moses Mabhida and Durban North (Peters 2010: 41)

4.3.1 HISTORICAL AND SOCIAL CONTENT

The site of this project design competition is mainly based on the limited opportunities which have been offered by the former King's Park Soccer Stadium. According to Peters (2010: 4) a more complex agenda was adopted during the competition. In this agenda, he explains, emphasis was placed for a design of a larger precinct, as opposed to a single building. This new agenda, as a result, allowed for the preparation of an urban design

framework, which included entrances and the context of the stadium; people's park, which is a multi-functional public park south of the stadium; the upgrading of Isaiah Ntshangase Road and a creation of Imbizo Place, a pedestrian link to the beach (Peters 2010: 4) .



Fig. 3.73 Historical aerial views of the Sports Precinct (Peters 2010: 9)

The design team had a number of goals for the stadium. These included the creation of a stadium that forms a meaningful part of the city fabric; that acknowledges each interface by approaching each one uniquely; application of mix use to ensure sustainability; creation of scale that is pleasant for the users and a place that encourages a sense of vibrant public systems (Peters 2010: 4). The sports ground, in figure 3.73, labelled '9' is the site for the new stadium, the former King's Park. Appendix B is a representation of the urban framework.

4.3.2 EMPIRICAL DATA

“The tectonic language of architecture, the inner logic of construction itself, expresses gravity and structure, the language of materials as well as processes of construction and details of joining units and materials to one another.”

(Pallasmaa 2009: 113)



The image in figure 3.74 provides an understanding of the structure of the stadium. It also expresses the structure in an artistic way, where concrete and steel are intertwined to create a woven texture of the iconic basket form of the building. Pallasmaa's quote, which explains is of relevance to such an image, in terms of the visual quality.

Fig. 3.74 detailed view of facade
(by author)

The walkway on figure 3.75 creates a visual experience which had also been discussed by Frampton (1997: 100) as he considers critical regionalism to contribute to ones visual experience. The curved edge and arrangement of columns offers a visual experience that suggest fluidity and movement around the stadium. This invites people to walk around the building as there is more to see and experience.



Fig. 3.75 view of walkway from Imbizo Place (by author)



Fig. 3.76 view of Imbizo Place (by author)

The image on figure 3.76 captures the open square of the Imbizo Place (see Appendix 2) in a successful way. The landscaping of this outdoor space has been well utilized and designed, allowing it to be more than just left over space. The water features have become areas for people to sit and enjoy the tranquil sound of water. This outdoor space is a place of multicultural interaction; it is open to the public.

4.4 ABSA KZN REGIONAL OFFICES



Fig. 3.77 interiors indicating the use of different materials and connections (Woode 2007: 30)

4.4.1 LOCATION

This project is located at what Woode (2007: 30) describes as a prominent site in Durban. It is at the corner of Anton Lembede and Dorethy Nyembe Street. The entrance or atrium, viewed in figure 3.77, is diagonally opposite Francis Farewell Square and in historical context with the City Hall and Post Office (Woode 2007: 30).



Fig. 3.78 atrium at the corner of Anton Lembede and Dorethy Nyembe Street (Woode 2007: 27)

4.4.2 HISTORICAL AND SOCIAL CONTENT

This project is based on the growth of ABSA as it created the need to centralize the scattered ABSA buildings into a regional head office. This allowed for the remodelling of the UBS Building which was completed in 1958. This building, known as the United Building Society Head Office, was a slab office block (Cooke 2007: 12). It was a 14 storey which expressed modernist facades to its street frontages. These facades were mainly in blank facebrick to the east, west bookends, terrazzo clad structural fins and granite spandrels. The building accommodated a banking hall, a 6 storey parking garage and 13 office floor plates (Woode 2007: 24).



Fig. 3.81 view from Gardener Street (By Author)

Articulation of forms is not only expressed through the floor plans, but also on the facades, as the view in figure 3.81 shows. Different forms are expressed in both form and material, giving the building a combination of lightweight and solid and a formation of hierarchy of spaces and a harmonious presentation of forms.



Fig. 3.82 view from Smith Street (By Author)



Fig. 3.83 walkway on Smith Street (By Author)

The facade from Smith Street is flat, but expressed with the use of different materials and colour as seen from the angle of the view in figure 3.82. An incorporation of a walkway shown in figure 3.83 creates a pleasant height for pedestrians. The walkway also expresses craftsmanship and a repetition of elements creating what may be considered a walk of art.

4.5 CONCLUSION

The case studies appeared to be more successful than others, based on a questionnaire which formed part of the empirical research. This is found in Appendix D.

The study continues with an analysis and discussion on the research findings in order to reach a conclusion. In the reaching of this conclusion, recommendations are made in order to create solutions to the problems that were mentioned in the first chapter.

CHAPTER 5

ANALYSIS AND DISCUSSION

This part of the dissertation is based on the discussions in chapter 2,3 and 4. This chapter will focus on the analysis of all the most relevant points, which would be linked to the author's opinion, so as to come to a conclusion of this document and therefore the recommendations.

As Mc Lean (2008: 23) connects culture with the term *'civis'*, he enforces Kostof's (1991: 37) definition of the city, in which he defines the city to be a point of maximum concentration for the power and culture of a community. This, according to the author, displays that culture is concerned with a specific group of people or a community. This point is, in actual fact also enforced by Kelbessa (2008: 357). It also appears to the author that these three above mentioned discussions consider a culture of a place to be influenced by the people living in it.

How, then, is architecture and music connected to culture or people or even a place or a city? Firstly the author wishes to clarify that if the culture of a place is influenced by the people living in it, there are certain tools that are used to express the culture. Architecture and music are, amongst others, tools which may be used to express culture.

In order to enforce her point the author uses the Kanak Cultural Centre by Renzo Piano in figure 2.3 as an example of architecture that respects a specific group of people's way of life and traditions, thus their culture. The author also looks at Elliott's discussion, particularly the quote (Elliott 1995: 197) which emphasises that music is an expression of culture. Selimovic (2002: 15) agrees with Elliott as he considers music to be one of the key aspects of culture in South Africa.

In terms of music in South Africa Thorsén and Selimovic express the diversity of music and its origins of other parts of the world. The author agrees with what had been pointed out in these discussions, particularly the in indicating that music contributed in understanding the development of the country and its historical milestones. In terms of

Architecture in South Africa Bremner's (2007: 8) quote where he points out its failure as the reshaping and rebuilding of the society remains unaddressed and unanswered in the transition to democracy. Van Wyk (2000: 116) agrees with Bremner to an extent, but he further considers part of this failure to be some of the consequences of apartheid planning. The author agrees with these points, however, would give merit to the slight effort put in improving opportunity for public activity and integration. This is noted mainly in case study number three, which is Moses Mabhida Soccer Stadium. Based on the public (questionnaires) and the author it successful plays the role of expression. This does not mean that the author sees these efforts as adequate as some of the attempts still have not broken the cultural barriers or encouraged night and day social activity which would contribute to the safety of the city.

The use of Critical Regionalism as a theory to create a framework for this study is relevant mainly because, amongst other points, it places emphasis understanding of a culture. The author's point is elaborated Frampton makes this clear in his six points as he considers this theory to be architecture of resistance. It is also elaborated Lefaivre and Tzonis (2003: 11) who aimed to rethink regionalism within the context conduct which mainly focused on the identity of social and cultural situations of a place and the people.

Critical Regionalism, according to the author, has several relevant valuable aspects which would enrich this dissertation as it not only views architecture in a way which is takes into consideration people's perception and their way of life, but it becomes linked to music aswell. The term 'tectonic', for instance is applicable to both architecture and music. The Absa KZN Regional Offices Building, which is discussed as case study number 4 is an appropriate example. In the illustrations in figure 5.32, one may view the use of materials of different nature and their junctions, these materials are in harmony with each other. Piano's Kanak Cultural Centre which had been mentioned earlier also displays this tectonic quality, perhaps more successfully because the technology is based on the culture of the Kanak and is interpreted in a way that is relevant to the time. Tectonics, according to the author, may be understood musically, mainly when taking into consideration that music is a combination of different elements by which would create a sound that is pleasing to the ear. A composer achieves this by arranging these sounds according to the different pitches. One

should take for instance the two music pieces by Beethoven and Davies, where instruments follow the principles of melody and harmony. The composers create music by having an instrument taking the lead, using others to create a backing up and make use of repetition and variations.

In the discussion by Norberg-Schulz (1980: 5) and by Trancik (1986: 112) the importance of understanding the relationship between a culture, the people and their place is displayed. This, as it appears to the author, may imply that architectural and musical experiences depend on character and symbolism placed by the people on the two fields. The author, in actual fact, agrees with Norberg-Schulz (1980: 5) as he says that man dwells where he can orientate and identify himself within an environment as meaningful.

This, again, expresses the need that exists in human beings for the sense of belonging or to be surrounded by objects that create a sense of comfort. In this view Pallasmaa (2005: 44) makes a contribution as he considers significant architecture to make people experience themselves as complete personified and spiritual beings. Day (1999: 149) furthermore explains that architecture has a profound effect on a human being and on a place.

In view of Pallasmaa and Day's explanation, the author believes that architecture should always fulfil this responsibility, so as to always maintain a positive quality of nourishing the human spirit as explained also by Day (1999: 150). This, in the author's point of view, is also the case for music, especially when focusing on the discussion by Saini (2009: 30) where he considers Indian Classical Music to have a positive effect on human beings. Tanner (1979: 9) also makes a point on this as he acknowledges the physiological effect music has on man. Elliott dwells more on how these above mentioned human experiences may take place. Elliott (1995: 52) speaks of aspects that comprise of the consciousness. These aspects which include attention, awareness and memory are considered by the author to be very important in the experience of architecture and music.

The point by Norberg-Schulz (1980: 5) however, may not necessarily always be of positive outcome, particularly in architecture. At times the explanation by Trancik on the 'Place Theory' is ignored. Trancik (1986: 112) describes a space to be a place when it has been

given contextual meaning and derived from a cultural and regional content. The author finds this to be particularly the case in South African Architecture. The discussion by van Wyk (2000: 118) not only displays this, but also expresses the lack of public gathering spaces, thus the lack of cultural integration. How, then, does South Africa solve this issue? How are identifiable spaces of personal memories created, as explained by Lynch (1981: 132)?

Gerard's discussion informs readers on semiotics of architecture by introducing the terms 'form and expression'. This then helps in understanding iconic architecture. This theory allowed for the exploration of the relationship that may exist between architecture and music, particularly in creating expressive form.

In support of Gerard's (1993: 13) discussion, particularly where he explains how the meaning of a building takes form through the senses of man, Norberg-Schulz (1971: 39) then also adds that without symbols, man would be inexpressive. In addition to the point by Norberg-Schulz, Jamile (2004: 1) considers music to be a rich symbolic expression of social and cultural organizations which reflects the values, the past and the present ways of life of the people who create it. It appears to the author that Jamile agrees with some of the points made in the discussions by Kostof, Mc Lean and Kelbessa displaying architecture and music as tools of expression of the culture of a specific group of people.

