

Music and Architecture:

**The integration of music and architecture as a strategy towards the
revitalization of public urban space within the city of Durban**

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A dissertation submitted to the School of Architecture,
University of KwaZulu-Natal, Durban,
in partial fulfilment of the requirements for the degree of
Master of Architecture

March 2007

D e c l a r a t i o n

I hereby declare that this dissertation is my own unaided work. It is being submitted to the School of Architecture, Town Planning and Housing, University of KwaZulu-Natal, Durban, for the degree of Master of Architecture, and has not been submitted before for any degree or examination at any other University.

A handwritten signature in black ink, consisting of stylized initials followed by a long horizontal stroke.

Signed by me this 15th day of March 2007

"There is only one thing to do when you have gone too far ... and that is to go further." Jean Cocteau

A b s t r a c t

As it stands, the city of Durban appears to contain many public urban spaces that are currently underutilized, and as a result have become dead or lost to the city. The aim of this project is to investigate the likely factors behind this problem, and then subsequently to explore the realm of music as a potentially new dimension towards facilitating revitalization within such spaces. The argument unfolds such that as music possesses the capacity to influence human emotion, and emotion impacts on one's feeling, and in turn perception of the experience, they incur within a space, theoretically therefore, at a certain level, human perception of a space can be manipulated by music. As architecture is the key to shaping the physical environment and the experiences within it, incorporating the influencing factors of music within architectural design, could assist in redefining the perceived properties of a correspondingly designed space. Thus an integration of music and architecture can serve as a combined medium through which dead urban space within the city may be revitalized.

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Acknowledgements

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Shaun Coleman
Durban, March 2007

Introduction

"Every building I have admired is, in effect, a musical instrument whose performance gives space a quality that often seems to be transcendent and immaterial." (Libeskind, 2002)

Sound is everywhere. A world without sound is a world without depth (Hungerford, 1995), no more than a series of surfaces – a body with no soul. These sounds constitute the very essence of music, an entity with the capacity to mediate at an emotional level between humans existing across all social groups (Storr, 1992: 16).

Music plays a large part in the everyday lives of most individuals, not meant simply in terms of digital playbacks and performances, but rather in terms of one's personal interpretation of what comprises a collaboration of pleasurable sounds that may be appealing to that individual. What may be defined as music is arguable. To some, the ticking hand of a clock may instil a melodic property that is redefined as a pleasurable musical beat in their minds; however to others, it may seem nothing more than a monotonous aural irritation. Similarly, architecture poses a debatable question: When is a building architecture, and when is a building just a building? What defines architecture? Both music and architecture are susceptible to differing opinions and preferences, dependant on the individual experiencing it.

The project covers three main entities – architecture (and its connected space), music, and emotion. Each one is an integral leg of a triangle, affected by the other two. Emotion is the primary factor concerning a person's response to a particular experience at a given time; music (or sound) is the influencing factor that manipulates which emotions are to be experienced; and architecture is the factor that generates the physical environment enabling the experience to occur.

The project sets out to investigate the concepts of architecture and space, and music and emotion, individually, before fusing and discussing them as an integrated body. Initial argument undertakes to define positive space, and investigate the role of architecture in preventing the creation of dead and underutilized areas. It also examines the properties of music, and its ability to interact at an emotional level with

the human mind. Ultimately, the integrated entity of architecture and music, explores the capacity to manipulate and distort human perception and emotion within a space.

The next section of the project focuses upon critical analysis, using a number of examples, in support of the argument that emotion, through music, can be incorporated into architecture to alter the environment of a space. Frank Gehry's *Experience Music Project* (2000) explores the visual portrayal of music through architecture, while Coop Himmelblau's *Forum Arteplage Biel* (2002) investigates how emotion could be integrated into architecture and influence the mindset of a person experiencing that space. Lastly the stage sets of Mark Fisher explore how the correlation between visual and aural environments can enhance a spectator's emotional experience, and thereby manipulate their perception of a true space.

Finally this analysis brings its findings to bear upon two selected sites in a case study of Durban. The first, Victoria Park, an underutilized public green space located behind an array of prosperous hotels along Durban's beachfront; the second, a deserted green-belt strip along Victoria Embankment between the city's edge and the harbour. Both these sites are examples of public spaces within Durban's city centre that have become lost to the city.

Various authors of related works have influenced the project, in particular Peter Grueneisen who discussed various interrelationships between sound and space; and Juslin and Sloboda (ed.), who investigated connections between music and emotion. Together with others disclosed in the research, the theories uncovered by these authors primarily, have been seminal to my work.

Research Problem

The city of Durban, it seems, can present a broad spectrum of public spaces, many of which appear to be underutilized. As a result of poor city planning, many of these spaces have become deserted and subsequently precarious environments, leading ultimately to becoming 'dead' or 'lost'. Music, in contrast, appears to remain a constantly active interest to most people, with Durban being no exception. The aim of this project is to investigate a potential means of revitalizing these dead spaces, with music being explored as the possible key in this strategy.

Research Questions

Architecture shapes the built environment, an experience that all persons are given to interrelate with. This project investigates planning decisions that ultimately lead to dead spaces, and provides alternatives on means to avoid them. What is it exactly that defines underutilized space, and how does this differ from positive space? The analyses of Durban ask these questions in search of the reasons behind the formation of its own underutilized spaces, and how they could have been avoided.

The link between music and emotion is also explored extensively, questioning the connectivity between the two. How and why is music able to stimulate human emotion, and to what extent can this be manipulated?

The project examines how music, and subsequently emotion, can be integrated into architectural design. What does music have to offer architecture, and by what means can it be potentially executed? Can emotional deception change how one perceives a space to be, and if so, could one specifically design a space to result in a predetermined emotion? How much can the human mind be manipulated by the visual and aural environment surrounding it, and to what level could it be controlled?

Hypothesis

Music has the ability to relate to people at a psychological level, which in turn can manipulate the emotion they experience. A unity across all varieties of people can be derived from this, regardless of their differing backgrounds, purely stemming out of a stimulated emotion they all share. The use of music within architectural design - be it the form of an added aural dimension, or in the physical expression of musical structuring and principles, can form an integrated tool which together can manipulate the perceived experience of a space. This can be used as a possible strategy towards warping the perceived experience in underutilized spaces within Durban's city centre, and revitalizing them into functionally active spaces.

Conceptual and Theoretical Framework

Given the nature of the project, much of the argument is theoretically driven, and therefore adopts a conceptual-theoretical approach throughout. The precedent and case studies also encompass a degree of perceptual and existential approaches, particularly in their initial stages of analyses. Aspects of music and emotion are discussed, including the psychology of both; however these are not to be considered the fields of primary expertise. For the purposes of this project therefore, the argument is primarily concerned with the conceptual interplay between music and emotion.

Research Methodology

Primary research within this project includes first hand documentation based on personal analysis of current usage and patterns of public behaviour in the spaces of the case studies identified. Communication of this will be supported by personally produced graphic and photographic data.

Secondary information within this project occurs in the form of published studies and research obtained from a literature search. The research covers existing theories on architectural and urban planning design with regard to dead space, safety within an environment and relationships between building and public space, all upon which the case studies are compared against. Secondary research is also undertaken to establish various theories of music which are relevant to the study, particularly those stressing the emotional associations connected to it.

Secondary information is also used to acquire insight of the selected precedent studies through graphic, photographic and text media, however predominantly personal analysis of this information is reflected, the observations and remarks of which constitute primary research.

Definition of Concepts

Active space – A space that serves a function and is commonly utilized and inhabited.

Atmosphere – The mood or ambience created in a space.

Dead/ lost space – A space that is abandoned, not utilized and serves no function.

Environment – The impression of the setting and surroundings of a given space as perceived by a user.

Multifunctionalism – A space that offers more than one variety of function within its perimeter.

Music – A collaboration of sounds that form a tune or rhythm.

Music culture – The common interest of music shared across all social groups within a given area.

Perceived space – The apparent qualities and properties of a space as interpreted by a user.

Public urban space – Space freely accessible to the public within the city.

Social groups – Human categories covering culture, race, sex, age groups and income brackets.

True space – The real qualities and properties pertaining to a particular space.

Unity – The bonding of various persons sharing a common interest.

Concepts of Space

chapter 1

theoretical and conceptual framework

Multifunctionalism

Space is one of, if not the most vital instruments involved with people's everyday interaction with day-to-day life. It is all around us; it is not an escapable entity. Everything we experience occurs within a space of some sort, yet we largely pass it by subconsciously, unaware of any impact it transfers upon us. One tends to think of a "place" as containing certain qualities, often physical features or objects that can be seen, touched and described, however we often overlook the "space" which actually creates that place and the resulting atmosphere within it.

People are naturally drawn to spaces they feel more comfortable in, spaces that feel active and safe – referred to as "positive" space. Architecture concerns itself with the creation of positive space, in order to make the users of a particular space feel comfortable – or whatever alternative emotion is applicable or desired for a given scenario. So how does one ensure a space is positive?

Crosby (1965: 17) stated that *"old cities are all mixed up; housing, shopping, offices, workshops are all in the same street, often in the same building. This makes for that unity in diversity, the complexity which is the essence of living in cities. Once functions are separated, the city goes to pieces."* He refers to the combining of multiple functions to create a unity within a city, and within that unity derives a sense of positivity.

Nowadays, multifunctional (mixed-use) development is a widely known term or ideology perhaps, commonly referred to within architecture and city planning. However, in observing Crosby's words it is evident that the idea of using this concept as a means to sustain life in cities is not a particularly new one. This subsequently compels one to ask why it has not happened more abundantly over the past few decades. Is the concept flawed? Or is it perhaps that most cities have past the point of rectification?

Van Rooden (Grove & Cresswell, 1983: 11) suggests that the theoretical separation of living, working, traffic and recreation, which has been the implemented method of urban planning for many years, has resulted in an imbalance between living and recreation, as many forms of recreation are located far from the home. Van Rooden identifies recreation as being a vital component of people's lives, and goes on to state that of one's time not occupied at work or sleep, approximately 72% of it is

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chapter 1

theoretical and conceptual framework

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spent in or around one's home (Grove & Cresswell, 1983: 11). For this very reason, it makes sense that outdoor or public recreation should thus begin at the front door or street of one's home. This accordingly alludes to the ideology of multifunctional, or mixed-use developments.

Mixed-use development as defined by Schwanke (1987: 3), is characterized by: *"three or more significant revenue-producing uses (such as retail, office, residential, hotel/motel, entertainment, cultural, recreation) that in well planned projects are mutually supporting."* Further characteristics are the integration of these different components, both physically and functionally, and inclusion of uninterrupted pedestrian connections with this. But how can mixed-use development contribute to, and even more so uplift a city, or part thereof, as well as the people within it?

Active Space versus Passive Space

Different functions happen at different times of the day. People generally work during the day and return to their homes at night, with recreation occurring at various times within this, depending on its nature and targeted age group, as well as seasonal time factors. With separation of functions, spaces alternate periods of inactivity, i.e.: homes and surrounding spaces are left empty during working hours, then at the end of the working day when the homes are active again, the office component of a city become empty. This method of planning induces undesirable (dead) space within the city at different times (illustrations 1- 2).

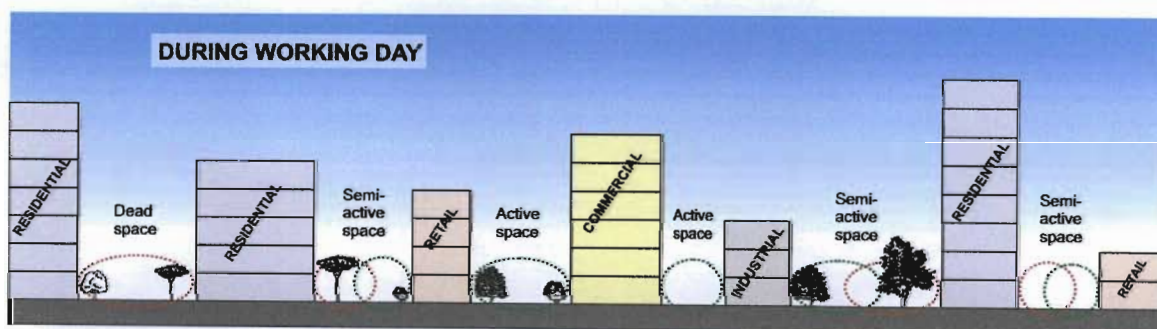


Illustration 1: Separation of functions during a working day, showing dead spaces forming between residential buildings as occupants are at work.

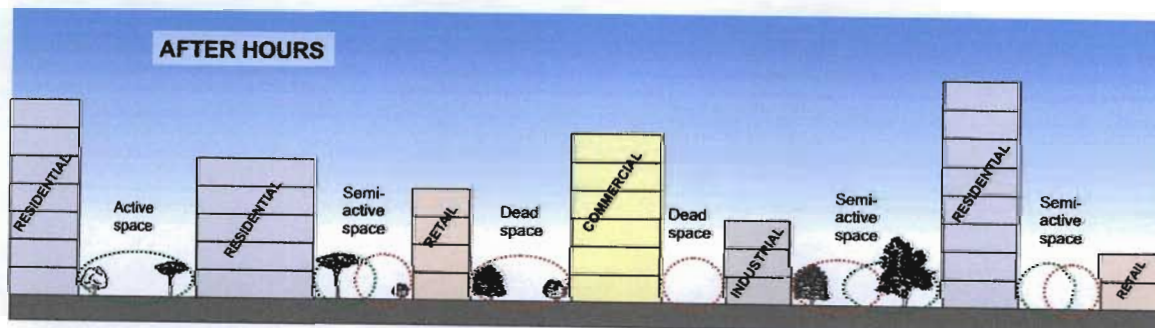


Illustration 2: Separation of functions after hours, showing active spaces between residential buildings, but dead spaces between business buildings.

From the above illustrations one can see that between the alternating active and dead spaces, there are semi-active pockets of space that remain constant. These occur where spaces lie between both a residential and business component, hence where overlapping of functions occur.

Multifunctional development performs to combine such functions together so as to create an active, hence positive space both during and after working hours (illustration 3) – something that monofunctional planning doesn't allow.