The terms 'form' and 'expression' has been used several times in this dissertation and had to be discussed as it had been used differently. As mentioned in the beginning of this discussion, Gerard (1993: 21) contributes by explaining the term 'form of expression' to be a patterned way in which architectural substance is constructed and recognized. It has occurred to the author that expression may be recognised easier in architecture as opposed to music, mainly because architecture is visual.

The author found it essential to find the connection between architecture and music in order to explain their expression. Wittkower (1949: 9) says that the harmonies of music inform the geometry of the building. Saini (2009: 26) and Wallace (2009: 15) enforce this point as

they connect architecture and music by considering these two fields to be growing out of each other.

Based on what has been said above, images in figure 3.31 and 3.32 may be to some extent related to the classical and jazz music pieces which are displayed diagrammatically in figure 3.33 and 3.34. These illustrations were drawn by the author in relation to the song pieces. The author connects the building in figure 3.31 with the illustration in figure 3.33, while she connects figure 3.32 with the illustration in figure 3.34. The author finds a repetition of elements which results in rhythm in all these four examples.

Read (1931: 20), like Redfern (1983: 23) considers art to be an expression. The fields of architecture and music are forms of expression too. Gerard (1993: 21) confirms this in the previous discussion where he states that form of expression is a patterned way in which architectural substance is constructed and recognized. Jamile (2004: 1) also confirms this point as he considers music to be organization of sound that is a symbolic expression of social and cultural organizations. In terms of these two fields being forms of expression it is then important to know that they work differently.

Architecture and music evoke emotion. This is what has been said to describe art as well and therefore would be appropriate to say that architecture and music are, in actual fact, art forms.

The author believes that there may be some misconceptions to architecture and to music when they are described as art. She agrees with Pallasmaa who makes an important point as he clarifies the value of art. He further explains this quote in relation to architecture and to music.

*“Every art form has its origins and traditions,
and when this ontological backbone of a
discipline is lost, the art form weakens.”*

(Pallasmaa 2009: 115)

Prina's (2008: 6) believes that architecture's primary purpose is to provide shelter and protection. This is indeed true, but the author also finds value to Day's (2004: 34) point where he describes architecture to be a work of art that is meant to elevate the human spirit.

Generally architecture and music are governed by principles to ensure that they are successful. Architectural principles of composition are rhythm, axis, hierarchy, datum, symmetry and transformation. Music principles or characteristics include rhythm, form, melody, harmony and improvisation. It may be discovered that these principles contribute in creating expression for both architecture and music through the application of relevant or appropriate elements. These would be principles or characteristics that separate music from sound or noise making. Niecks (1986: 135) elaborates on this as well as he defines form; he explains that if a composition is to be a work of art, the form is to be a clear and beautiful.

CHAPTER 6

CONCLUSION (AND RECOMMENDATIONS)

Musical Expression in Architecture

Having viewed the previous discussions it would be appropriate to conclude that music has fundamental principles by which it is governed. The author believes that these two fields share a similarity in that there are principles that have to be followed in the creation of a building as it is in that of a music piece. When a building is designed, it requires a design team with individuals who have specific expertise to ensure the construction. When a song is composed, a team or band is required to perform the piece. The author makes use of a diagram below which taken from Shaun Coleman's dissertation.

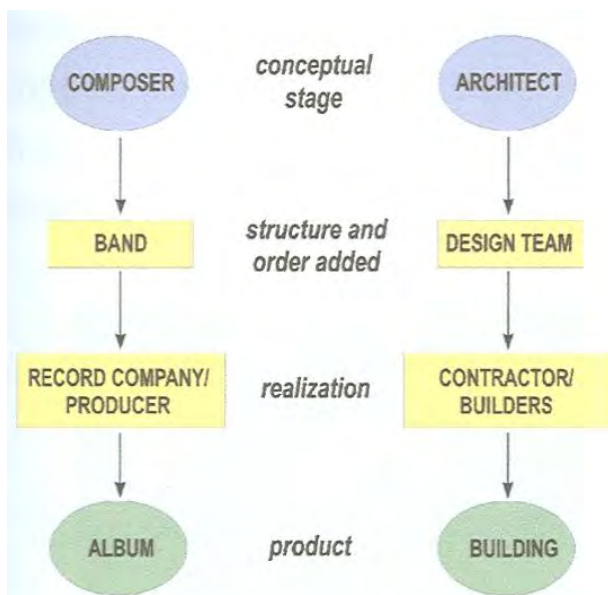


Fig. 5.34 the process creation of architecture and music
(Coleman 2007: 32)

What may have been ignored, particularly in architecture, is the importance of the compositional principles in creating healthy and successful buildings for people. The strong relationship that these two subjects have and the fact that they both play a psychological role in human lives may also have been ignored.

The author believes then that successful architecture should always consider such principles. A musician has the power to govern the listener's emotions through his or her performance. In actual fact, a song may intentionally be composed with repetitions and changes or variations in order to make a significant statement. This is intentional.

Readers should be aware that architecture is also as powerful. A building may be designed with a hierarchy of spaces or forms in order to make a significant statement. A building may be designed with intent as well. An architect may make use of paths in order to create specific routes for users of a building. Different types of spaces and colours may be used in order to create a certain mood.

The phrase ‘musical expression in architecture’ may be literal, perhaps as explained above, or figurative. In this case, the terms ‘form and expression’ are important. The next subheading will elaborate on this.

Form and Expression in Architecture and in Music

A discussion on ‘form and expression’ is relevant, particularly because this study deals with the relationship of metaphor and context which was earlier mentioned under the discussion of semiology.

A recap on the discussion by Norberg-Schulz (1971: 39) is essential. Norberg-Schulz (1971: 39) makes an interesting point when he describes ‘expressive forms’ and ‘symbolic forms’ to be similar to the measurable physical forms. Norberg-Schulz (1971: 39) then also adds that without symbols, man would be inexpressive. This point then makes it clear that there is a relationship between symbolism and expression.

In figurative terms, the author believes that a building has the ability to sing. A building may sing through the harmony it creates with its context or landscape. It may be through the fluidity of its vertical planes. One should bear in mind that singing is a tool of expression used musically by a performer. Expression, according to the dictionary, is a way to show emotion or feelings. This according to the author implies a dramatic effect; a strong impact and even something iconic. Architecture that should, therefore, be as expressive. It should be this iconic, particularly when related to music.

The author believes that in order for iconic architecture to be successful, significant symbolism and meaning is required. The next subheading elaborates on this in terms of people's understanding or perception of their surroundings.

Symbolism and Meaning

It is vital to understand why symbolism is important, particularly where the subject of architecture and music are concerned. This is required as these two subjects both relate and may be successful through the response of human beings. Generally, human beings perceive what they easily recognise or relate to either through their way of life or past experiences.

Culture and memory are then two aspects which play a role in this regard. It has become apparent that architecture and music play a major role in both aspects. The author believes that culture changes with circumstances, this is mainly because of the availability of materials.

Music has the power to evoke powerful emotion that may forever be embedded in ones brain. This emotion may be brought to life by a mere sound of a musical chord and suddenly awaken a memory, which may take one to a special place. Architecture should also have the ability to create such an impact. Architecture should create pleasant and memorable places through the use of music. As said by Aristotle in Jowett:

*“Song is to mortals of all things the
sweetest.”*

(Jowett 1969: 83)

APPENDIX A: A score for a Jazz Standard titled “*Someday my Prince will Come*”

APPENDIX B: Site Plan or Urban Framework (Peters 2010: 5)



The Times

The Sunday Times

Archive Article

 August 7, 2007

Music is too subversive for the new South Africa, says apartheid hero

Mike Wade

One of South Africa's greatest musicians — a hero of the struggle against apartheid — believes that he is no longer welcome as a performer in his own country.

The virtuoso trumpeter Hugh Masekela claims that many of the talented musicians whose voices became symbols of protest against white domination are finding it hard to get bookings in South Africa because the ruling ANC is “terrified” of music as an agent of change.

Masekela, 68, who has written the score for *Truth in Translation*, one of the most talked-about shows on the Edinburgh Fringe, argues that mediocrity is being promoted in the arts in South Africa because music and theatre are seen as “catalysts” in the destruction of apartheid, and might equally shake confidence in the present regime.

“The administration of South Africa today is terrified of music. They deny it,” he told *The Times*. “They know that a musical commentary can put them at a disadvantage. They are not afraid of print and journalists, that is considered freedom of speech, but they are very comfortable with the absence of music.

“I am not bitter. I am disgusted. And I am lucky – I can work all over the world. Ladysmith Black Mambazo, Miriam Makeba, Abdullah Ibrahim, they spend most of their time abroad, because they can hardly play at home. What about those other musicians in South Africa? How do they make a living?”

Masekela accused the ANC and opposition parties of bringing an end to all-white rule only by conniving in a “business deal” that had entrenched the power of the elite, but left the

bulk of the population in poverty. “We ended up with less than 2 per cent of the economy, less than 5 per cent of the land. We are a free but poor people,” he said.

Truth in Translation is a dramatisation of the lives of the young translators who revealed the barbaric crimes of the country’s former rulers to the Truth and Reconciliation Commission. According to its American writer, Michael Lessac, the show demonstrates South Africa’s ability “to forgive the past, to survive the future”. Masekela, however, argued that neither the play nor the political reality in South Africa had achieved any such reconciliation.

“At the end of the play you still wonder whether reconciliation is going to work. What is amazing is how the perpetrators almost reluctantly apologised – ‘I’m sorry, forgive me’ — because a deal was there. It’s the same old story. After the Allies overran Germany you couldn’t find anybody who supported Nazism. It’s the same thing in South Africa. You can’t find anyone who supported apartheid.”

Masekela fled after the 1960 Sharpeville massacre and established an international reputation as a jazz musician. His 1987 hit *Bring Him Back Home* became an anthem for the movement to free Nelson Mandela. In the early 1990s he returned to Johannesburg but, though he felt a momentary sense of elation when apartheid was dismantled in 1994, he said that the settlement had been a compromise, a hard negotiation. “Amnesia always sets in after freedom. People fight for freedom and then they forget and oppress their own people.”

QUESTIONNAIRE

1. Which of these four buildings below do you like? (tick shaded box)

BAT CENTRE		PLAYHOUSE THEATRE		MOSES MABHIDA STADIUM		ABSA REGIONAL OFFICES	
-------------------	--	------------------------------	--	--------------------------------------	--	----------------------------------	--

Give reason(s) for the building(s) you picked

2. Which of the four buildings best expresses the culture of Durban? If none give an example of any building.

Give reason(s) for the building(s) you picked:

3. Which of the four buildings is(are) iconic? If none give an example of any building.

Give reason(s) for the building(s) you picked:

4. Do you think Durban is in need of gathering places ?

YES	NO
------------	-----------

Why?

5. Do you like music?

YES	NO
------------	-----------

Why?

6. Do you think music is an appropriate tool for creating a certain character in a place?

7. Would you consider architecture and music to be tools of expression?

YES	NO
------------	-----------

Why?

QUESTIONNAIRE

1. Which of these four buildings below do you like? (tick shaded box)

BAT CENTRE	<input type="checkbox"/>	PLAYHOUSE THEATRE	<input type="checkbox"/>	MOSES MABHIDA STADIUM	<input checked="" type="checkbox"/>	ABSA REGIONAL OFFICES	<input type="checkbox"/>
------------	--------------------------	----------------------	--------------------------	-----------------------------	-------------------------------------	--------------------------	--------------------------

Give reason(s) for the building(s) you picked

The stadium offers great spaces to
relax or walk around and it stands out.

2. Which of the four buildings best expresses the culture of Durban? If none give an example of any building.

Give reason(s) for the building(s) you picked:

The bat centre, it always has events
and ~~at~~ activity which reflect the buzz of the city

3. Which of the four buildings is(are) iconic? If none give an example of any building.

Give reason(s) for the building(s) you picked:

Moses Mabhida, it simply is iconic
instantly recognisable and effective

4. Do you ^{think} Durban is in need of gathering places ?

YES	NO
-----	---------------

Why?

It already has gathering place, they just need to be
improved and taken care of.

5. Do you like music?

YES	NO
----------------	----

Why?

Because of the way it makes me feel.

6. Do you think music is an appropriate tool for creating a certain character in a place?

Yes.

7. Would you consider architecture and music to be tools of expression?

YES	NO
----------------	----

Why?

Because of their qualities and composition.

QUESTIONNAIRE

1. Which of these four buildings below do you like? (tick shaded box)

BAT CENTRE		PLAYHOUSE THEATRE		MOSES MABHIDA STADIUM		ABSA REGIONAL OFFICES	
------------	--	----------------------	--	-----------------------------	--	--------------------------	--

Give reason(s) for the building(s) you picked

Its an iconic structure that enhances
the image of the city

2. Which of the four buildings best expresses the culture of Durban? If none give an example of any building.

Give reason(s) for the building(s) you picked:

Bot centre because they have poetry and
Art, and

3. Which of the four buildings is(are) iconic? If none give an example of any building.

Give reason(s) for the building(s) you picked:

Moses Mabhida because it is a dominant
building that can be seen from almost
everywhere in the city

- ^{think}
4. Do you think Durban is in need of gathering places ?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

There are not enough places in
Durban where people from different backgrounds meet

5. Do you like music?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

It gives me a sense of identity like
I belong to a family which is loyal to music.

6. Do you think music is an appropriate tool for creating a certain character in a place?

yes

7. Would you consider architecture and music to be tools of expression?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

They both invoke an aesthetic experience
when they are perceived, if they are successful
in expressing something meaningful.

QUESTIONNAIRE

1. Which of these four buildings below do you like? (tick shaded box)

BAT CENTRE		PLAYHOUSE THEATRE		MOSES MABHIDA STADIUM	✓	ABSA REGIONAL OFFICES	
------------	--	----------------------	--	-----------------------------	---	--------------------------	--

Give reason(s) for the building(s) you picked

It adds character to the surrounding buildings and environment.

2. Which of the four buildings best expresses the culture of Durban? If none give an example of any building.

Give reason(s) for the building(s) you picked:

BAT CENTRE, because of the variety of art and exhibitions
and activities found there.

3. Which of the four buildings is(are) iconic? If none give an example of any building.

Give reason(s) for the building(s) you picked:

Mose Mabhida Stadium. It's iconic because of its scale
simplicity and how it adds to its context.

4. Do you ^{think} Durban is in need of gathering places ?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

The more gathering spaces we have, the
more opportunity there is to interact

5. Do you like music?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

It is nice to listen to and it relaxes
people.

6. Do you think music is an appropriate tool for creating a certain character in a place?

Yes because music can sometimes
dictate people's moods and actions

7. Would you consider architecture and music to be tools of expression?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

Why?

Because buildings and both present are
platforms for Architects + Artists to express
themselves to the public.

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DESIGN REPORT:

By

Nokuthula Ngcongco

PART TWO

DESIGN REPORT

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	1.2 PROJECT DESCRIPTION		
	1.3 THE NOTIONAL CLIENT		
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CHAPTER 1

1.2 PROJECT DESCRIPTION

The project makes use of the qualities of architecture and music as discussed in the first part of this dissertation, in order to create a public building that is a catalyst for urban development.

1.3.1 The Client's Organisation

The client for this project is The KwaZulu-Natal United Music Industry Association (KUMISA). This is an organisation whose goal is to serve and represent the interests of the music industry in the province of KwaZulu-Natal, nationally and internationally. Some of the important facets of KUMISA are their goal to create platforms for the KZN music industry to promote and showcase their work.

The organisation, additionally, promotes learning and offers training to the younger generation which may have an interest in the relevant disciplines. This is achieved through workshops and seminars as they encourage the development of a music precinct, music festivals and live music venues. This is an artistic organisation; therefore expression and innovation are also a priority.

1.3.2 Detailed Client Brief

The members of this organisation have identified the need to break the cultural boundaries which exist in music and a creation of a public place that expresses those cultures. KUMISA has requested a music complex for the City of Durban, as the first phase of the project, in order to encourage public integration. This is an important aspect in the city and is further emphasized by Marshall (2001: 3) who sees the need to align the ideas for appropriate urban form with the current reality of the people's cultures and society. In view of the client's requirement he says:

*“The city is a physical container of our culture,
as such; it is the expression of us.”*

(Marshall 2001: 3)

This project enhances and reconnects the harbour with the city and creates an opportunity for further urban development. This further development falls in the category next phases of the project. These phases include the greening of major streets which are linked to the harbour. In terms of further urban development, the client requested a development for the harbour edge starting from Wilson's Wharf to the Bat Centre. The client also requested that the greenbelt along Victoria Embankment (Magaret Mncadi) be incorporated in this development, in order to redefine the lost space and create a waterfront edge. These requirements, as a result, ensure linkage to the harbour which forms one of the activity nodes of Durban. This development not only revives the harbour, but also creates growth to the existing Bat Centre, theatres and galleries.

According to the client's requirements, the music complex (phase one) should not only showcase local and international performances, but also promote learning through workshops. It should allow for the opportunity for guidance and skill training to the growing local artists. In terms of public and cultural integration, it should include outdoor and indoor gathering spaces and, most importantly, incorporate the music that represents all the cultures in Durban. The client emphasised the iconic quality that this project should acquire. It should have symbolic meaning to the people of Durban. Expression should play an important role as it encompasses architecture and music, the two fields which are the topics of this dissertation.

A Proposed Music Complex for Durban

SCHEDULE OF ACCOMMODATION

ROOM NAME		OCCUPANCY	No. Of ROOMS	UNIT AREA (sqm)	TOTAL AREA (sqm)
RECEPTION					
Entrance Foyer		1 receptionist and 6 visitors	1	40	40
Administration Offices		1	3	20	60
Exhibition/ Gallery		15 people	1	80	80
Ablution	males	2wc + 3 urinals	1	10	10
	females	3wc	1	12	12
	paraplegic	1unisex	1	4	4
Sub- total					206
LEISURE / ENTERTAINMENT					
Coffee Shop/ Restaurant		50 people	1	300	300
Jazz Lounge		100 people	1	300	300
Ablution	males	3wc + 4 urinals	1	20	20
	females	5wc	1	20	20
	paraplegic	1unisex	1	4	4
Sub- total					644
PERFORMANCE					
Concert Hall		450 seats	1	600	600
Lobby/ Ticket Sales		100-250 people	1	100	100
Rehearsal Room		60 seats	1	100	100
Changing Rooms		Female/male	2	30	60
Ablution	males	3wc + 4 urinals	1	20	20

Ablution	females	5wc	1	20	20
	paraplegic	1unisex	1	4	4
Sub- total					904
SKILLS TRAINING					
Seminar Rooms	30 seats		3	50	150
Practice Rooms	1 musician		5	16	80
Recording Studios			2	40	80
Sub- total					310
Total Area					2064
Spaces excluded in Total Area					
Storage					
Circulation					
Parking					
Amphitheatre					

CHAPTER 2

SITE SELECTION, SURVEY AND ANALYSIS

2.1 Introduction

As pointed out earlier in this document, the main aim of this dissertation is to explore the relationship between compositions and social aspects of music and architecture. Findings will, therefore, be implemented in the expression of the proposed building in the context of Durban. This section of the document explores various sites for the location of the proposed building.

2.2 Site Selection Criteria

The city of Durban is expressed in a formal grid. In this grid created through a series of commercial, residential, industrial and retail blocks. These blocks are also inclusive of public transport facilities, sports precincts and public open spaces. Figure 1 clearly indicates these different blocks as it expresses the grid framework.



FIG. 1 Zoning Diagram of the City Of Durban



The illustration on figure 2 is a figure ground map indicating the three chosen sites and the major traffic routes in the city. The three sites were chosen on the basis of the objectives of this dissertation. These sites will be assessed in terms of the following criteria:

- Context: nodal linkages, social context, views
- Accessibility
- Physical Landscape
- Landmark/ Iconic Potential