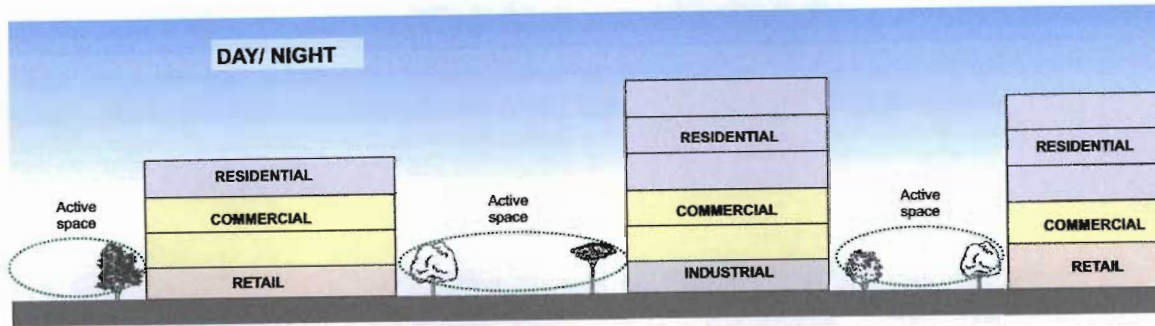


Illustration 3: Integration of functions into one building results in all spaces between buildings being active both during and after working hours.

Success in multifunctional development planning lies firstly in that it affords multiple reasons for one to be in that space, thereby receiving capital income at multiple levels; and secondly, it acts as a precautionary backup where if one of the functions is ill-suited to the location for any particular reason, the development still has the remaining functions to rely upon to maintain an active environment. Theoretically this ideology minimizes the potential for a space to become underutilized.

A key trend in designing mixed-use developments is the increasing emphasis on attractive public spaces and outdoor settings, and as a result, many that are now being developed or planned include significant open space and outdoor public areas (Schwanke, 1987: 320). In order to preserve large cities and their inhabitants, attention must be given to providing recreation in the direct vicinity of residential neighbourhoods (Grove & Cresswell, 1983: 11). Smart (1981: 176) suggests a travelling time radius between the site and its primary users should not exceed 15 minutes. This further supports the notion of combining all functions into one.

Theoretically, the concept of multifunctional spaces is already evident all around us. One sees it with people working from home, business meetings/work taking place in restaurants/ cafes, gathering at a bar with the primary intention of socializing rather than quenching their thirst, etc. These indicate additional activities occurring in places that they are not intentionally designed for. Hence the idea of multifunctionalism at both a small and a large scale appear to be the inevitable direction to follow.

Impact of Neighbourhood Quality on Space

The quality of a space is perhaps the most important and influential factor of any public space where human presence is desired. A successful public space is typically one in which people have a desire to be in. For this to be achieved, a space must necessitate certain requirements – safety, comfort, accessibility and fulfilment. These functions all influence people's emotional perceptions of a space, and subsequently initiate their corresponding reactions to it.

In this regard, the ideology of multifunctional development appears to be a successful option. As different people desire different qualities, this type of development seems typically suited as it provides a variety of functions within a single space, which can therefore appeal to a broader spectrum of people and their respective needs. Together with this, it allows that space to remain active over a longer period of time, thereby appearing more lively and positive, as well as increasing safety through natural surveillance from public presence.

Neighbourhood quality would seem dependant on a multitude of factors, amongst them: the quality of the surrounding physical environment; the accessibility of various public services to that area - municipal, commercial and recreational; and the level of disruptive behaviour and crime. The quality of a neighbourhood depends on all its constituents viewed as a cohesive whole, rather than individually. However, simply placing mixed-use buildings on a site does not automatically make the surrounding space desirable and safe. Lynch (1976: 22) suggests that people are more likely to maintain and defend an area if they feel that the territory in someway belongs to them. If they feel no attachment to it, they won't feel the obligation to maintain it, and will leave it for someone else to take care of. This can be observed in illustration 4, depicting a scenario of a street with a public walkway and buildings either side.

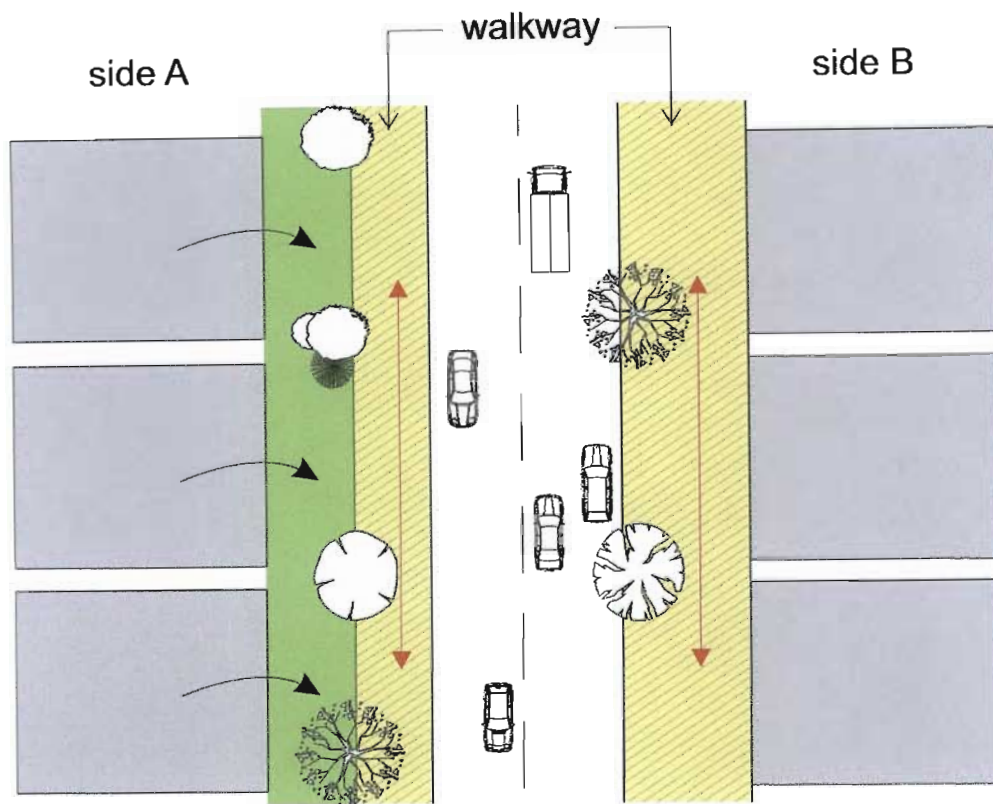


Illustration 4: Scenario comparing a sense of ownership between public space and a building, against a sense of disengagement.

The left side (A) pushes the public walkway away from the buildings by means of inserting a green strip between the two. With the public activity occurring on the walkway, the green space in front of the buildings appears to be an extension of the building and hence belong to the occupants, and according to Lynch's theory, they will feel more obliged to maintain it. On the right side of the street (B) however, the public walkway stretches right up against the buildings, and is more apparent that it is for public usage. The buildings don't seem to share any especially personal link with the walkway, and thus any obligation for them to look after the space is discarded. Even with mixed-use buildings, one needs to ensure a relationship exists between the building and the external space in order for them to work together successfully.

Relationship Between Building and Space

As with most things there is also a limit to ensuring positive relationships between a building and the space outside. Illustration 5 shows a section through Olympia Centre, a 63-storey mixed-use building, comprising 4 retail floors at the base, 18 floors of offices in the centre, and 39 floors of residential apartments at the top. Gehl (2001: 100) however suggests that it is only possible to maintain meaningful contact with ground level activity from the first few floors - anything and anyone above the fifth floor loses their connection with the ground level (illustration 6). With The Olympia Centre building in Chicago therefore - although functioning as a mixed-use building, due to its excessive height, the relationship between building and external space would reach a cut off level whereby the relationship becomes lost.

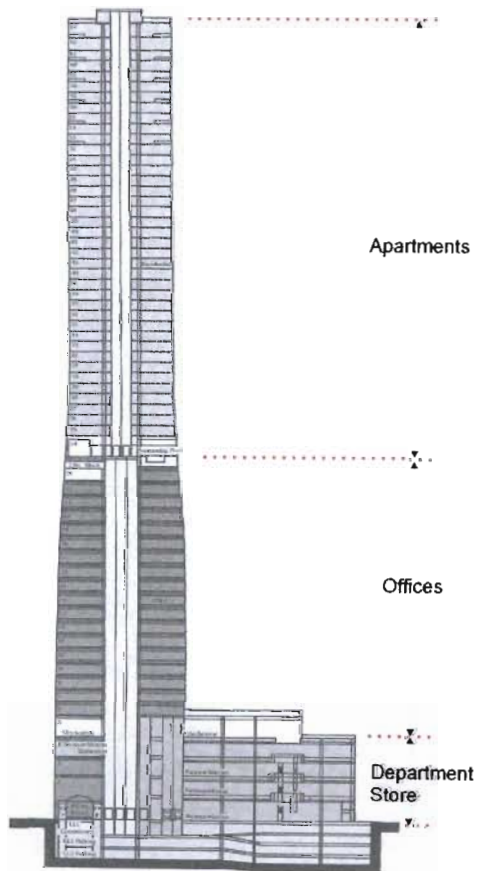


Illustration 5: Olympia Center, Chicago, a 63-storey mixed-use building, showing the common vertical arrangement of functions. (Source: Schwanke, 1987: 147)

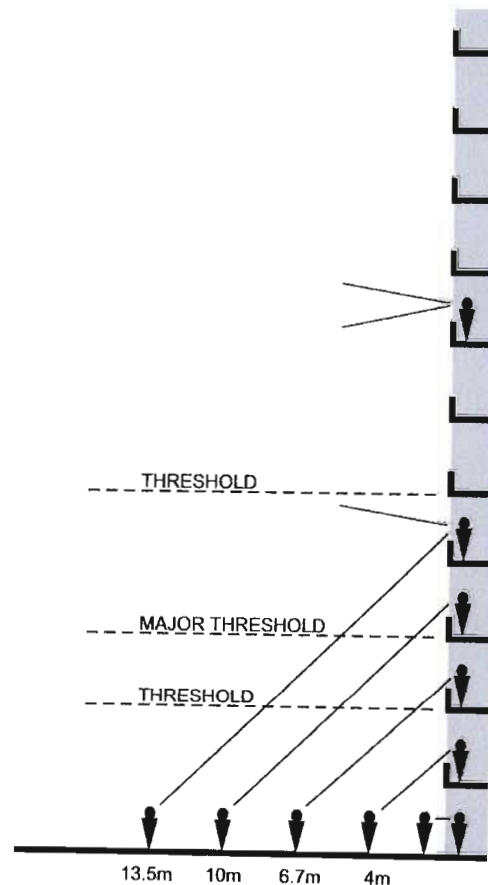


Illustration 6: Diagram showing thresholds of building heights to ground relationships. (Source: Gehl, 2001: 100)

With multi-storey buildings in particular, shadow-casting can have a strong influence on the setting of a space, and people's feelings inside it. It is thus also crucial to consider varying time frames whilst designing, to optimize the best building to space relationship. Time however refers to more than merely daily sun angles. French (Grove & Cresswell, 1983: 83), divides time into 3 categories:

- Daily movement – for example, the different positions of the sun over the period of a day, as well as the movement of shadows cast as result of that. Another would be temperature fluctuation throughout different parts of the day.
- Seasonal movement – the changes that occur throughout the year, particularly between summer and winter. For example, people desiring sun in winter; yet trying to avoid it in summer, also dry versus wet seasonal climates.
- As an epoch in human history – the fact that the world changes, as do our needs and interests. Life today would appear very different to life 30 years ago; hence the manner in which we use public space would also differ.

A major element of spaces between buildings in any city is the streets. Streets play an integral part in any city, yet are inherently dangerous and noisy which diminishes the quality of a space. So how then does one accommodate this component, while at the same time maintain a good quality space?

Crosby (1965: 41) argues that traffic is not important. What is important is how people live. We must establish a system of priorities. He dismisses the idea of cutting a few minutes travelling time if the result is an unsatisfactory environment at the end of it. People and their needs are the priority, and should be planned for accordingly. A vehicle is a luxury and its importance secondary.

"Streets are primarily places of transit, capturing public life in momentary pauses from a river of people in motion. The public place, on the other hand, is a destination: a purpose-built stage for ritual and interaction." (Kostof, 1992: 123)

Spaces should be designed for its inhabitants and streets should be designed in a manner that enhances this, not erodes it. Illustration 7 shows the design of a public

space created between two buildings, with streets either side of the space. While this may look attractive in plan, in reality the streets create a barrier crippling one's ability to pass freely between the building and the space. The space thus becomes isolated and dead.

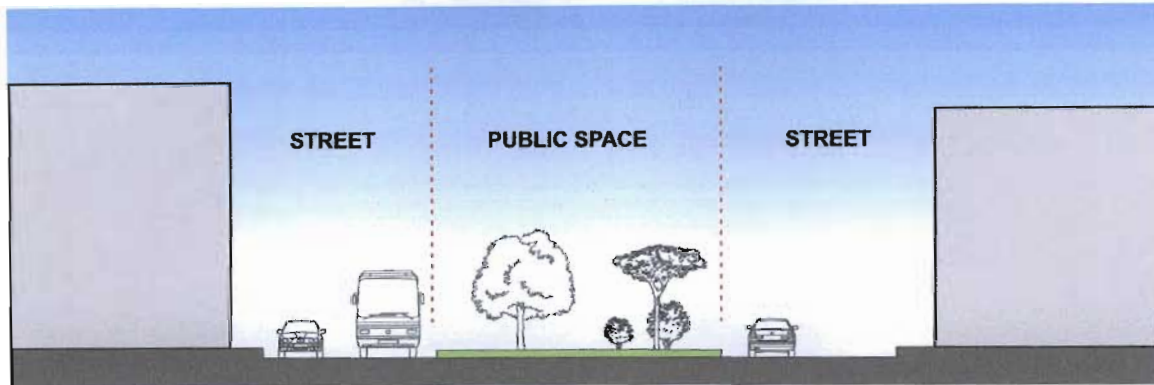


Illustration 7: Public space between buildings becomes dead space if access to it is cut off by factors such as traffic.