FIG. 2 Figure Ground showing site options and routes



FIG. 3 Selected Sites and Similar Social /Cultural Space

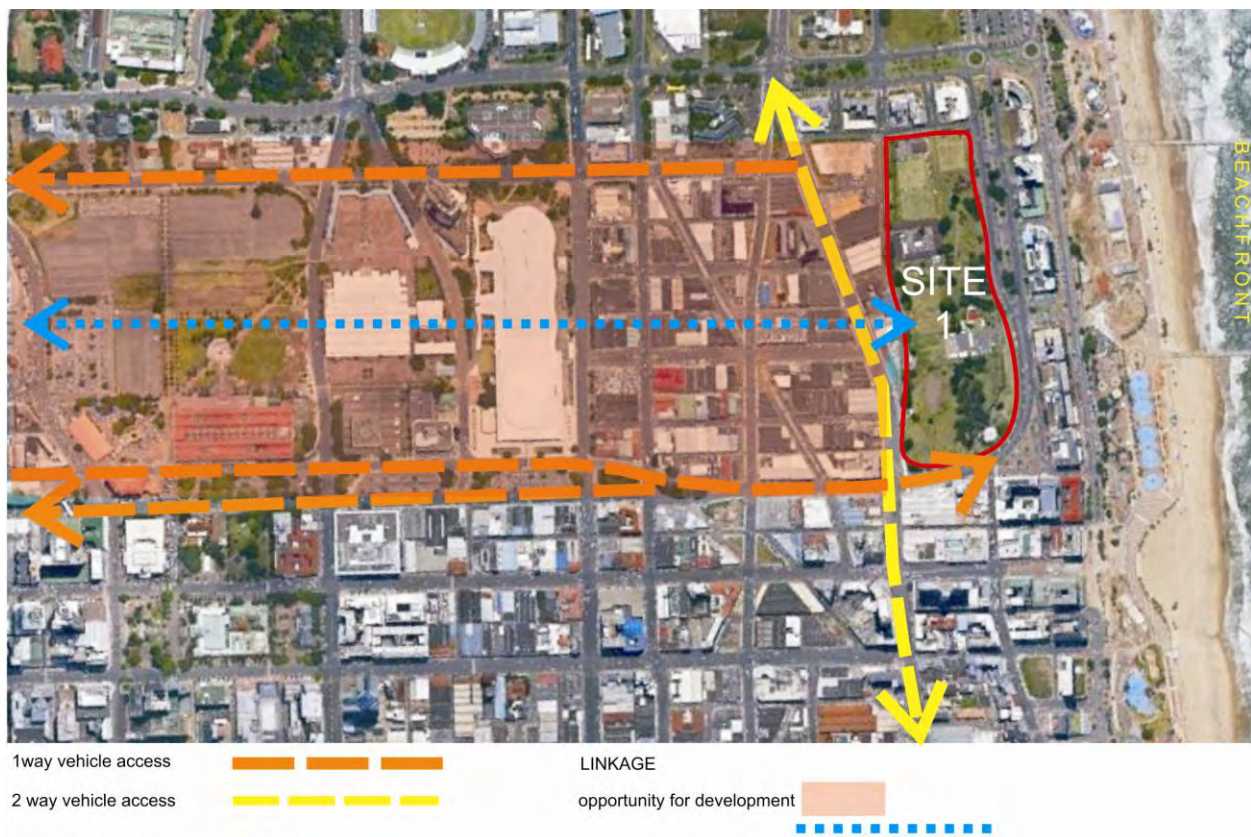
2.2.2 SITE 1

ADVANTAGES

- accessible
- linked to the city centre
- close to the beachfront
-

DISADVANTAGES

- no relevant social or cultural nodes



VICTORIA PARK

FIG. 4 Victoria Park

2.2.1 SITE 2

ADVANTAGES

- views of harbour; an interlink of architecture and water
- linked to relevant social& cultural nodes
- close to residential blocks
- opportunity for revitalization of dead public open spaces

DISADVANTAGES

- detached from the city
- indirect accessibility



WILSON'S WHARF- VICTORIA EMBANKMENT

FIG. 3 Wilsons Wharf/Magaret Mncadi

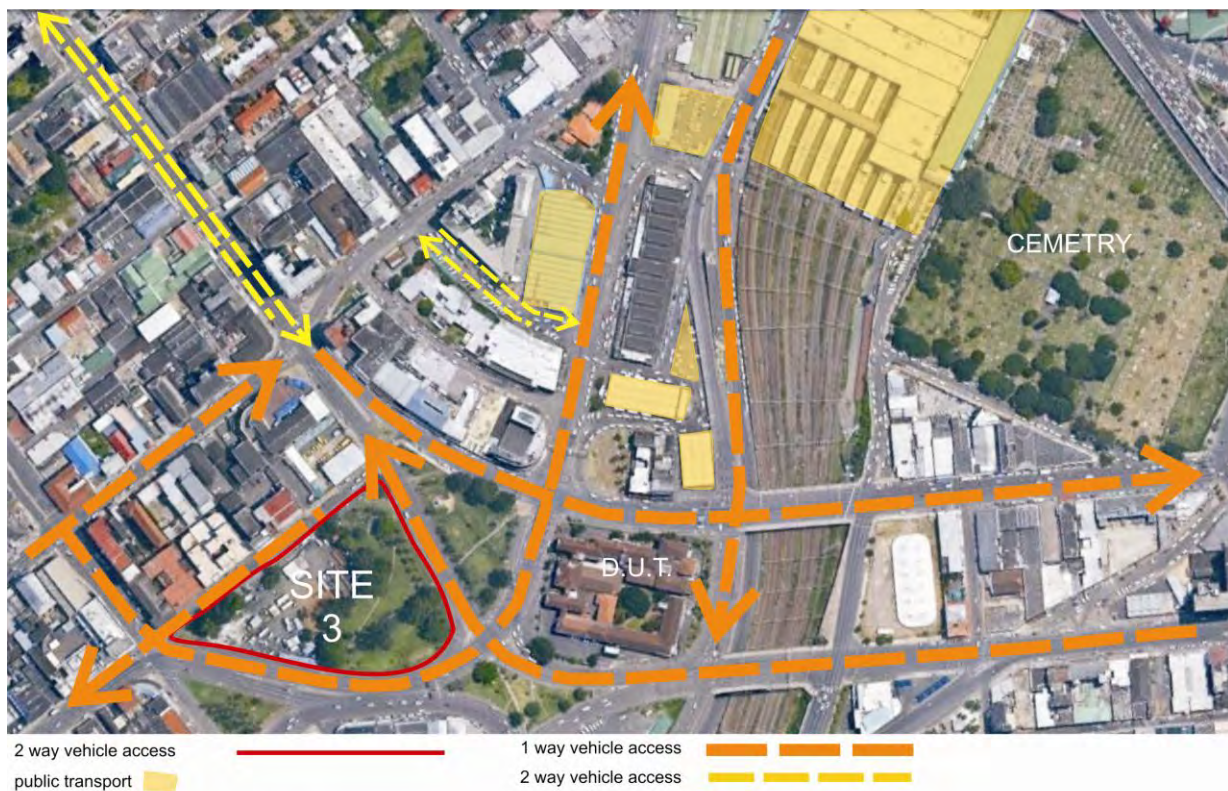
2.2.3 SITE 3

ADVANTAGES

- a link to Warwick Junction
- on a taxi route and close to train station
- near an educational facility (D U T)

DISADVANTAGES

- no potentially good views
- no relevant social / cultural nodes



SITE OPTION 3

FIG. 4 Pixley kaSeme /Anton Lembede

SITE SELECTION CRITERIA

- weak ★
- below average ★ ★
- adequate/average ★ ★ ★
- good ★ ★ ★ ★

<u>CRITERIA</u>	<u>SITE OPTION 1</u>	<u>SITE OPTION 2</u>	<u>SITE OPTION 3</u>
CONTEXT	★	★ ★ ★ ★	★
ACCESSIBILITY	★ ★ ★ ★	★ ★	★ ★ ★
PHYSICAL LANDSCAPE	★ ★	★ ★ ★ ★	★
LANDMARK /ICONIC POTENTIAL	★ ★ ★	★ ★ ★	★ ★
TOTAL	11	13	7

The selected site is option 2, Wilsons Wharf on Victoria Embankment, as it had more points based on the site criteria table above.

SITE VIEWS



FIG. 5 Wilson's Wharf: Victoria Embankment



This site (figure 5) is situated along the edge of the city and the harbour as seen in the previous illustrations. Wilsons Wharf consists of a number of retail outlets, a restaurant (Zacks), a theatre (Catalina), offices and a limited amount of parking bays. As much as it would work successfully as an activity node it has some disadvantages which may become opportunities for the proposed developments

Views 1, 2 and 3 show some of the activities that occur on this site. There illustration on view 2 shows the city edge or skyline from the parking of the site. View 1 expresses the lack of connection between the site or harbour and the city edge.

This barrier is also expressed in figure 6 below, which is a section from the city edge, the green belt and the harbour. The aspects shown on this illustration indicate that Wilson’s Wharf is isolated from the rest of the city of Durban. The proposed building will serve as a tool to create a cultural link between the harbour and the city through the urban intentions shown in figure 8. Figure 8 is an illustration showing the urban intentions for this project.



FIG.6 Section through city edge and Wilson’s Wharf (Section A-A)



FIG.7 Pedestrian and Vehicular Access



FIG.8 Urban Intentions

CHAPTER 3

CONCEPTUAL AND THEORETICAL ISSUES

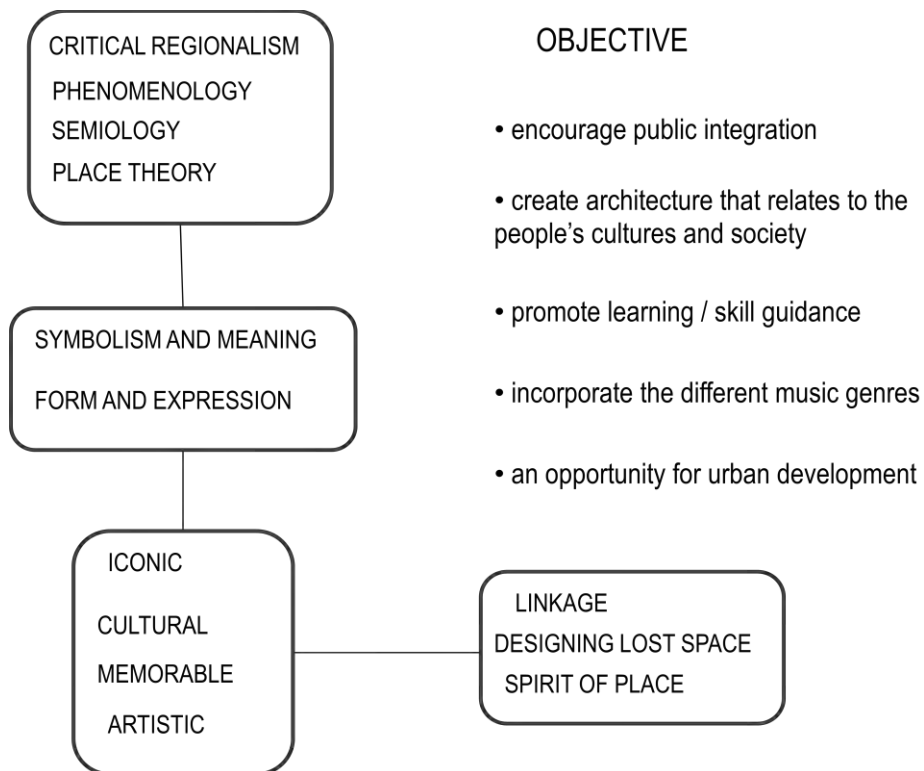
3.1.1 Introduction:

Marshall (2001: 17) makes a valid point in his discusses the nature of former industrial waterfronts. He believes that such waterfronts are underutilized parcels which have been isolated from the rest of the physical, social and economic activity that may occur in the city. The same has been experienced with the chosen site based on the analysis (Marshall 2001: 17). He asks:

“How can these isolated parcels be configured to make connections between older city centres and the water’s edge?”

(Marshall 2001: 17)

The ‘Linkage Theory’, ‘Lost Space’ and ‘Place Making’ will be used in to serve as a solution to the above question and to ensure a successful landmark for Durban.



3.1.2 Concept Development:

Architecture and Water:

“The best districts build on a classical formula—small blocks, pedestrian scale, active uses at the corners, business that spills out on sidewalks and outdoor gathering spaces.”

(Nate Cherry)

Figures 9 and 10 are examples of some of the successful waterfronts which are designed based on the above quote by Nate Cherry.



FIG.9 Genoa Old Port Renewal



FIG.10 Cape Town Waterfront

Precedent: Form and Expression:

In figures 11 and 12 below, both concert halls are well known because of their distinctive forms, they are iconic.



FIG.11 Sydney Opera House: Jorn Utzon

In terms of the Sydney Operah house in figure 11, harmony created between architecture and harbour. This is a quality that is aimed at for the proposed project. The form almost represents a musical dynamics- a dramatic build up.



FIG.12 Walt Disney Concert Hall: Frank Gehry

The Walt Disney Concert Hall is also represents dramatic forms, but extreme and creates a misconception, of how music should be .The fluidity in the plan is successful and creates a sense of movement

THEORETICAL FRAMEWORK

ABSTACT

The purpose of this dissertation is to explore the relationship that may exist between architecture and music. This study has two folds. The first is a focus is on the social and cultural aspects which connect the field of architecture and music and, as a result a creation of spaces that are enhanced by the appreciation of music. In this, view architecture and music may be understood metaphorically. Focus is based on 'expression'. The second focus is on the principles of composition that exists between the two fields. This part, mainly focuses on a comparative analysis between the 'form and structure' of architecture and music. This, as a result, would create an image that would best express architecture musically.

"Song is to mortals of all things the sweetest." (Curren 2007: 81)

Music has the power to **evoke powerful emotion** that may forever be embedded in ones brain. This emotion may be brought to life by a mere sound of a musical chord and suddenly **awaken a memory**, which may take one to a **special place**. Architecture should also have the ability to create such an impact. Architecture should create **pleasant and memorable places through the use of music**.

THEORIES:

- Phenomenology
- Semiology
- Place Making
- Critical Regionalism



CRITICAL REGIONALISM
PHENOMENOLOGY
SEMIOLOGY
PLACE THEORY

SYMBOLISM AND MEANING
FORM AND EXPRESSION

ICONIC
CULTURAL
MEMORABLE
ARTISTIC

OBJECTIVE

- encourage public integration
- create architecture that relates to the people's cultures and society
- promote learning / skill guidance
- incorporate the different music genres
- an opportunity for urban development

LINKAGE
DESIGNING LOST SPACE
SPIRIT OF PLACE



CLIENT ORGANIZATION

THE CLIENT

The client for this project is The KwaZulu-Natal United Music Industry Association (KUMISA). This is an organisation whose goal is to serve and represent the interests of the music industry in the province of KwaZulu-Natal, nationally and internationally. Some of the important facets of KUMISA are their goal to create platforms for the KZN music industry to promote and showcase their work.

The organisation, additionally, promotes learning and offers training to the young generation which may have an interest in the relevant disciplines. This is achieved through workshops and seminars as they encourage the development of a music precinct, music festivals and live music venues. This is an artistic organisation: therefore expression and innovation are also a priority.

DETAILED CLIENT'S BRIEF

The members of this organisation have identified the need to break the cultural boundaries which exist in music and a creation of a public place that expresses those cultures. KUMISA has requested a music complex for the City of Durban, as the first phase of the project, in order to encourage public integration. This is an important aspect in the city and is further emphasized by Marshall (2001: 3) who sees the need to align the ideas for appropriate urban form with the current reality of the people's cultures and society. In view of the client's requirement he says:

"The city is a physical container of our culture, as such; it is the expression of us."

(Marshall 2001: 3)

This project enhances and reconnects the harbour with the city and creates an opportunity for further urban development. This further development falls in the category next phases of the project. These phases include the greening of major streets which are linked to the harbour. In terms of further urban development, the client requested a development for the harbour edge starting from Wilson's Wharf to the Bat Centre. The client also requested that the greenbelt along Victoria Embankment (Magaret Mncadi) be incorporated in this development, in order to redefine the lost space and create a waterfront edge. These requirements, as a result, ensure linkage to the harbour which forms one of the activity nodes of Durban. This development not only revives the harbour, but also creates growth to the existing Bat Centre, theatres and galleries.

According to the client's requirements, the music complex (phase one) should not only showcase local and international performances, but also promote learning through

SITE ANALYSIS

As pointed out earlier in this document, the main aim of this dissertation is to explore the relationship between compositions and social aspects of music and architecture. Findings will, therefore, be implemented in the expression of the proposed building in the context of Durban.

The city of Durban is expressed in a formal grid. In this grid created through a series of commercial, residential and retail blocks. These blocks are also inclusive of public transport facilities, sports precincts and public open spaces.



SITE SELECTION CRITERIA

The three sites were chosen on the basis of the objectives of this dissertation. These sites will be assessed in terms of the following criteria:

- Context: nodal linkages, social context, views
- Accessibility
- Physical Landscape
- Landmark/ Iconic Potential



SELECTION CRITERIA

- weak ★
- below average ★★
- adequate/average ★★★
- good ★★★★

CRITERIA	SITE OPTION 1	SITE OPTION 2	SITE OPTION 3
CONTEXT	★	★★★★	★
ACCESSIBILITY	★★★★	★★	★★★
PHYSICAL LANDSCAPE	★★	★★★★	★
LANDMARK /ICONIC POTENTIAL	★★★	★★★★	★★
TOTAL	11	13	7

PRECEDENT STUDY

FORM AND STRUCTURE

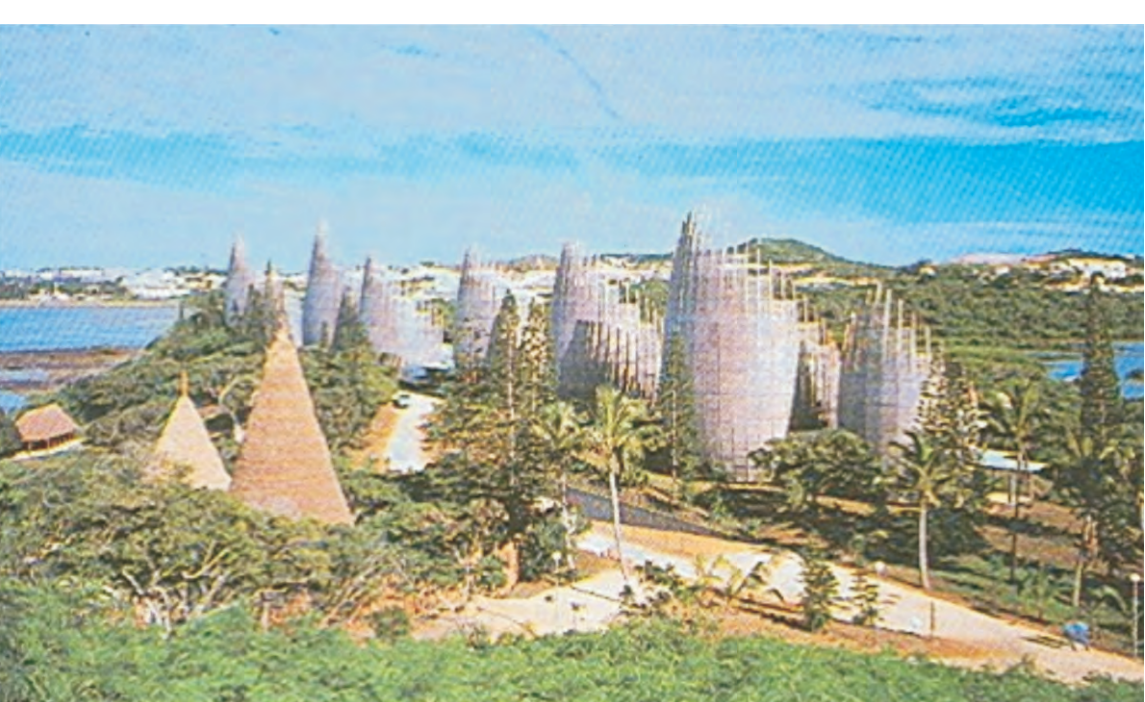
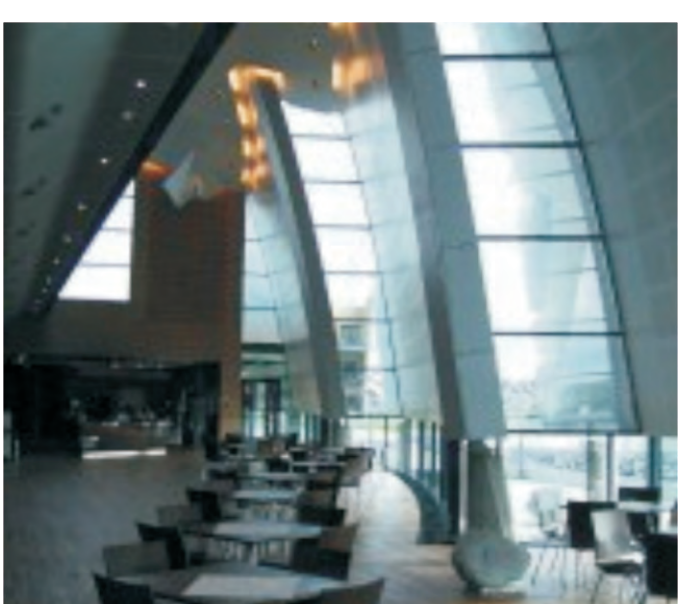
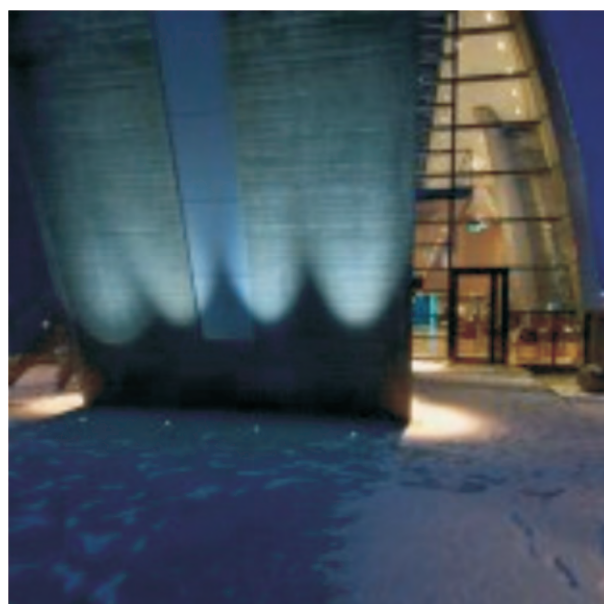
Gerrard (1993: 21) introduces the term 'form of expression', in his research and describes it to be a patterned way in which architectural substance is constructed and recognized. This is a vital aspect of architecture, particularly where iconism is the primary aim. Form in architecture refers to the outward shape of a building to which a reference is made. (Gerrard (1993: 24)

ARCHITECTURE AS AN ART

"The tectonic language of architecture, the inner logic of construction itself, expresses gravity and structure, the language of materials as well as processes of construction and details of joining units and materials to one another." (Pallasmaa 2009: 113)

EXPRESSION OF CULTURE AND MEMORY

Culture exists in every group of people or community and is practiced globally. Kelbessa (2008: 357) says that human beings have the ability to tell a story of their past through the expression of their rich potentialities through their diversity of cultural, political and symbolic forms. Pallasmaa (2005: 72) says that in memorable experiences of architecture it would be discovered that space, matter and time unite and form the basic material of existence.