Illustration 8 shows an alternative to this, by placing the streets on the outside of the buildings. This allows the space to begin directly at the buildings edge, and possibly carried through into the building itself. The danger imposed by vehicles has been eliminated, along with the pollution – physical and noise, attributed with them. This also enhances surveillance over the space; thereby increasing its level of safety, and creating a more personal linkage between the space and the building occupants.

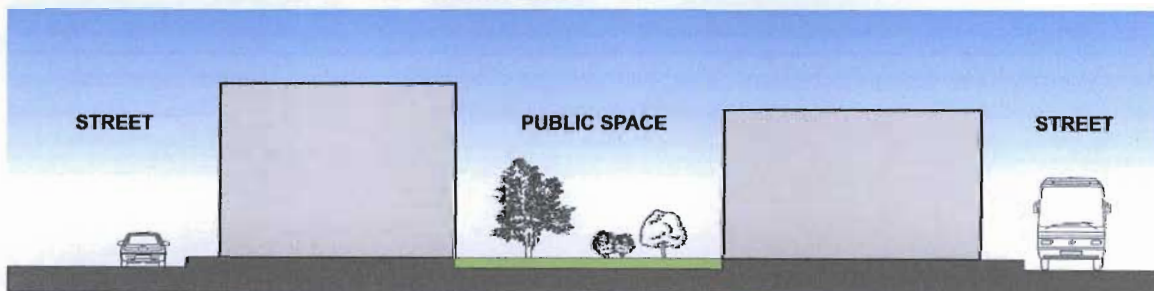


Illustration 8: Placement of the streets away from public space allows a safer, more pedestrian orientated space.

Although the public place itself in both scenarios could be identical in every respect, by merely manipulating the built environment around it, the actual space is able to arouse entirely different emotional perceptions within it.

chapter **2**

theoretical and conceptual framework

The Origins of Music

The word "music" comes from the Greek word *mousike*, which is itself derived from the word *mousa*, meaning "muse", which was applied to all disciplines of art over which muses were presumed to preside (Encyclopaedia Britannica, 1968). Music it seems has thus always been a subject formed around inspiration and expression.

Music has undergone vast transformations throughout history, not merely by means of its sound, but also its attached functions in the respective societies it has traversed. It is unknown of where the exact origins of music are derived. Storr (1992: 12) suggests it is likely that music derived as a means for humans to communicate, particularly emotions, before a system of distinct speech was recognized. This obviously did not assume the type of music that one is familiar with in this day and age, however was more likely to be a series of tones or melodious sounds which could function to convey an emotional typology. In many ways it may not have been that dissimilar to animal sounds of today. One hears many animals: birds, monkeys, dogs, etc. making different sounds to express information of some kind. A dog, for example, will bark loudly at an intruder as a means of intimidation or aggression, growl at another dog in close proximity to it to convey a warning of unease, or yelp and whine to express pain or discomfort of some kind. Although the dog has no language as such associated to it, it is able to vary tonal sounds to convey different types of emotion it experiences. From a human's need to interact emotionally with another, developed the ability for communication between them.

Another possible origin may have been that singing was discovered to be an easier means of communicating over long distances, as opposed to a series of individual words (Storr, 1992: 11). Less strain is put on the vocal muscles in conveying a singular flowing message in the form of a tune, than with a punctuated message of intermittent sounds. Stemming from this theory, derive suggestions that the origins of instruments were also introduced along the similar reasons, as an easier means of signalling and communicating with others, by use of horns and drums etc. (Storr, 1992: 12).

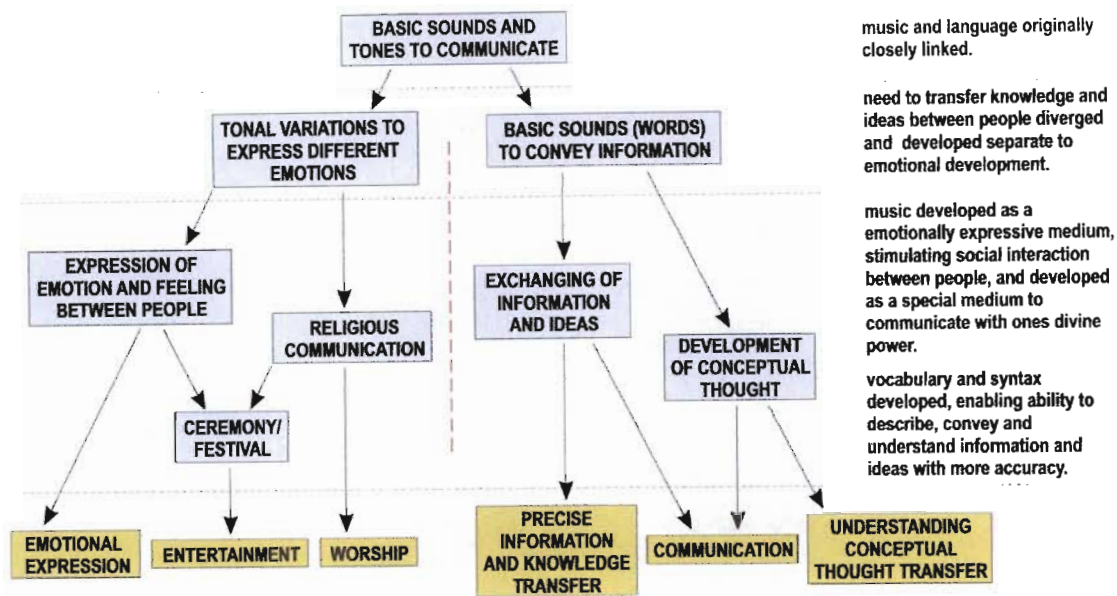
Apart from communicating with his fellow man, the need for a medium through which one may communicate with a divine power may also have possibly been a factor in the origins of music. According to Storr (1992: 17) speculation among some anthropologists is that vocal music was believed to serve as a special medium

through which one could communicate with the supernatural. This theory can be recognized throughout history across many cultures where singing or vocalized music forms part of a religious ceremony in exalting one's God(s). *"The profound meaning of music and its essential aim ... is to promote a communion, a union of man with his fellow man and with the Supreme Being."* (Storr, 1992: 17)

"We can perceive that language and music were originally more closely joined, and that it makes sense to think of music as deriving from a subjective, emotional need for communication with other human beings which is prior to the need for conveying objective information or exchanging ideas." (Storr, 1992: 16)

In his argument, Storr suggests that music and language were initially very closely linked, from where music, and then information both derived. If this is so, one questions then that if they were once so closely linked, how is it that today each can so easily be perceived as a separate entity? Storr (1992: 16) argues that while the two may initially have been closely interconnected, as man evolved, the two began to accentuate individual functions. As man's capacity for speech and conceptual thought developed, language became more objective, more precise, so as people could convey information and ideas more accurately, while music became more abstract and subjective, allowing it to be directed more towards an emotional and spiritual basis.

Illustration 9 is a diagrammatic breakdown of how music and language may possibly have derived from a single entity, based on Storr's theories. From its earliest beginnings, simple sounds and noises were used as a means to convey basic emotions between people, probably using different tones for different emotions. With man's evolution, the need to communicate non-emotionally related information arose, which subsequently marked the diverging path that led to language. With the development of language attaining a more rationally based structuring, music (tones) was thereby afforded the freedom to become more expressive and abstract. Music could thus be viewed as a special communicating medium through which he could fulfil his desire to communicate with the supernatural – be it religious bases or other. Man's emotional interaction led to social interaction, which together with religious purposes formed the basis of ceremonial celebrations, which would later lead to music as a source of entertainment.



MUSIC - CONTEMPORARY - LANGUAGE

- can be void of any words
- subjective
- abstract

- can be void of any emotion
- objective
- precise

Illustration 9: Diagrammatic breakdown of the possible origins of music, and its journey to contemporary society.

Today, music and language have developed to such a point that each has the ability to function completely independent of the other, as well as the ability to overlap each other. Music can take on a purely instrumental form whilst conveying emotion to the listener void of any human voice, and language can be scientifically transferred between people with no emotional or subjective attachment whatsoever (Storr, 1992: 16). While one can only speculate on music's true origins, it does appear that even from its earliest beginnings, music has functioned as a tool for emotional and social interaction between humans.

Music in Contemporary Society

"Music began by serving communal purposes, of which religious ritual and warfare are two examples. It has continued to be used as an accompaniment to collective activities; as an adjunct to social ceremonies and public occasions."

(Storr, 1992: 23)

As people and societies continually evolved, music seems to have long since kept its basic conceptual ideology behind its spiritual and religious bonds even to this day - evident in the likes of worship and various cultural rituals. The social power of music however started to become recognized and began to develop as a source that could instigate interaction and pleasure (together with other emotions) and subsequently developed its potential to serve as a source of entertainment. From being ascribed for particular events, celebrations and ceremonies, it diverged into a path that served a purely entertainment function independent of any other reason for it. This was recognized as a means of generating revenue, leading to persons paying fees in order to be entertained. Thus signs of capitalism entered the music realm.

In contemporary society, music has seemingly unlimited affiliations that extend into many areas of most people's everyday lives. We see interaction with music everywhere, from specially arranged performances, car stereo systems, movie soundtracks, joggers with music players, or even downloading music as ringtones for cellular phones; the list seems endless. Music nowadays has largely leant itself to become a marketing tool, and a major player amongst the world's capital industries.

The psychological usage of music can also be observed all around us. Just as armies historically would use song and instruments (drums, bagpipes etc.) to intimidate and instil fear in their opponents on battlefields, whilst inspiring confidence and unity amongst their own men; a similar concept can be seen on today's "battlefields" of the sporting world. Sporting teams and supporters alike, often have anthems and warcries to inspire the players in the team while simultaneously strengthening comradeship and patriotism within the supporters.

Just as music can be used as a tool to instil patriotism and unity, contrastingly it can also be used as negative expressionism. Musicians and listeners alike can now exercise music as a controversial weapon to express disapproval or disrespect upon

anyone or any entity they disagree with - government, police or anyone else they choose.



Illustration 10: An example of a music album designed around an anti-government concept. (Source: www.amazon.com)

With the United States' controversial decision to invade Iraq in 2003, many bands (particularly American) that disagreed with the decision, began to record "anti-Bush" (or similar related) songs in protest of the government's actions. This concept grew into a marketing strategy out of which entire compilation albums, such as "Rock Against Bush" (illustration 10) were designed, which launched direct verbal attacks on the U.S. government. Whereas 50 years ago acts like these might have seemed controversial, today they can be implemented with little if any concern being raised.

As much as the ancient Greeks referred to music as "as art which was woven into the very texture of their lives" (Storr, 1992: 14), music in contemporary society has become such an indulgence that there now exist entire television channels dedicated solely to music, such as MTV - Music Television (illustration 11). Channels like these, together with digital technology – DVD's, audio streams etc., have now created a new dimension in the music field; a visual conceptual link. While music in the past has obviously accompanied some form of visual experience, be it in witnessing the band or composer in play; contemporary music videos are not simply viewing the artist or band performing, they often add a fabricated storyline to the video (illustration 12), conveying a specific conceptual mindset upon the viewer, rather than merely a symbol representing the persons performing. The viewer is then left with a linked visual and aural connection when thinking of either individually.



Illustration 11 (above): Widely recognized logo of MTV in contemporary culture. (Source: <http://pub.tv2.no>)

Illustration 12 (right): A still-frame of an MTV music video, supplying the listener with a visual connection with the music. (Source: <http://logofreetv.org>)



Symbolism through Music and Sound

There's no doubt that sound is used as a symbol to represent and convey certain information (Grueneisen, 2003: 23). We can witness this all around us - the siren of an ambulance, the hooter of a vehicle, ringing jackpot bells at a casino – all of these use some form of sound to inform people of a particular action that is currently occurring or imminent. Human nature accustoms itself to these symbols, and recognizes what information is being transferred, and what action to take in response to that. Generally speaking, everyone of a reasonable age living in a city would recognize the sound of an ambulance siren, and have an understanding of what that sound belongs to; they would not misinterpret it as the sound of an ice-cream vendor for example.

Music similarly has the capacity to convey as well as contain information. Music has been used universally as an instrument of worship of some kind throughout history, as well as a means to express emotions as discussed earlier. Due to its complexity and subjectivity however, music as an information-relaying concept becomes more complicated than sounds, as one has to consider individual emotional perceptions within it.

Music has commonly been referred to as a universal "*language*", however Storr (1992: 50) disputes this description as an entirely misleading one. He argues that music is a cultural artefact, specific to a given culture at a given epoch in time. Just as different cultures create different languages, so to do they create different music. Furthermore, if music of one culture were derived from and specific to that culture, an outsider while he may recognize it as music, would not understand the meaning behind the music unless he was familiar with that culture himself. Budd (1985: ix) refers to music as being essentially "*the art of uninterpreted sounds.*" Different individuals can have different interpretations of the same piece of music, depending on their cultural perception of it. Music cannot serve as a single universal language in as long as cultures as diverse.

Music could better be described as an art-form, as it is often thought of being a symbol of one's state of mind or character, their outlooks on life and other forms of extra-musical phenomena (Budd, 1985: 104). Budd continues however arguing that in order for one thing to act as a symbol for another, the two items should contain a similar structure, or put differently: "*there must be a rule of projection that projects the structure of the one item into the structure of the other.*" (Budd, 1985: 106). If this were

to be so, then surely both the symbol and the object would have to contain emotion within their structuring, in which case how would one distinguish which was the symbol and which was the object? One item – the symbol – is easier to receive, while the other item – the object – is found to be more interesting (Budd, 1985: 106).

It is a subjective debate as to whether music does in fact contain or convey emotion. Initial premise might persuade one to think that it does, as people can feel themselves personally experiencing emotion whilst listening to music. In Budd's argument above, perhaps the listener is unable to differentiate between the two items, hence mistakes the symbol for the object initiating the corresponding reaction to the symbol instead. However, as Davies (Juslin and Sloboda, 2001: 25) argues, music itself as an entity is not sentient, so how could it possibly contain or convey any kind of emotion?