SCHEDULE OF ACCOMMODATION

RECEPTION

- entrance foyer
- exhibition space
- offices (administration)

PERFORMANCE

- concert hall/ theatre stage area
- ticket counter
- rehearsal rooms
- changing rooms
- amphitheatre

TRAINING

- workshops/ seminar rooms
- recording studios

LEISURE /ENTERTAINMENT

- jazz lounge
- coffee shop/ restaurant

SERVICES

- ablution facilities
- storage space
- delivery
- parking bays

WILSON'S WHARF

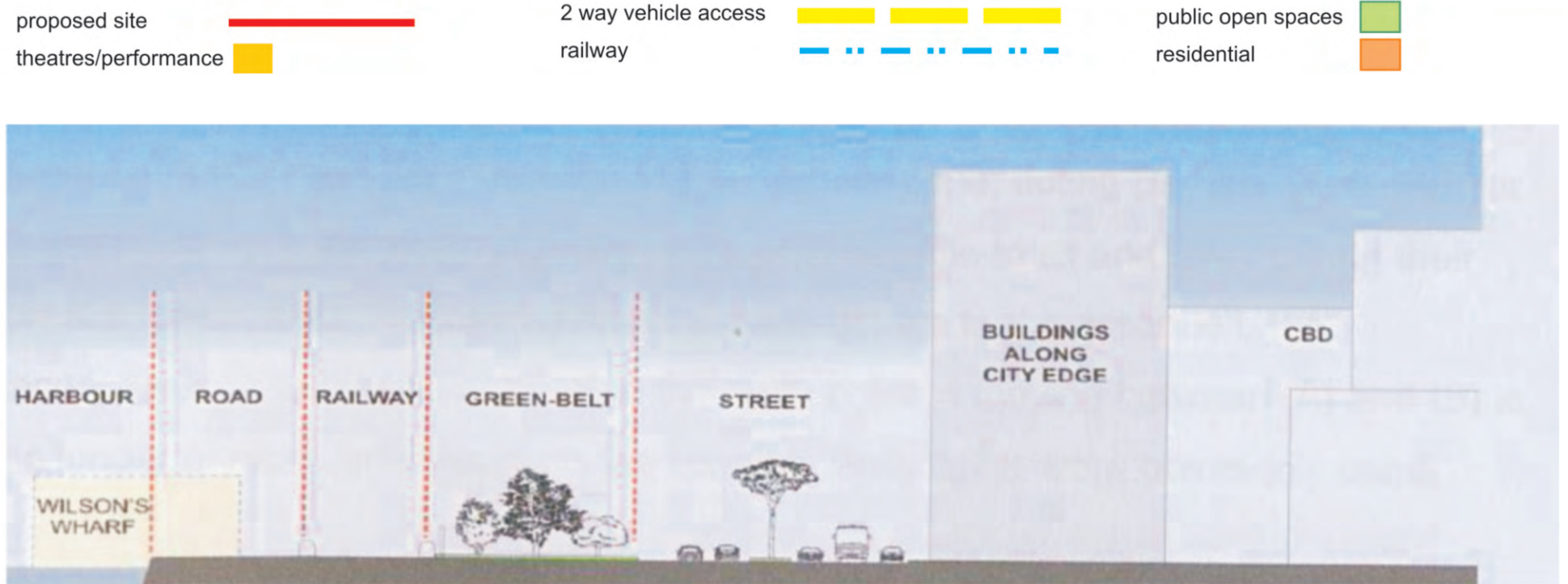
Wilson's Wharf consists of a number of retail outlets, a restaurant (Zacks), a theatre (Catalina), offices and a limited amount of parking bays. As much as it would work successfully as an activity node it has some disadvantages which may become opportunities for the proposed developments

ADVANTAGES

- views of harbour: an interlink of architecture and water
- linked to relevant social& cultural nodes
- close to residential blocks
- opportunity for revitalization of dead public open spaces

DISADVANTAGES

- detached from the city
- indirect accessibility



MUSICAL EXPRESSION IN ARCHITECTURE : A PROPOSED MUSIC COMPLEX FOR DURBAN

NOKUTHULA NGCONGCO

SITE ANALYSIS

WATERFRONTS

Marshall believes that former industrial waterfronts are underutilized parcels which have been isolated from the rest of the physical, social and economic activity that may occur in the city. The same has been experienced with the chosen site based on the analysis (Marshall 2001: 17).

"How can these isolated parcels be configured to make connections between older city centres and the water's edge?" (Marshall 2001: 17)

"The best districts build on a classic formula—small blocks, pedestrian scale, active uses at the corners, business that spills out on the sidewalks, and outdoor gathering spaces," says Nate Cherry, vice president/director of planning and urban design in the Los Angeles office of RTKL.



proposed site linkages green belt
proposed development proposed views greening

CONCEPTUAL FRAMEWORK

INTERGRATION AND MEMORY: A memorable place will be created through architecture and music.

The concert hall and the amphitheatre will be linked as they would form the centre of the building.

The gallery will not only house historical content of music, but will also curve around the amphitheatre. This would make the amphitheatre, where most of the cultural music will occur, form part of the exhibition.

MOVEMENT: A common quality in architecture and music. Principles such as rhythm and hierarchy will be made use of in order to express this quality and an iconic building.

Music will serve as a tool to enhance the quality of spaces.

"...for our relation to space finds its direct expression in architecture, which evokes a definite spatial feeling instead of the mere idea of possibility of movement in space."

(Forty 2000: 260)

"...expressive music may bear a resemblance to motion of the human body..."

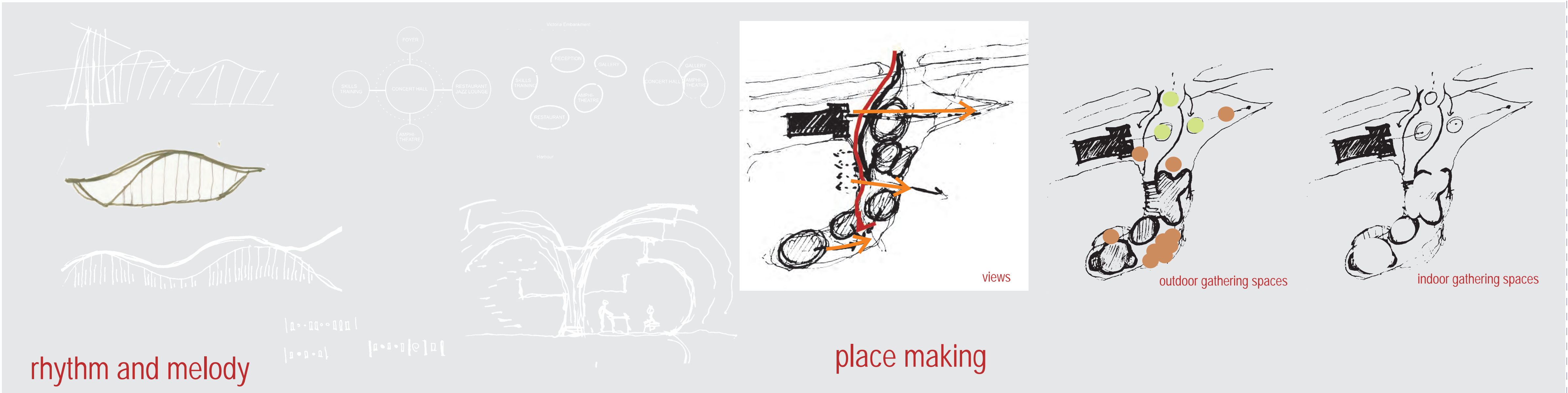
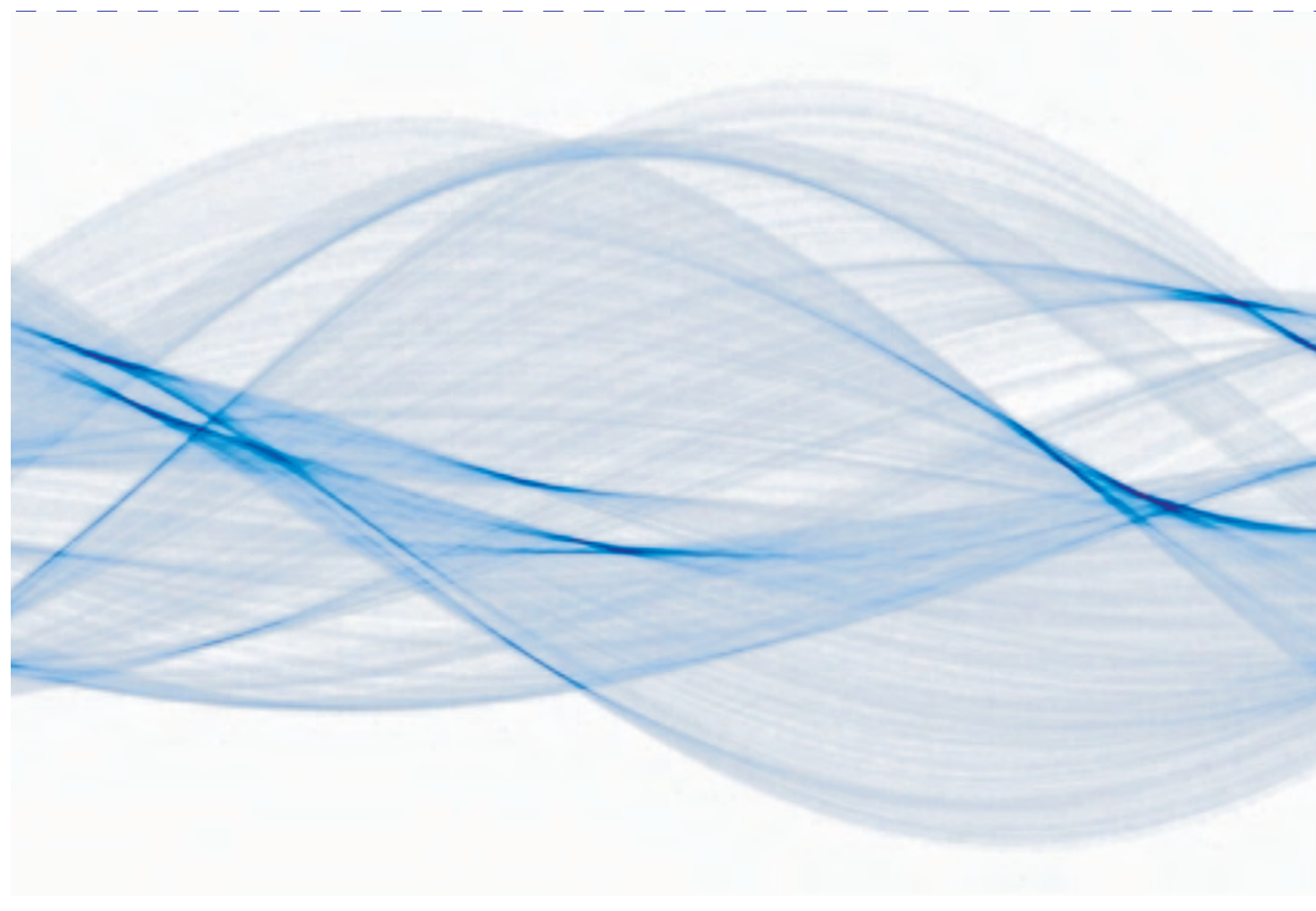
(Kivy 1989: 53)

"...architecture serves as a potential stimulus for movement, whether it is real or imaginary... architecture is in dialogue with the body."