Davies suggests there are a few theories for this. One of which he also describes the music as acting nothing more than a symbol or sign (Juslin and Sloboda, 2001: 29). However it holds no actual relationship to the emotion itself, it acts purely as a key to refer to a particular type of emotion (illustration 13).

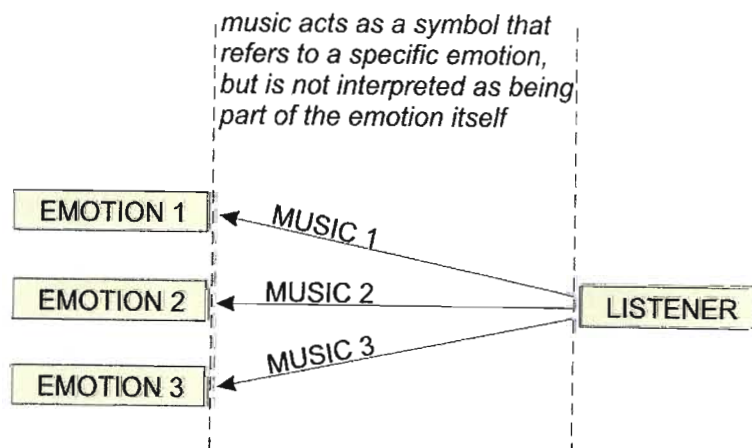


Illustration 13: Music denotes an emotion, yet is not perceived as a part of the emotion itself.

An alternative theory suggests that music refers to the emotions *"not within the framework of a symbol system, but as result of ad hoc, arbitrary designations and associations."* (Juslin and Sloboda, 2001: 29). This suggests that certain musical gestures or phrases may form salient links with particular emotions for whatever reasons, then further on in time upon hearing those same gestures or phrases (illustration 14), the attached emotions might be stimulated to resurface. The listener does not decipher the music from the emotion, thus giving them the impression that the music itself is containing or conveying the emotion.

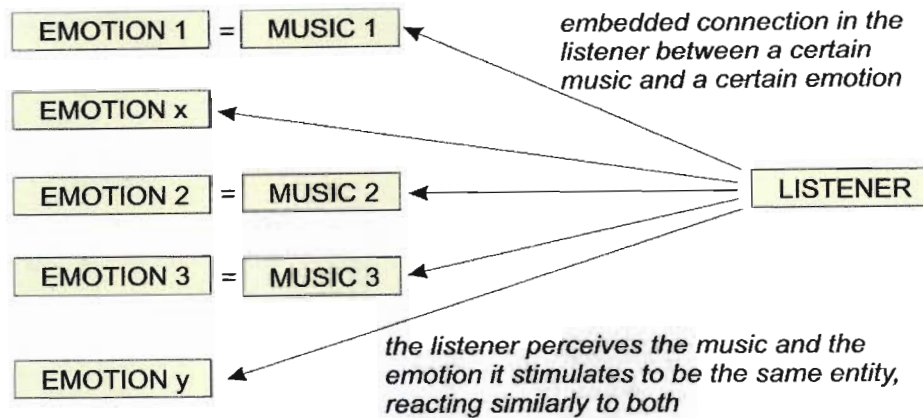


Illustration 14: Music is perceived as being part of an emotion.

Music acts as the medium, or tool through which the composer communicates with the listener. The composer undergoes an experience he wishes to convey upon the listener, thereby creating an item from which his desired emotional reaction can be simulated in others. It is the information that is transmitted; the message is not the medium (Budd, 1985: 122 - 3).

The subjectivity arises in the different manners in which different people, or groups of people, react emotionally to a given circumstance. Obviously at a micro scale each individual person is different, therefore reacts differently, but the same is so at a macro scale within entire cultures. Davies explains a contrast whereby one culture might view death as an occasion for sadness, while another would perhaps view it as an occasion for festive celebration (illustration 15).

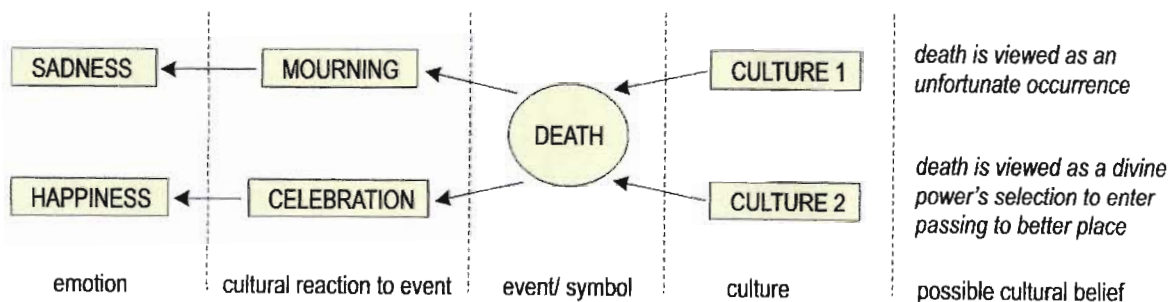


Illustration 15: Example of a common symbol initiating different emotions between differing cultures.

"Until one appreciates the belief systems that determine the significance of the social settings in which emotions are situated, and then recognize the connection of music with all this, it will not be a simple matter to read off expressiveness from foreign music." (Juslin and Sloboda, 2001: 37). For this reason, musical expression in a culture can often appear opaque to outsiders, much the same that music to different individuals is perceived differently.

Emotional and Psychological Effects of Music

Closely linked with the concept of conveying, identifying and interpreting information is the manner in which one reacts emotionally to what they understand. With simplified sounds this is easier, as they have developed into generally understood connotations attributed to them, as in the ambulance scenario mentioned earlier. The act of hearing the siren could instil feelings of sadness within one, as they understand that someone could be injured or dead somewhere, whereas with the ice-cream vendor one might associate the image of happy children buying their favourite ice cream, which might initiate feelings of joy or happiness within the listener.

Music on the other hand is much more complex and hence subjective to individual interpretation and subsequently the resulting reactions to that. Davies (Juslin and Sloboda, 2001: 37) investigates the ideology of the expression of a certain emotion being able to instil either similar or reactive emotions upon a listener. He questions why some listeners would respond to the sadness expressed in an instrumental musical piece with their own sadness. If an unfortunate event happened, for example the death of a loved one; one believes that event to be a sad occurrence, hence feelings of sadness are justified. However with a musical piece one does not believe there is anything unfortunate about the music, yet one mirrors the emotions it expresses. This however is not always the case Davies continues, *"another's anger is as likely to produce in me fear, or disappointment, or irritation, as it is likely to precipitate my anger"* (Juslin and Sloboda, 2001: 37). So why is it that certain reactions to some emotions are mirrored, yet others not? Furthermore, if this is so, then could one's emotions be premeditatedly manipulated under controlled conditions to make them feel or experience a preferred nature of emotion?

This seems possible to an extent, however not completely so. Davies describes emotion as containing no specific outcome, but rather the ability to direct a person experiencing it towards certain types of behavioural actions over others (Juslin and Sloboda, 2001: 87). For example, if a person were confronted with fear within a particular space, it seems a reasonably plausible possibility that they would seek to avoid enduring that stimulus by leaving that space, however with no predetermined plan of where to go to. Emotions thus have the ability to manipulate the likelihood associated with subsequent behavioural patterns.

Of course not all people react to, or even perceive emotions the same. A fear inducing space is just as likely to initiate apprehension in a person, to which they may feel the need to defend themselves, initiating aggression. Emotions and reactions to them are embedded within the mind, and vary between different individuals.

Illustration 16 shows a pictorial path of music to reaction, described below

(McLaughlin, 1970: 43).

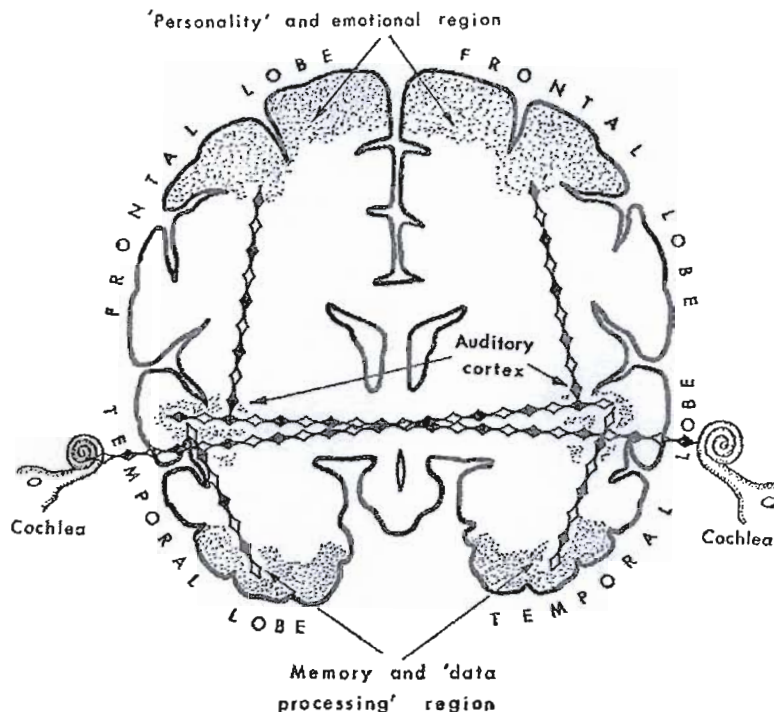


Illustration 16: Diagram showing the path of an aural stimulus to the reactive emotion.
(Source: McLaughlin, 1970: 43)

As the cochleae of the ears are stimulated by sound, patterns of electrical pulses are transmitted to the regions of the auditory cortex in the brain. From there they pass to the “*memory and data*” regions where they are interpreted based on the individual’s own understandings and experiences, and then to the “*personality and emotional*” regions where the corresponding reaction is determined. While the incoming sound or stimulus remains constant, it is at these points of interpretation where divergence across different individuals is initiated.

With its recognized connectivity with the brain, music is nowadays commonly implemented as a medicinal instrument to assist patients that suffer various forms of mental illnesses. Referred to as music therapy, Bunt and Pavlicevis (Juslin and Sloboda, 2001: 181) define the theory behind this approach as providing patients of all ages with an effective means of exploring and communicating a wide range of emotions. This method isn’t solely reserved for mental illness however, it is also

employed with patients suffering neurological problems, physical disabilities, learning disabilities, visual and hearing impairments to mention a few. Music thus appears to have an enigmatic ability to connect emotionally with the mind, where even verbal connections fail.

Although, just as music contains the ability to help people, so too does it contain the ability to be disturbing and negative. LaBelle (Grueneisen, 2003: 22) describes how, the unnerving music of Jimi Hendrix was used during the United States' invasion of Panama, to unsettle the enemy and draw them out of hiding and into the open in order to capture them.

Music it seems has the potential to impact positively and negatively on a human's state of mind; it can also be relayed upon any listener within hearing distance, with or without their consent. Thus, theoretically emotions can be persuaded in people to influence them towards one particular mindset over another. Juslin and Sloboda (2001: 142) suggest music also allows people to escape from themselves for that particular moment in time. The listener is able to identify with an alternative identity perceived by them to be projected by the music, temporarily affording them the opportunity to embody another kind of personified dimension than their typical everyday self.

The visual link between music and culture in contemporary society enhances this paradigm. Aside from the listener creating their own identity through the music, the abundance of visual connectivity attributed to music – through music videos, movies etc, creates and imposes an identity for and upon the listener. This subsequently begins to influence and set standards for how people, particularly adolescents, want themselves to appear. This appearance refers to not only their physical appearance and dress code, but also in their actions, attitudes and lifestyle in general. Thus music begins to influence certain cultural conventions, which then resonate into and reshape culture and society alike.

Experiencing Music in Architecture

chapter 3

theoretical and conceptual framework

Musical Structuring versus Architectural Structuring

At first glance, the disciplines of music and architecture might appear to have no connection between them (Grueneisen, 2003: 28), but upon analysis one might be surprised to find numerous similarities and linkages arising both theoretically and physically.

As discussed earlier, music has seemingly always been an expressive, emotionally based discipline, which typically comes with a degree of subjectivity attached to it. Architecture similarly is a creative discipline based largely on conceptual expression created by the architect, which as with music, is subject to contrasting opinions and reactions depending on the individual experiencing it. Music and architecture both need a level of rationale in addition to the conceptual thinking. This is supplied in the form of harmony, scale, rhythm, structure, and order. Without these fundamental properties, a song would not be recognized as music, nor a building recognized as architecture.

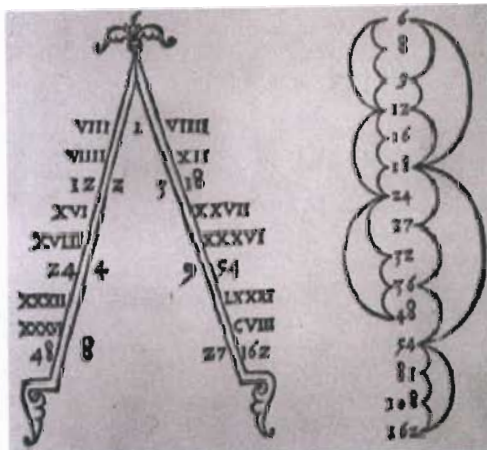


Illustration 17: Pythagorean ratios of numbers, corresponding to musical ratios. (Source: www.dartmouth.edu)

Historically the ideology of attempting to integrate architecture and music can be recognized as far back as Pythagorean times. Pythagoras observed that ratios of the lengths of strings, or other vibrating materials, followed simple mathematical relationships with the sounds they produced (McLaughlin, 1970: 21). Therefore if the length of a string was halved, it produced an octave of its original note; reducing to two thirds produced a fifth above; reducing three quarters produced a fourth above, and so on (illustration 17).