(Yudoff 1977: 59)

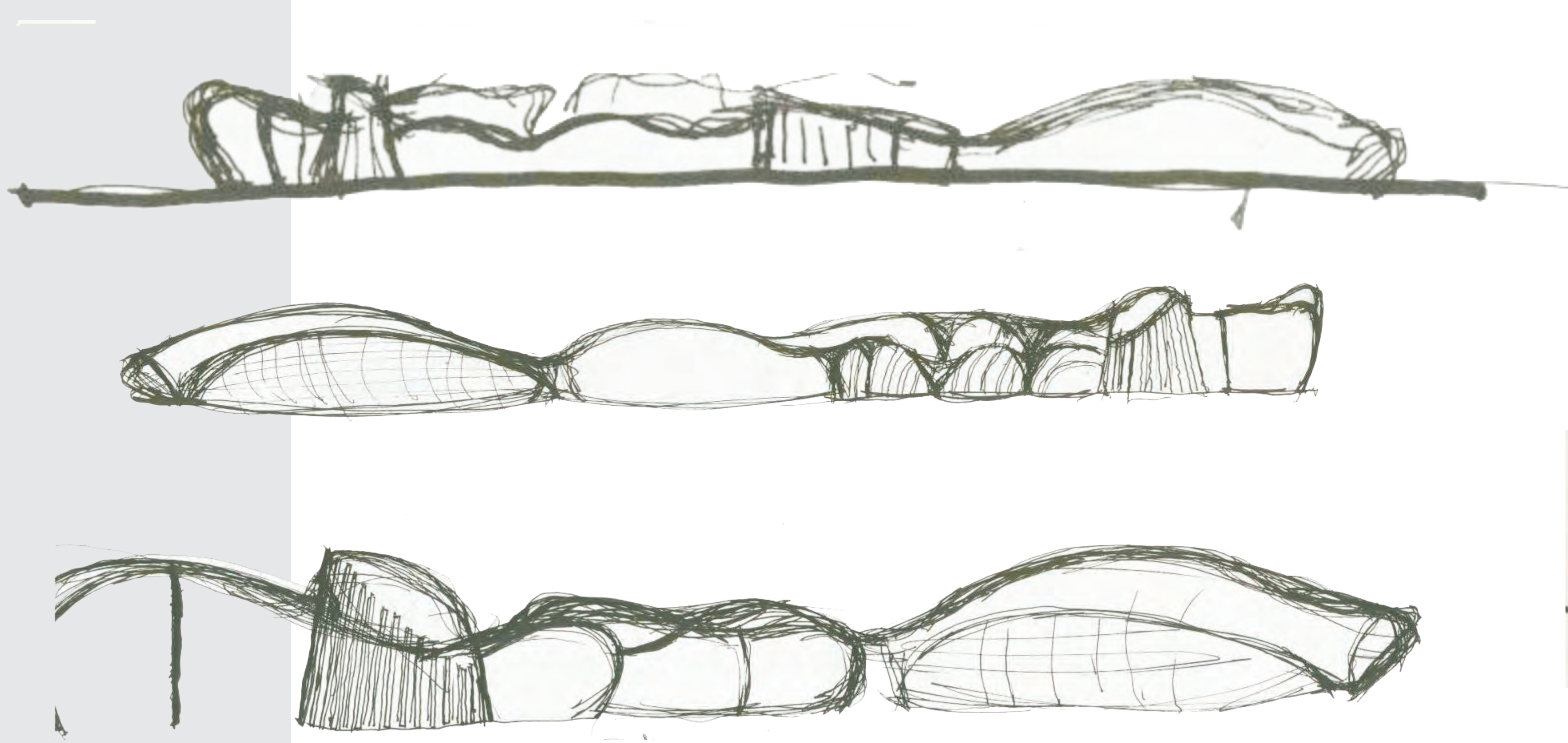
rhythm is defined as the pattern of movement, grouping of sounds in time.

rhythm includes all the aspects of musical movement as ordered in time, as opposed to the aspects of musical sound which is conceived as a pitch and timbre. rhythm always works together with harmony and melody • in order to create a composition (Randel 1986: 700).