Their theories for carrying this into architecture suggested seemingly more literal interpretations based on proportions and ratios. Apart from their obvious love for numbers, their reasoning was such that if a specific musical ratio were considered pleasing to the ear, then that same ratio carried through into architecture would subsequently be equally pleasing visually upon the eye (www.dartmouth.edu). Entire buildings were designed based on these derived proportions (illustration 18-20), which

formed the underlying principles behind various architects in history such as Palladio and Alberti amongst others.



Illustration 18: Image of Villa Capra or Villa Rotunda designed by Palladio, based on a ratio and proportioning system. (Source: www.greatbuildings.com)

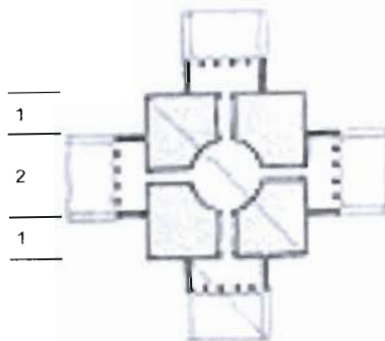


Illustration 19: Plan of Villa Rotunda, showing the 1:2 proportioning ratio. (Source: www.lesterkorzilius.com)



Illustration 20: Elevation of Villa Rotunda, showing the 3:4:5 proportioning ratio used. (Source: www.lesterkorzilius.com)

Liebnitz, the seventeenth-century mathematician, wrote: *"music is a hidden arithmetical exercise for the soul in which the soul counts without being aware of it."* (McLaughlin, 1970: 22). The soul counts in music through what it hears, similarly it counts in architecture what it sees. McLaughlin (1970: 22) elaborates on this idea, explaining that while the soul is oblivious to its counting; it nonetheless feels the effect of this unconscious counting, in that it is able to detect a pleasant sensation from an unpleasant one, without consciously intending to, be it aurally or visually.

The structural principles of music in many ways are the aural equivalent of the visual structuring expressed in architecture, however one works in lengths of distance, while the other in lengths of time. Every building and every song is in essence a

piece of art, and a work of art is only pleasing if the whole is pleasing. Each individual part of either requires a harmony between order and variety, while simultaneously integrated as part of the whole. Too much variety induces chaos, yet too much order becomes monotonous.

The structural connectivity between music and architecture extend deeper than the surface. If one were to create an analogy derived from a methodological perspective, the process of putting a building design together follows a similar structured pattern to that of the recording of a musical album (illustration 21). A building is designed around an overall concept in the architect's mind, continually reworked until relative satisfaction is reached. The architect relies on fellow members comprising his

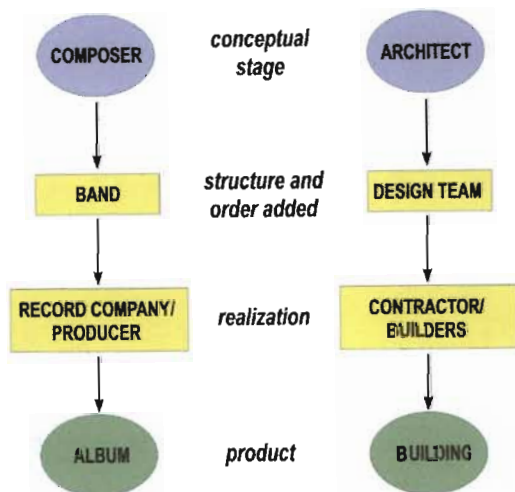


Illustration 21: Diagrammatic comparison showing the similarities between the creation of a music album, and the creation of a building.

design team – engineers, quantity surveyors etc. – whom supply their expertise required to ensure the design is structurally sound in all departments. Finally the design is taken to a builder who transfers the design into a physical building. If one were to relay that scenario into the music world, in many ways the composer is the architect, his fellow band members the design team, and the recording company the builder.

Grueneisen (2003: 10) suggests analogies can be made convincingly between individual buildings and single musical pieces, and between entire movements and styles in architectural and musical history. Wolf Prix (Grueneisen, 2003: 28) of Coop Himmelblau, picks up on this describing the explosions of many disciplines around 1960 – architecture, science, technology, philosophy as well as music. The imagination in all creative fields started expanding beyond their conventional boundaries of conformity. Architecture began to serve more than its protective function; it became concerned with experience of space rather than merely space itself. *“Media, light, smells, sounds, vivacity and rock ‘n’ roll. Action, shock, provocation, anything new, anything young”* (Grueneisen, 2003: 28).

Prix makes reference to the explosion of rock music at the time, in particular The Rolling Stones. Observing Keith Richards' (illustration 22), his posture, the way he holds his guitar, discarding convention simply because it felt better his way, allowing the flow of forces to transfer comfortably through his body – corresponding exactly to the flow of forces in Coop Himmelblau's structures: *"an attempt to convert body language into architecture"* (Grueneisen, 2003: 29). As music became more dynamic – more shocking, more brutal, more rebellious, bands were able to express themselves and their true attitudes to life, freely, without interference. Coop Himmelblau used this vibrant energy and correlated it into their buildings, even to this day, to express dynamic, unconventional forms of architecture (illustrations 23-24).



Illustration 22: Keith Richards from The Rolling Stones, with his then unconventional posture. (Source: Grueneisen, 2003: 29)



Illustrations 23-24: UFA Cinema Center in Dresden, Germany, designed by Coop Himmelblau in 1993, emphasizing the dynamic impact they strive to express in their structures, irrespective of conventional design. (Source: www.coop-himmelblau.at)

According to Prix himself (Grueneisen, 2003: 29), *"For us, this meant that the livelier and more intense our building designs were, the livelier and more intense their impact was. We couldn't prove it, but we felt sure of it"*.

Sound in Architecture

"Can architecture be heard? Most people would probably say that as architecture does not produce sound, it cannot be heard. But neither does it radiate light and yet it can be seen" (Grueneisen, 2003: 8).

Does architecture produce sound? The answer would be no it does not. It may appear to produce sound, as one can experience sound of some sort within almost every work of architecture – with the exception of artificially conditioned rooms perhaps. What architecture does do however is shape and manipulate how sound moves within it. One hears the sound reflected, thus achieving a sonic impression of form and material; much the way that light is reflected, conveying an impression visually.

One very seldom experiences total silence; we are dependent on numerous background sounds to maintain our sense of life, of which many occur almost unnoticed (Storr, 1992: 27). If one were to compare a view of a building with a view of a photograph of a building, what is it that separates the two? Hungerford (1995) draws the analogy of architecture without sound as being nothing more than a series of photographs capturing surfaces without depths. The absence of sound in a photograph is what dissolves that experience of depth, reducing it to a surface. Sound is what animates a view, giving depth to the surface, creating the realism that enables one to enter the frame and the experience accordingly. Metaphorically, one could view sound as being the spirit or soul of space; that which acknowledges the space is alive or even real. Once the sound dissipates, the spirit decays and the space dies.

Grueneisen (2003: 12) describes an interconnection between space and sound, in as much as instruments determine the sound of a song, so too does the space in which the song is performed influence the song's outcome. Architecture thus already plays an intrinsic role in shaping sound and music alike. This can be observed technically in the likes of recording studios etc that rely on specific designs, placements and acoustical treatments to achieve optimum balance in frequency responses (Grueneisen, 2003: 38). A simpler example suggested by LaBelle (Grueneisen, 2003: 24) might be to compare a Medieval style Cathedral with a Buddhist Temple (illustrations 25-26).

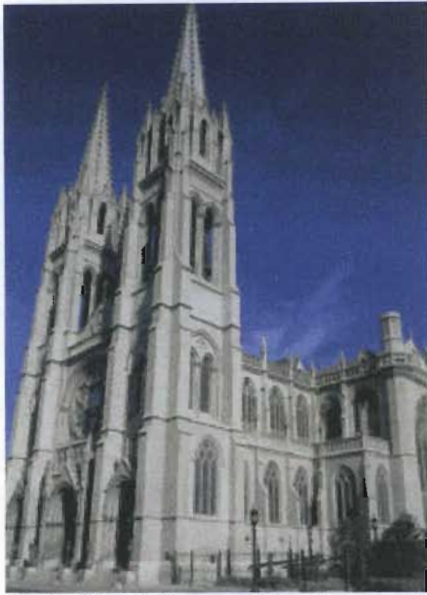


Illustration 25: Denver Cathedral, showing the emphasis on high towers and verticality.
(Source: www.denvercathedral.org)



Illustration 26: A Buddhist Temple in Korea, expressing low-level horizontality.
(Source: www-personal.umich.edu)

One can see the emphasis on verticality in the Cathedral, allowing their praise and chants to resonate upwards through the soaring towers, striving to reach up to the heavens and God alike. In contrast, one observes the low-level architecture of the Buddhist temple, emphasizing horizontality as it spreads out across the horizon, enabling their chants to filter into the landscape, lightly settling over the ground (Grueneisen, 2003: 24). In both cases, music and sounds are manifested through the architecture, and transmitted onto a cosmic plane.

Manipulation of Human Emotion through Sound and Architecture

The human brain does not contain the capacity to distinguish between direct sound and reflected sound, only dissimilarities arising within overall sound (Grueneisen, 2003: 38). Thus, sound that is manipulated via specific acoustically treated surfaces, can be detected by the human brain, however is still perceived as being proper sound unless supplied with its true sound against which it can be compared.

Illustration 27 is a basic sound reflection diagram, showing direct and reflected sound transmitted from one person to another. Assuming no unusual acoustical treatment has been incorporated, both sounds will appear the same to the listener. However at the reflection point (y) surface treatment can be adjusted which will correspondingly manipulate the reflected sound to the listener, enabling him to compare it against the direct sound, and thus detect a disparity. This might be in the form of a delay or

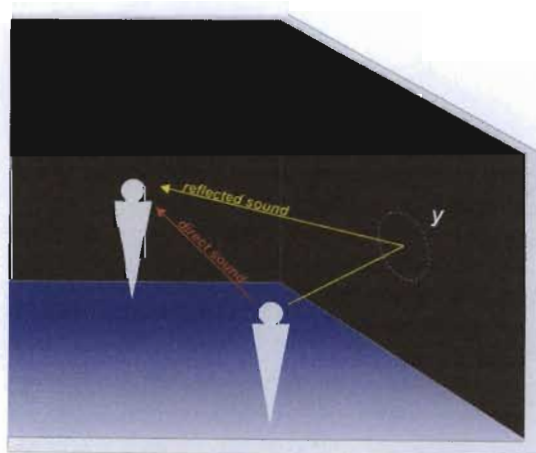


Illustration 27: Diagram showing a typical example of direct sound versus reflected sound.

cancellation in the frequency response, where sound is only partially reflected or muffled; or perhaps an enhanced sound where the reflected sound appears louder than the direct sound. There are two manners of manipulating reflections – absorption and diffusion. Absorption reduces the energy, absorbing and softening the sound, while diffusion spreads the energy out, creating many smaller reflections to increase the sound (Grueneisen, 2003: 38).

If this is so, then hypothetically if one could achieve reflected sound within a space while at the same time eliminating any direct sound, would a listener be able to detect any manipulation to true sound? Theoretically they probably should not, however realistically it is likely that the listener's memory and experiences with sounds would supply them with a reasonable level of intuitive logic to identify any vastly out of the ordinary sound types.

Supposing this were possible though, architecture would be perfectly adept to execute such a theory. Sound is naturally reverberated through a building's structure so as that by the time it reaches the listener; it has undergone multiple reflections off

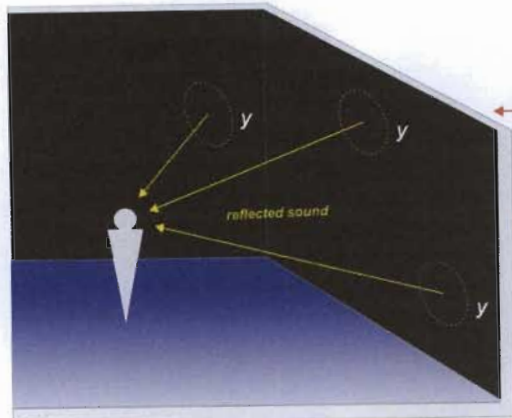


Illustration 28: Eliminating direct sound by allowing it to enter through the structure, leaving only reflected sound to reach the listener.

and through various surfaces. If a space could be designed to keep direct sound out, and purely allow the reflected sound to filter through the structure and into the space (illustration 28), one might be able to manipulate a space with a seemingly indifferent level of realism.

Using architecture or its structure is not a new concept however. The Hythe Sound Mirrors (illustration 29) constructed and positioned along the Southeast coast of



Illustration 29: One of the Hythe Sound Mirrors in England used to detect incoming sound waves. (Source: Grueneisen, 2003: 23)

England in the 1920's and 30's, were designed as listening devices to a similar theory aforementioned. Large semi-circular bowl shaped structures made of concrete, collected and amplified direct and reflected incoming sound waves, which were transferred down through the structure to a small room below, where a person would be seated listening for any detections (Grueneisen, 2003: 23). The structures basically operated as early forms of radar, which were angled out towards the sea to detect German bombers.

The Hythe Sound Mirrors are an example of how architecture can capture and transfer sound within itself. More contemporary works are able to use sound and technology to radically distort the naturalism of a space, to create an indifferent sense of ambiance to what humans have accustomed themselves to recognize. One such example is home in Gelnhausen (illustration 30), undertaken by Achim Wollscheid, an artist concerned with investigating the dynamic of public space

through musical concepts (Grueneisen, 2003: 25). Specially constructed by architects Gabi Seifert and Götz Stöckmann, the project consists of a series of microphones



Illustration 30: Wollscheid's project in Gelnhausen, altering architecture's conventional understanding of interior-exterior separation. (Source: Grueneisen, 2003: 25)

and speakers mounted at specific points along selected external walls. Each point contains either an external microphone connected to an internal speaker, or vice versa. The effect is such that inside sounds are amplified outside, and outside sounds inside. Simultaneously, a computer program converts the sounds as information into tones. This converse experience of sound disturbs the architectural understanding of the interior-exterior divide, instilling uncertainty and agitation in a listener (Grueneisen, 2003: 25).

If the above is possible, then surely the ability to delve into other human emotions in this respect should too be possible. Music and sound have the ability to assist in directing people towards certain emotions, and architecture the capacity to manipulate sound. Thus, through architecture and sound (or music) together, spaces could theoretically be artificially manipulated into being realistically perceived as different experiences to their true properties, within reason of course. For example, a space that might be secluded and void of any activity or liveliness could, hypothetically, be injected with a specifically detailed vibrant atmosphere, giving people the false perception that the space is not as inactive as it in reality is. As long as the mind feels a space is positive, the individual will believe it to be so; which accordingly could be applied for all varieties of emotions.

Unifying Capacity of Architecture and Music

From the earliest of times music has served as a medium whereby humans can express and relate to one another at an emotional level. Music has the remarkable ability to bring strangers together. It becomes a sudden new subconsciously dominant factor amongst groups of people experiencing it. All conventional linkages and prejudices that commonly segregate society everyday – race, gender, social class etc, suddenly become less important. So why does this happen? What is it about music that draws groups of people together?

Storr (1992: 24) suggests this may be as music evokes similar physical responses within different people at the same time. People recognize each other's emotions, and are able to relate to it, and with humans' nature to want to console in someone, different persons sharing a similar emotion are drawn together. This is not just in feelings of sadness, but also jubilation, fear, anger, – all forms of emotional expression. *"Music has the effect of intensifying or underlining the emotion which a particular event calls forth, by simultaneously co-ordinating the emotions of a group of people"* (Storr, 1992: 24). Obviously each individual is subject to his or her own personal emotions; however there would certainly be some aspects of the given experience that would be commonly shared amongst a group (illustration 31). It is those shared aspects that create the unity.

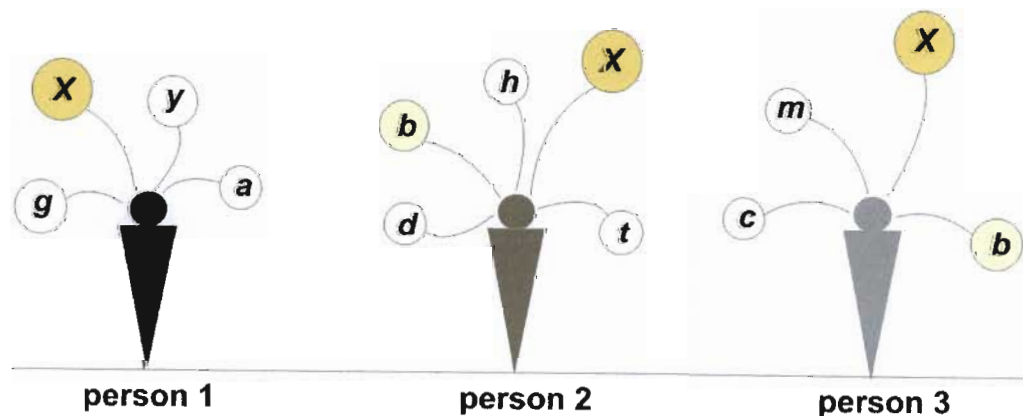


Illustration 31: Diagram depicting different people each expressing their individual emotions simultaneously, with various common emotions arising between them.

Architecture has the capacity to confine music, to integrate and shape it into a focused space. Architecture is arguably the most public of all the arts, freely available to anyone – rich and poor alike. Anyone walking the streets of a city is able

to encounter it. Music, a fellow art form, has the ability to make people feel good (Juslin and Sloboda, 2001: 145), however, nowadays music is predominately listened to individually, with various exceptions of course – concerts, clubs, parties etc. With the enormity of its positive and unifying potential, it could very possibly be a key to improving interpersonal bonds in societies – “*a catalyst for a changing state of consciousness*” (Juslin and Sloboda, 2001: 145). If one could discover a means to successfully integrate the two, one could shape emotions within an environment; interaction, culture and even society itself. Architecture society's body; music society's spirit.

The Experience Music Project

designed by Frank Gehry

chapter **4**

precedent studies

The Experience Music Project, Seattle (2000)

In recent years it seems buildings have achieved little success in representing music architecturally, leaving one somewhat doubtful as to their potential to do so (Grueneisen, 2003: 10). The *Museum of Popular Music* (illustration 32), designed by Nigel Coates, was envisaged to revitalise a dreary corner in Sheffield, however failed to achieve nearly the number of visitors it had anticipated (Slessor, 2000: 72), while I. M. Pei's *Rock and Roll Hall of Fame and Museum* in Cleveland (illustration 33) had intended to represent and conjure up the spirit of rock music, however remains little more than a rather mundane expression in monumental symbolism (Slessor, 2000: 72). Despite these attempts and others by Halls of Fame and Hard Rock Cafés over the years, capturing the spirit of music in architectural expression has proved a rather complex and seemingly unsuccessful dilemma (Slessor, 2000: 72). This however did little to deter the Experience Music Project (EMP) from being realized.



Illustration 32: The Museum of Popular Music in Sheffield, architecturally applauded, but disappointing in its contents. (Source: <http://news.bbc.co.uk/1/hi/entertainment/478616>)



Illustration 33: The Rock and Roll Hall of Fame and Museum in Cleveland, symbolizing a giant record turntable. (Source: www.mikeraburn.com/cleveland)

The client behind the EMP was billionaire Paul Allen, a Jimi Hendrix enthusiast who wanted to create and dedicate an entire building to Hendrix's legacy, while at the same time encompass broader musical objectives in American popular music (Slessor, 2000: 72). As co-founder of the Microsoft Corporation, Allen's involvement with cutting edge computer technology enabled him to further generate this already ambitious concept, stating "*EMP could use technology to set new standards for museums*" (Russell, 2000: 127). True to his comments, the EMP's design, construction and exhibition technology stretched the boundaries of what is possible to build today (Illustration 34).



Illustration 34: Aerial perspective over the EMP, whose extraordinary design tested the limits of building technology. (Source: AIT, 2000: 46)

Frank Gehry has developed a reputation for bending the horizontal and vertical lines of building construction into something defiant and sometimes poetic (www.greatbuildings.com). Thus, with his innovative and dynamic approach to architecture, Gehry seemed a logical match to reflect Hendrix's flamboyantly creative life (Slessor, 2000: 72), as well as the rebellious ethos omnipresent in rock music (Russell, 2000: 127).

The place chosen for the project was Seattle, Hendrix's place of birth, located on the site of the 1962 World's Fair. Named after Hendrix's old band, The Experience, the EMP comprises 35 000 sq ft of exhibition space, housing an eclectic range of music related paraphernalia – guitars, photos, posters, costumes; together with an education centre, library and computerized interactive displays capturing the evolution of American popular music (Illustrations 35-37).



Illustrations 35-36: Exhibits featuring sound and video clips intermingled with an eclectic range of artefacts. (Source: Russell, 2000: 134)



Illustration 37: A collage comprising an extensive selection of various guitar types, forming the focal point within the "Crossroads" volume. (Source: AIT, 2000: 48)

Much of the building's design claims to have been derived from rock 'n' roll imagery and Hendrix in particular, however unless informed upon this, the average observer is unlikely to be aware of it (Russell, 2000: 128). The building's bold colours for example are said to have been inspired by the client's guitar collection; while "*The Sky Church*" – the shimmering purple volume forming the heart of the building, is said to derive from the concept Hendrix envisioned whereby anybody could gather in a space spontaneously and make music (Slessor, 2000: 76).

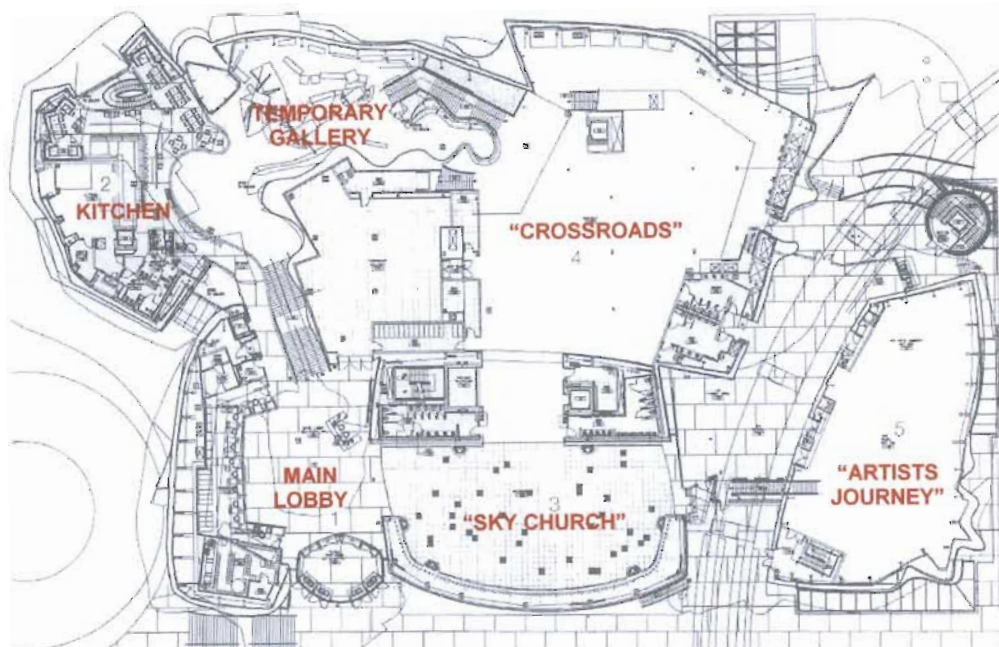


Illustration 38: First floor plan of the EMP outlining the major volumetric functions. (Source: AIT, 2000: 46)

Other key features of the building focus more towards musical science than specific artists or songs. "*Artist's Journey*" utilizes flight simulator technology with theatrical, lighting, audio, and computer animation effects, in an attempt to physically transcend the visitor inside music. "*Sound Lab*" offers computer-aided tutorials designed to assist visitors who wish to produce their first chords, or to improve their various musical techniques. For the more extroverted visitor, it also offers an opportunity to

experience performing in a studio with lights, fake fog, and a virtual audience to scream and admire them (Russell, 2000: 127).

Gehry himself only worked on the interior's public spaces, as much of the exhibition and display spaces were intended to change frequently and readily. These spaces were mostly left to specialized exhibit and attraction designers, which would house dozens of "interactives" – the term for the technology that helps engage the visitor with the intended experience (Russell, 2000: 136). The subject matter is sound. Each display has its own speakers with specific sound specially attuned to it in order to enhance that experience. Move a few steps to a new display and the visitor enters a new sound experience (Illustration 39).



Illustration 39: View inside the main lobby area with individual display areas in the background. (Source: Russell, 2000: 135)

The degree of success in representing rock 'n' roll or rock music in general in the EMP could be debatable. As far as visitors are concerned, the building seems to continue to attract large numbers, hence one may assume that visitors are impressed by the EMP as a whole, however in the architecture expression of the building is where criticism might arise. One of rock music's defining characteristics was the powerful rebellious attitude it expressed against convention, which would often evoke shock and offence in new listeners. Gehry's role was to try and capture that attitude in the building's design, while at the same time convey an "experience" upon people once inside the building.

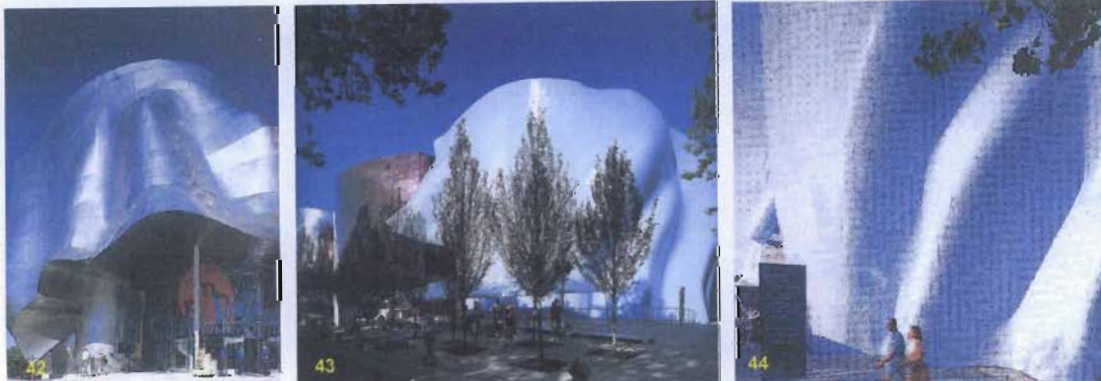
The choice of solid bold colours starts to create a powerful visual statement, relentlessly emitting itself upon the observer, which at times may be a bit too overwhelming (Slessor, 2000: 76). This does well to represent the unrelenting energy of rock music; however the physical shape of the building contains a somewhat softer



Illustrations 40-41 (above): External views depicting the visually pounding bold colours of the EMP's various volumes. (Source: Russell, 2000: 128-9)

appearance to it. While it certainly boldly defies convention with its indescribable morphed form, the smooth curvilinear treatment of the facades create a softened feel to the building, portraying more of a playful cartoon-like effect upon the viewer rather than a serious vehemence and rebellious aggression that rock music conveyed (illustrations 42-44). The building almost seems to represent a tin can that is being compressed as if to restrain something within it, whereas rock music seemed to have the opposite effect of an explosive energy that was unable to be contained.

Illustration 44 (below right): One of the facades, seemingly gentle and calm – the opposite of what rock music generated. (Source: Russell, 2000: 129)



Illustrations 42-44: External views creating a seemingly animated playful perception of the building. (Source: Slessor, 2000: 73-5)

The internal architecture of the building is possibly more successfully dealt with than that externally. Looking from the outside, the building's skin appears as though it is intended to cover up and conceal the structure beneath it, like a blanket thrown over an eyesore to hide it from view. Internally however, the building freely exposes its technology, structure and materials in their raw forms, much the way a rock band would stand on stage exposing the entire band, allowing the audience to see all the raw elements behind the music – as opposed to more popular music for example, where it is primarily the singers who form the focal point while the instrumental

constituents adopt a secondary position. The smooth external appearance of the building is starkly contrasted internally where a more dynamic chaotic order seems to be present. This presence at times seems to impose itself with a dominating force upon the visitor, seemingly surrounding then engulfing them within it, similar to the explosive rise of rock music whose presence seemed unavoidable (illustration 45-46).