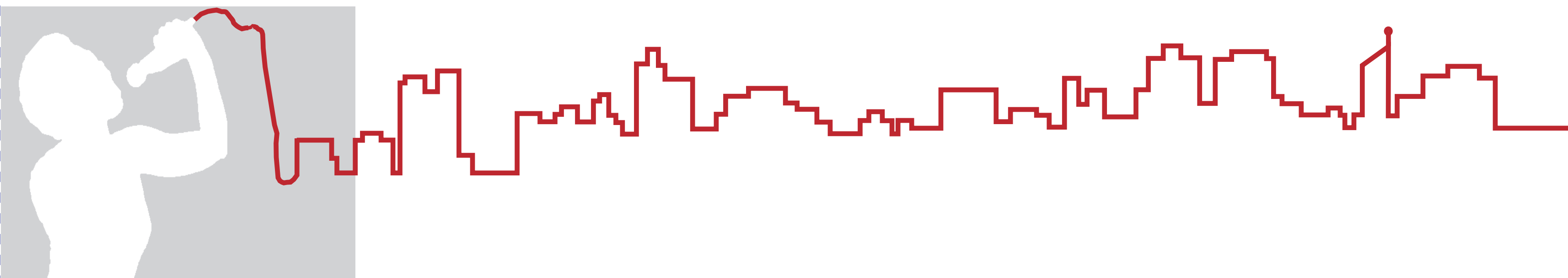


rhythm and melody

place making



repetition and gradual rise



MUSICAL EXPRESSION IN ARCHITECTURE : A PROPOSED MUSIC COMPLEX FOR DURBAN

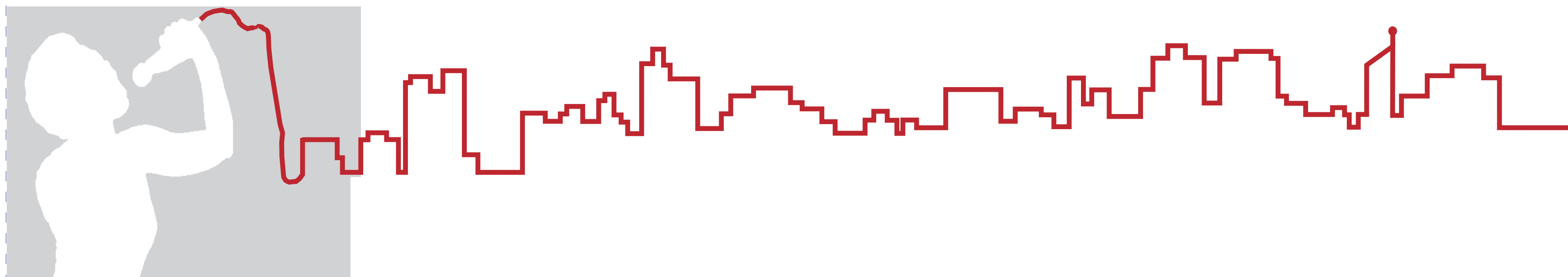
NOKUTHULA NGCONGCO



SOUTH EAST ELEVATION



NORTH WEST ELEVATION

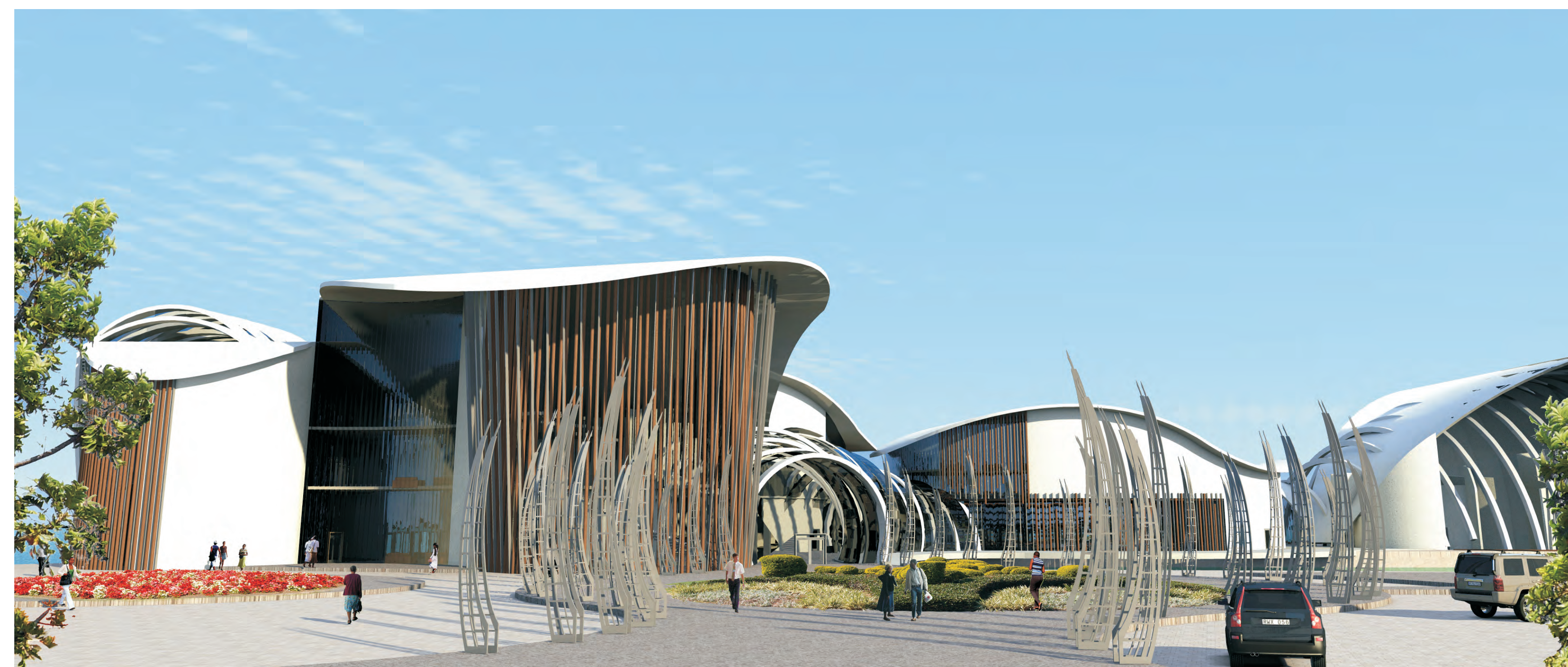


MUSICAL EXPRESSION IN ARCHITECTURE : A PROPOSED MUSIC COMPLEX FOR DURBAN

NOKUTHULA NGCONGCO



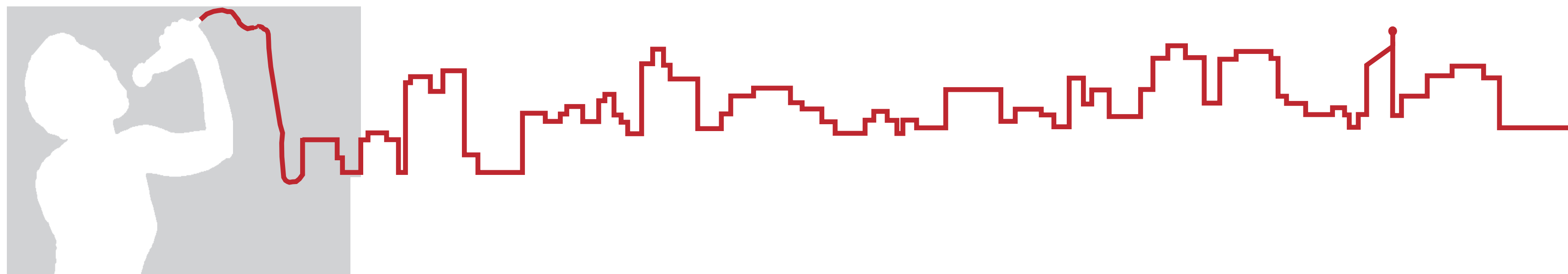
View from north west showing



View from drop-off point or circle

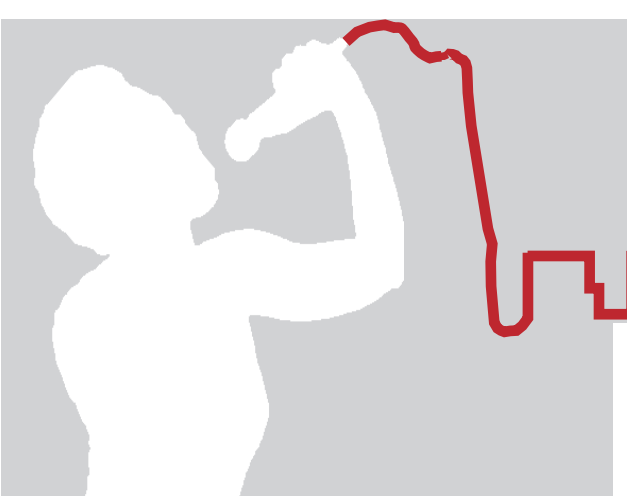


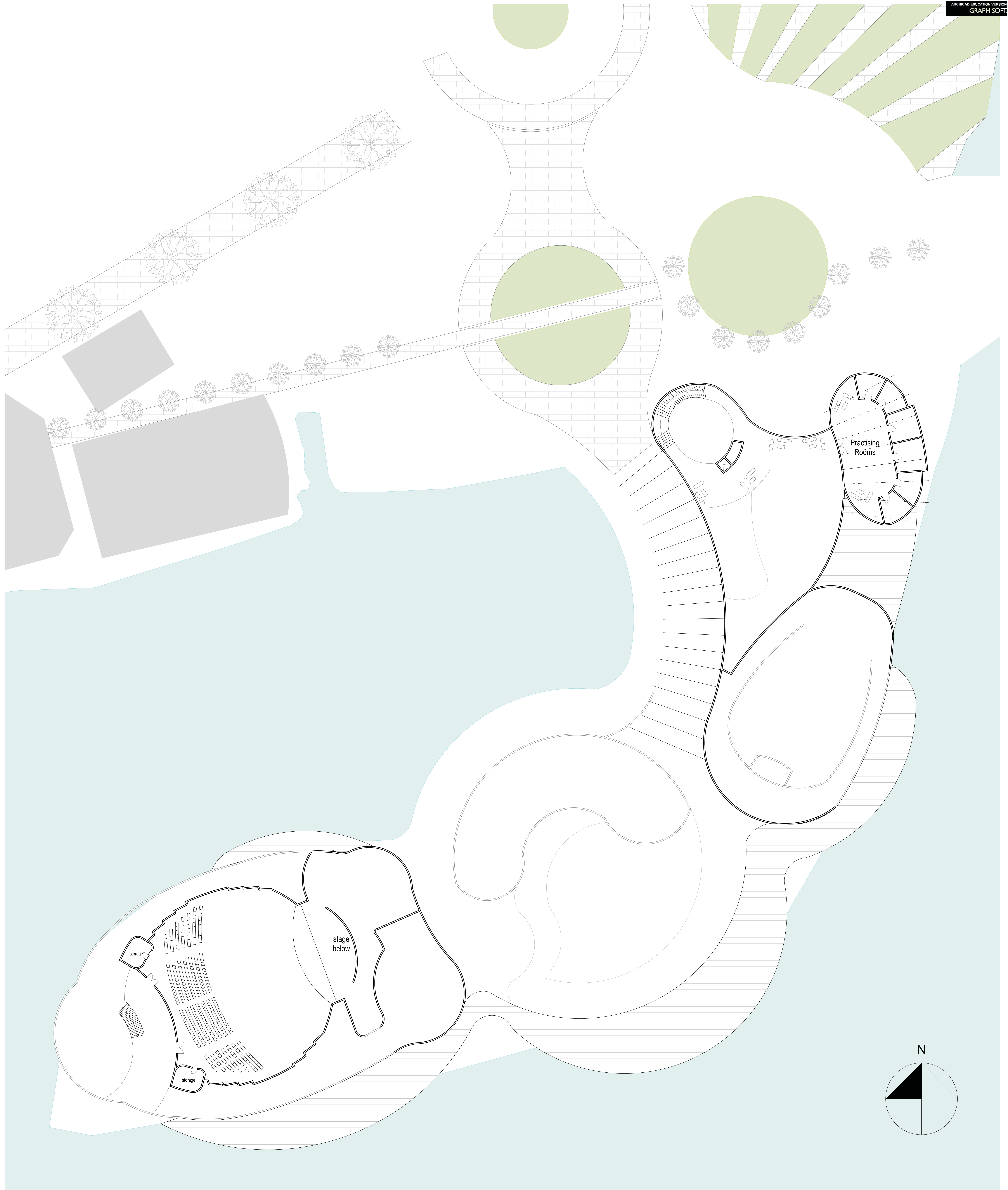
View from South, showing deck





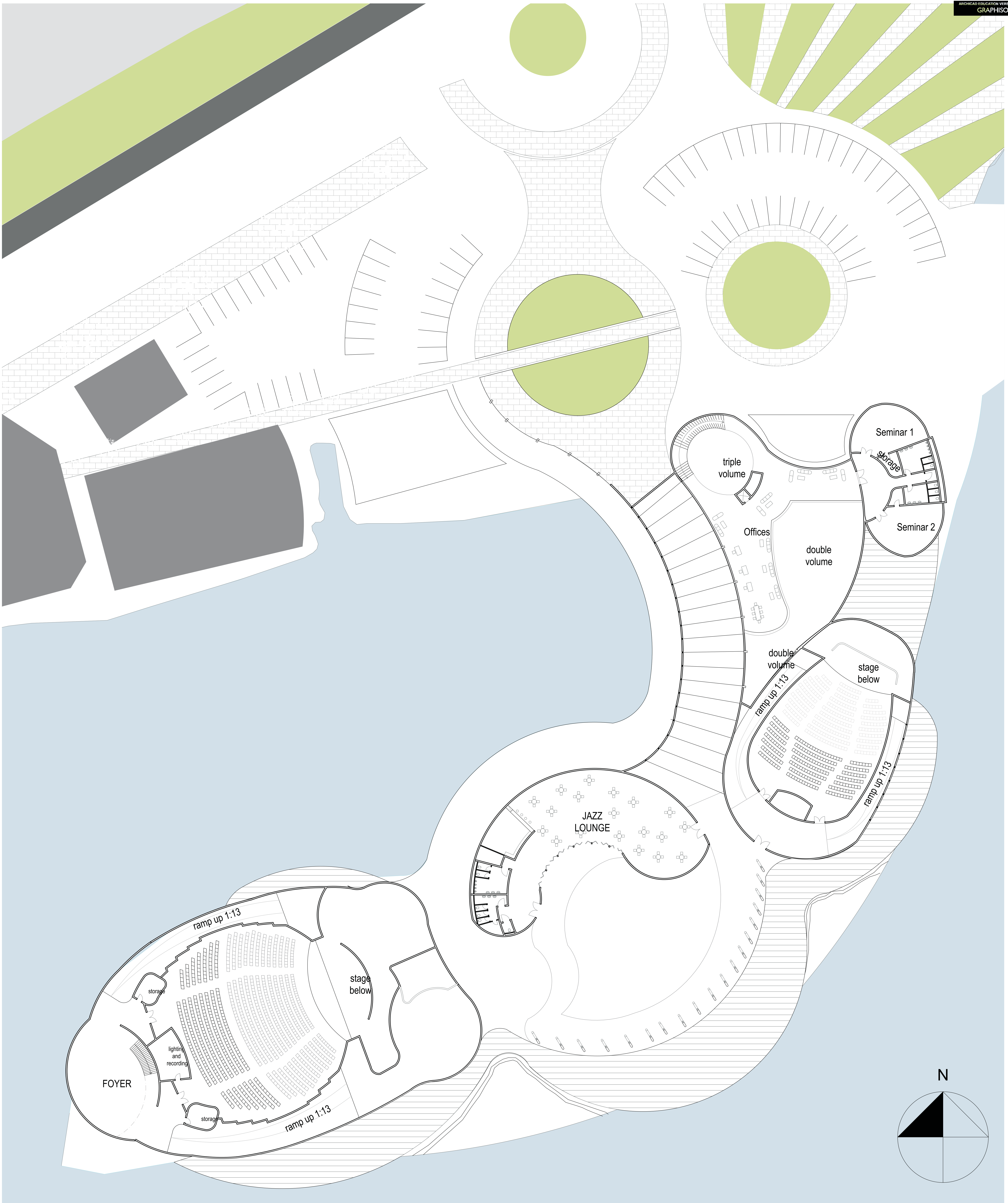
GROUND FLOOR PLAN 1:200





SECOND FLOOR PLAN 1:200





FIRST FLOOR PLAN 1:200