Illustration 45: Internal view expressing the building's structure, amidst its chaotic ambience. (Source: Slessor, 2000: 76)



Illustration 46: The engulfing presence of EMP's internal architecture, imposing itself upon the visitor. (Source: Slessor, 2000: 77)

Overall, the EMP appears to be more successful in portraying a selected type of music through its architecture than previous attempts have been. This however, is also not without some arguable criticisms. The experience the visitor undergoes is perhaps the most important aspect concerning the project, so for the most part the approach taken to the internal design of the building, is commendable. The design decisions concerning the buildings exterior is perhaps its downfall. The softened fluid-like effect of the different volumetric shells melting into each other fails to conjure up the energetic dynamism of rock music. Perhaps adopting an approach more similar to Gehry's Guggenheim Museum design in Bilbao may have better expressed rebellion and vitality (illustration 47). Even EMP's colour choices, hypnotically intense and bold as they may be, let the design down in the sense that



Illustration 47: Frank Gehry's Guggenheim Museum as it was nearing completion in Bilbao.
(Source: www.weisman.umn.edu)

they seem to dictate an order of colour coding that is unintended. However, with the variety of mixed reactions and metaphors drawn upon EMP by the public, it's clear that in any event the building fascinate onlookers and visitors enough to engage with it (Russell, 2000: 136).

Forum Arteplage Biel

designed by Coop Himmelblau

chapter **5**

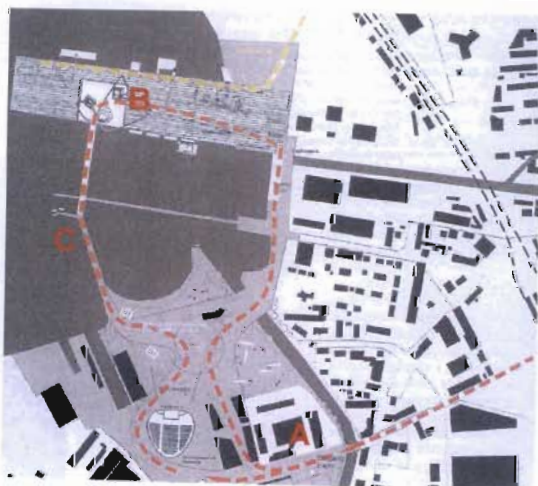
precedent studies

Forum Arteplage Biel, Switzerland (2002)

Located in Biel, Coop Himmelblau's Forum Arteplage Biel is one of the four exhibition designs making up the Expo 2002 in Switzerland. Planning the Expo since the 1980's, it is Switzerland's once-in-a-generation chance to present its country to its people, as well as the rest of the world. The Expo is arranged around three lakes to the East of Bern, and consists of the four arteplages – Yverdon-les Bains, Biel, Neuchâtel and Morat, all situated in various locations (illustration 48).



Illustration 48: The four sites of making up the Expo 2002. (Source: Long, 2002: 42)



Sited on an abandoned industrial lot on the edge of the lake, Coop Himmelblau's arteplage is the largest of the four, and explores the concept of "*Power and Freedom*" (Slessor, 2002: 48). "*Power*" being expressed in the monumental presence of the three 40m high towers, symbolizing the power and strength of the industry and modern day technology (www.sia-a-k.ch); while "*Freedom*" is loosely expressed through the deliberately chaotic assembly of the towers, as well as the expopark in general, whose buildings and structures vary in sizes, forms and materials.

Illustration 49: Siteplan of the expopark, beginning ashore (A), to the pier where the towers are situated (B), and then the long bridge suspended over the lake connecting the expo back ashore (C). (Source: Hubeli and Bideau, 1999: 50)

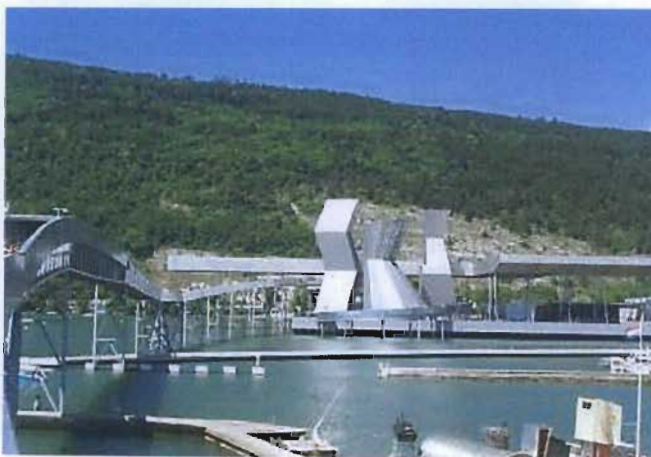
The expo is arranged around a specially created circular quay (illustrations 49-50), beginning ashore with "*Happy End*", which contains a series of emotionally-driven spaces designed to stimulate and encourage certain thoughts and emotional



Illustration 50: Aerial view of the quay during construction before completion of the third tower and bridge. (Source: www.coop-himmelblau.at)

responses within the visitor. This protrudes out over the water where the iconic feature of the expo is located in the form of the trio of fabric mesh towers. A long bridge connected from one of the towers extends out across the lake to link the expo back ashore and complete the circle.

The architect has taken special care to ensure the towers dominate the expo against the placid lake setting. From a distance, the towers are in fact perceived to appear even larger than they are through deliberate perspective manipulation in the design. The bridge connecting the towers and pier to the lake bank is designed to appear artificially deep, making people on it appear smaller than they are. The bridge's form also seems to taper towards the towers to make them appear even larger and accentuate their monumentality (illustration 51). These manipulations distort the



viewer's perception of scale, and the only way to ascertain how large the project is, is to watch visitors crossing the bridge towards it (Long, 2002: 44).

Illustration 51: Looking back along the bridge towards the towers. (Source: <http://mybabey.ch>)

The main concept behind the project, as described by Coop Himmelblau, was to create an interactive expo that was lively and transitory in character (www.coop-himmelblau.at). Dominating the expo is the three towers, in one of which the sculptures, the roof and the floor would all be transformed by the physical movement

of visitors within it. Motion and pressure sensors would be installed to detect visitors' movements which would be programmed to convert them into sound and light reflections that would serve to continually alter the expos landscape interactively (illustration 52).

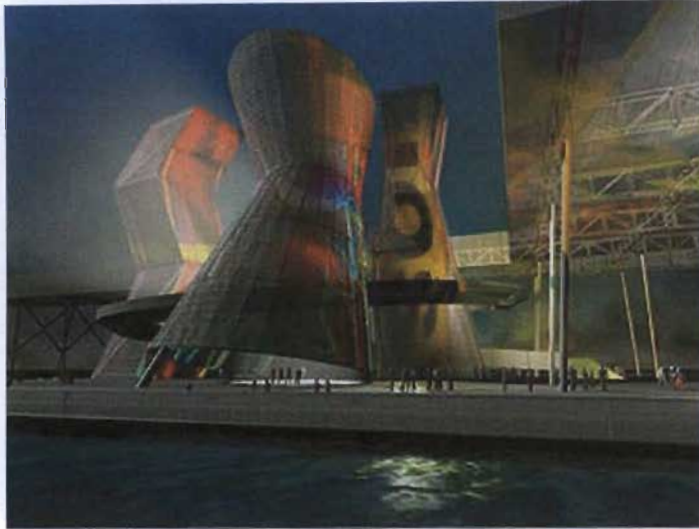


Illustration 52: At night, immersed in coloured light, the towers seem to dematerialize as they are transformed into massive translucent, kaleidoscopic skins. (Source: www.coop-himmelblau.at)

Each of the three towers accommodates different functions within it, with the most ordinary of the three merely containing a staircase connecting the tower to the curved bridge. The "*Strangers in Paradise*" tower opposite the bridge tower is said to explore the notion of Swiss cultural stereotypes (illustration 53). The tower houses a restaurant, above which an assortment of Swiss national flags is suspended. Collected from around the country, the flags vary from new to old, some even tattered and torn. They serve as a quiet reminder of the power of personal and national allegiance (Slessor, 2002: 49).



Illustration 53: A multitude of Swiss flags in various conditions, suspended up the volume of the tower. (Source: <http://mybabey.ch>)



Illustration 54: The three towers viewed from the outside. From left to right – the bridge tower, the sonic tower, and the flag tower. (Source: Slessor, 2002: 49)

The most intriguing of the towers however is the central one, which houses a sonic installation (illustrations 54-56). This uses the aforementioned motion and pressure sensors to detect and record surrounding noises (the visitors, water, the sky), which are then mixed together and transmitted back through a multitude of specially installed speakers to produce the resulting cacophony (Slessor, 2002: 49). The positioning of the speakers creates a surround sound effect producing a realistic aural perception of the sound being emitted within the space. This manipulates the listener's senses and alters their perception of their surroundings as if they were physically in a different location (<http://mybabey.ch>).



Illustration 55: External view of the sonic tower with the ramp spiralling around it. (Source: Slessor, 2002: 49)



Illustration 56: Inside the sonic tower, where various sounds are sensed, recorded, and then re-transmitted. (Source: Slessor, 2002: 49)

It seems somewhat surprising the other two towers did not strive to attempt anything as innovative as the central tower. No tower appears particularly dominant to the other two, therefore one is likely to anticipate a similar level of effect in each, yet only the sound manipulating tower does anything considerably intriguing. The tower with the flags achieves an interesting effect, yet nothing near as elaborate as the central one; and the third tower contains only the staircase leading to the bridge. It seems peculiar that so much effort go into one tower and not the others, particularly as the architects' description of the project expressed sound, light and interactive landscapes – all of which are present only within that central tower. One could perhaps wonder whether there was in fact intent initially to develop the two outer towers also to interact with sound that had to be abandoned, maybe due to budgetary or time constraints possibly.

The other end of the expo, "*Happy End*", offers a wider variety of experiences, most of which are spaces designed to engage emotionally with the visitor. One of the spaces for example contains a number of strings hanging from the ceiling, each one

with a short text attached (illustration 57). The visitor pulls a string of their choice and an object is lowered from the ceiling via a pulley system. The concept behind this experience is to encourage the visitor to recover some of their childhood, thereby reviving and instilling a past feeling of happiness within them.

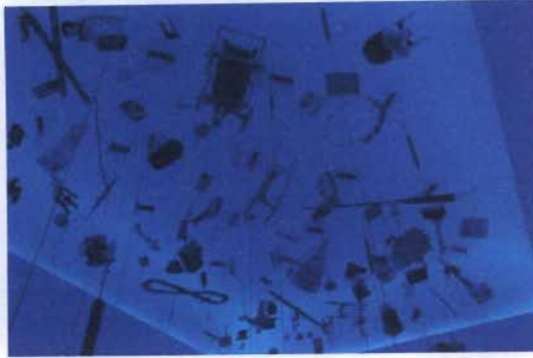


Illustration 57: Objects suspended from the ceiling intended to evoke memories and feelings of childhood happiness. (Source: <http://mybabey.ch>)

Further on, an area containing stacked boxes of porcelain plates is laid out. Visitors are invited to write down whatever frustrates, annoys or upsets them on a plate, and then cast it into a special room. This act is intended for the visitor to firstly acknowledge any negative feelings they might be carrying, and then secondly to release them through the smashing of the plate so as one can continue the expo in a happy mood.

Aside from emotional interaction the expo also encourages the visitor to engage with more thought provoking aspects. *"Experiencing Frontiers"* is an exhibition revolving around *"barriers"* and constitutes a space containing series' of large wooden poles, with different areas created amongst them, labelled with specific themes. The poles are set in varying positions, creating differently sized gaps between them (illustrations 58-59). It is then left up to the visitor to decide whether these are in fact actual barriers, or whether the *"barriers"* are created by and exist merely in their mind. Does one squeeze through the gaps thereby denouncing the presence of a barrier, or does one simply yield to the barrier and choose to walk around it.



Illustrations 58-59: 'Experiencing Frontiers', exploring one's perception of *"barriers"* by means of poles and spaces. (Source: <http://mybabey.ch>)

Theoretically, Forum Arteplage Biel employs interesting concepts to manipulate the visitor's impression of their journey through the expo. It seems to attempt to create a specific ploy whereby the visitor develops a happy mindset upfront and removes any upsetting issues from their mind, so as that they can maintain a happy mood as they progress through the expo.

The theory behind this is good, however realistically it might not be completely plausible. Writing your concerns on a plate followed by smashing it, is just as likely to make one feel better as it is to remind them of that concern and remain present in their thoughts throughout the expo. Similarly, it is unlikely that a brief impulse jolting a happy memory is enough to set one's mindset over any lengthy period of time; it is likely to simply linger in one's mind until a new impulse is received thereby creating a new mindset.

On the whole, the expo applies new ideas and techniques in architectural design, attempting to interact at a more psychologically level with the visitor, stimulating certain emotions over others, as well as manipulating one's senses in order to alter their perception of a space. The ability to achieve a level of control over a person's mindset, and subsequently manipulate their impression of an experience, a space, or anything for that matter, holds vast potential for architectural and urban design. Encouraging public interaction, stimulating human enjoyment, revitalizing abandoned spaces - one can only speculate as to what spaces and cities in general might achieve could these concepts be successfully realized.

Stage Sets

designed by Mark Fisher

chapter 6

precedent studies

Stage sets (various)

Mark Fisher has made a career out of designing dynamic stage sets for numerous rock concerts over the decades, intricately understanding the importance of the performer-audience relationship and using that knowledge to manipulate the physical environment to enhance the expression of the music and create specific experiences for the audience.

With Fisher's connection to the commercial sector, using popular culture as a basis for signification, his work is generally looked down upon by the traditional high-brow architectural establishment, getting set aside from mainstream architecture and commonly categorized as "*staged architecture*" (Holding, 2000: 14). Nonetheless, these stage set designs are probably as close as architecture ever gets to engaging with rock music (Slessor, 2000: 72).

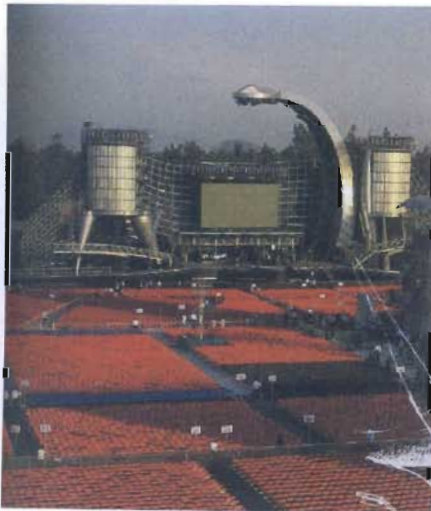
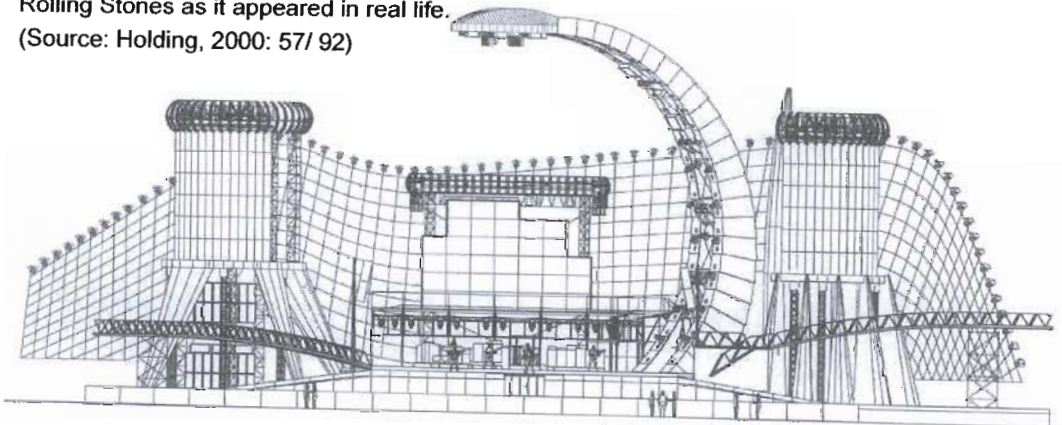


Illustration 60 (above): Perspective view of the "Voodoo Lounge" stage set designed for The Rolling Stones as it appeared in real life. (Source: Holding, 2000: 57/ 92)

In many ways however, Fisher's structures are not that dissimilar to conventional architecture, in that both ultimately are simply large material forms functioning as containers in which social interaction may occur (illustrations 60-61). Furthermore, both enable control over the space that their inhabitants occupy, as well as an aesthetic dimension that falls outside of their functional parameters (Holding, 2000: 10).



Illustrations 61: Elevation drawing of the "Voodoo Lounge" stage set as seen on paper. In this form it does not appear that dissimilar to architectural sculpturing. (Source: Holding, 2000: 57/ 92)

Conversely, Fisher's structures also differ from conventional architecture in certain ways. Firstly, they vastly exaggerate the experience they convey upon their audiences. Rock shows generate a powerful social interaction between the performers and the audience, unlike the passive relationship one would find at a traditional theatrical performance or classical symphony (illustrations 62-63) (Holding, 2000: 10). Fisher identifies the audience as a united body playing an active role, becoming emotionally and physically involved in what he defines as a "tribal event" (Holding, 2000: 10). The task here is to create an environment whereby this intensifying relationship can be executed; an appropriately designed space reinforcing the message of the band and their music, and enhancing the experience of the audience.



Illustrations 62-63: Comparison between the more subdued behaviour of a symphony audience (62) and the heightened behaviour at a rock show (63). (Sources: www.lpomusic.com/ <http://studentmedia.vpsa.asu.edu>)

This space corresponds with the audience by means of powerful visual signifiers and symbolic codes, and blurs the line between figurative imagery and physically structured form. The exaggerated visual setting together with the aural intensity produced from the music simulates dramatic ambience within the space, heightening the audience's perception of their experience (illustrations 64-65). These exaggerated effects that separate these structures from typical architecture, are what deems them to perhaps being regarded as staged architecture (Holding, 2000: 11).



Illustrations 64-65: "Voodoo Lounge" in its exaggerated appearance, bathed in visual imagery the structure diffracts from its true appearance, creating a new perception about it and subsequently producing a new ambience within its surroundings. (Source: Holding, 2000: 58)

The second variation between Fisher's structures and conventional architecture is the notion of time. Unlike most buildings that are permanent and static, Fisher's structures have a limited lifespan. In this regard they are a kind of "*fugitive architecture*" – something that arrives, recontextualizes its surroundings and then disappears, thereafter existing only as a memory in the minds of those who experienced it (Holding, 2000: 11).

The advent of Fisher's work owes itself to the rise of rock music, which in itself was essentially centred around what was to become known as "*youth culture*". During the 1950's the conception of "*youth*" was concurrent to that of adolescence, understood to be a transitional stage on the path to adulthood. In the 1960's however, a change in attitude transformed the ideology of youth into a new entity that could be maintained or exhibited irrespective of age itself (Holding, 2000: 17). This new ideology afforded the youth of the day to rebel from their seemingly unavoidable path of the responsibilities of adulthood, and live a self-indulgent life of unconstrained behaviour. This shift in attitude towards life was essentially the dividing node between the more unimaginative "*pop*" records of the 1950's and the more rebellious "*rock*" songs of the 1960's (Holding, 2000: 17).

A pivotal moment rock history was in 1965, when The Beatles arrived at Shea Baseball Stadium in New York to perform a rock concert in front of 50 000 frenzied

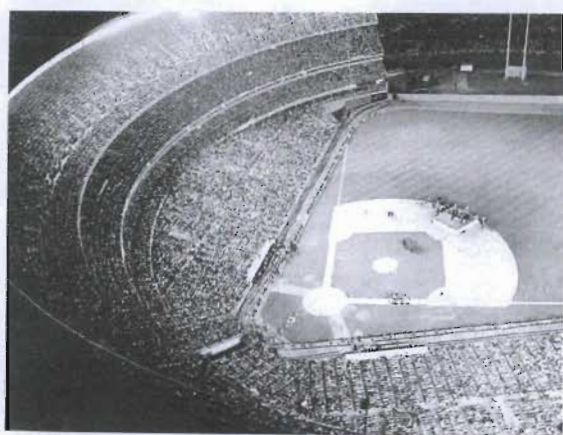


Illustration 66: The Beatles performing at Shea Baseball Stadium, New York, to 50 000 fans in 1965, sparking the trend for outdoor rock concerts. (Source: Holding, 2000: 16)

fans (illustration 66). This was one of the first rock concerts to be implemented outside the realm of the typical intimate spaces designed for dance halls and theatres, and as result produced one of the largest audiences ever encountered for this type of event (Holding, 2000: 16). This success at a commercial level signalled rock music's entry as a form of mass entertainment.

This success however, was matched by what was discovered to be a considerable absence in the knowledge of performer-audience relationships at this scale of operation. As a new cultural phenomenon, the rock concert had yet to establish a baseline upon which to develop and improve from.

Fisher understands the contagious psychological bonding that emerges out of a large crowd all undergoing a shared experience. He describes this as a “tribal identity”, whereby the entire crowd form one united body, all focussed on and engaging with a single shaman-like individual – in his case, the band (illustration 67). This “tribal” experience is evident in the many various ways in which the crowd respond – communal singing, screaming, shouting, jumping up and down – all of which lie outside the boundaries of normal emotional behaviour and are observed elsewhere only in religious gatherings and large sporting events (Holding, 2000: 86).



Illustration 67: Silhouette of the crowd seen jumping, screaming and waving their arms around at a rock show. (Source: Holding, 2000: 42)

Whilst most rock bands tended to relate to their audience through an aggressive anti-establishment level of expression, the approach of some other groups differed. Pink Floyd for example, expressed a much more cerebral or abstract approach to rock music, contrasting completely to the vehement approach of bands such as The Rolling Stones (illustrations 68-69). As result, Fisher's stage sets for Pink Floyd were directed more towards creating an alternative reality for the audience, rather than the intense vigour of some other bands. The focus here was directed away from the performers through the use of powerful visual effects such as moving oil wheels, coloured lights and film projections, which complimented the band's soundscapes, transporting the audience into an illusion of a mysterious other-worldly dimension (Holding, 2000: 31). The entire performance space would be transformed, enrapturing the audience in a psychedelic trance-like experience of sound and light.



Illustrations 68-69: A comparison between the stage sets designed for The Rolling Stones (left) and Pink Floyd (right), showing the diversity of moods created. (Source: Holding, 2000: 82/ 47)

Each band is unique and has their own individual message they wish to convey to their audience through their music. Fisher's function is to establish that message, and then design the physical environment and visual landscape to appropriately correlate to the music and that will produce an experience stimulating the audience to react emotionally to the music they are hearing.

He starts his process with the physical constructing of the stage set designed to express a particular theme (illustration 70). This enables him to establish the parameters of the space he is working with, from where he is able to implement experimentation with different lighting effects on the various environments. This ascertains a range of moods and atmospheres which are then organized into a "*catalogue of potential looks*", out of which those fancied can be selected. During this stage of the design process the band compile a final set list, and an appropriate lighting atmosphere is assigned to each song, that reinforces its mood and provokes the desired emotion in the listener (Holding, 2000: 73).



Illustration 70: The raw structure constructed for Pink Floyd's 'Division Bell', seen without its lighting and effects. (Source: Holding, 2000: 41)

Each performance is specifically designed to achieve predetermined reactions from the audience at specific times. The physical environment as viewed by the audience, transforms in front of them in collaboration with the changing songs (illustration 71). The integration of the visual and aural landscape produces the desired perception within the audience, allowing them to be taken on a journey the band wishes them to experience.



Illustration 71: A range of Division Bell's different visual landscapes, each one designed to stimulate a different mood throughout the performance, altering the audience's experiences as the show progresses. (Source: Holding, 2000: 42/43)

The primary issue, Fisher believes, in designing a stage set for any live performance, concerns the relationship between the band and the audience. The relationship is shaped according to the experience created through the combination of the aural and visual ambience generated. Incorrect handling of either could fail to prompt a reaction in the audience, creating a "*neutral relationship*" – one in which content fails to stimulate. Fisher is aware of the dangers in alienating the audience, so mostly chooses themes pertaining to contemporary concerns, or that might stimulate peoples' collective memories. This enables the audience to become emotionally involved with the performance and enter the experience.

Interesting notions can be drawn from Fisher's work that could perhaps influence mainstream architecture into a new direction. Fisher's focus of engaging his architecture with the observer at an emotional level rather than merely a visual level, adds a new theoretical dynamic to the architectural discipline.

While turning an entire city into a concert-like environment would obviously be a somewhat eccentric proposal; utilizing the concept of adding multiple dimensions to an environment to enhance a specific experience, could place a potentially new bearing on architecture. Just as Fisher takes the experience of an aural performance and intensifies it by adding a visual dimension, so too perhaps could one take the built environment and add aural or olfactory dimensions to it, thereby manipulating the observers experience and perception of that space.

In theory, this ideology could yield endless possibilities in improving spaces, environments and even cities alike. Similar to potential discussed in Coop Himmelblau's *Forum Arteplage Biel*, implementing some of Fisher's underlying methods of design and applying them to a wider scale could assert a level of cerebral manipulation, warping or intensifying peoples' perceptions of a true experience in favour of preferred one.

chapter **7**

case study

Durban's Dead Space

If one were to observe the city of Durban on paper it would seem to contain an abundance, possibly even a surplus of amenities at its disposal to set it up as a thriving city. A multi-cultural city that serves as arguably the most popular holiday destination in the country, sporting a large port, an array of beaches, as well as all the residential, business and retail factors that exist with any typical city. Yet despite these factors, Durban's city centre remains seemingly abandoned at the end of each working day. In addition to this, one can also observe numerous spaces within the city which even during the day lie deserted and inactive. There obviously exist many factors behind these issues, but fundamentally I believe they are as a result of inadequate urban planning, and lack of sufficient foresight by the designers and planners.

Obviously one has to acknowledge the hand that apartheid planning played in the city's design, with its induced residential segregation according to race. As the primary generator of business the CBD was reserved for White residential, while other races were allocated less preferred and more undesirable sectors on the city's outskirts. While historically it was seen as a tendency for lower income groups to be in areas closer to the CBD, and the wealthier groups living further away (Breese, 1964: 6), Durban, as a result of the apartheid system, subsequently contradicts this theory. Thus, as the higher income groups move to more preferable areas away from the city, it is left abandoned outside of working hours turning Durban into a dead city at night (illustrations 72-73).

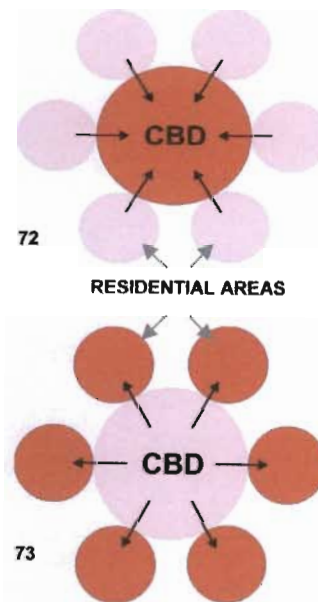


Illustration 72-73: Durban CBD with residential sectors located on its outskirts. The result: an active CBD by day with residential areas left empty (72); and by night, an empty CBD while residential areas are active (73).

While the impact that apartheid planning had on the city as a whole cannot be denied, for the purposes of this discussion the focus will engage a smaller-scaled view of selected areas and discuss them in their more contemporary urban design and planning context. The argument analyzes two spaces that have become "dead" to the city; Victoria Park, a large public park situated behind the prosperous hotels on Durban's beachfront, and the large green-belt along Victoria Embankment adjacent to the harbour edge (illustration 74).



Illustration 74: Aerial view over Durban's CDB and harbour, highlighting the selected areas of study. (Source: <http://earth.google.com>)

1. Victoria Park

Both sites contain similar properties in that they both appear somewhat disconnected from the rest of the city. The first, Victoria Park (illustration 75), with its close proximity to the beachfront, would seemingly appear to be well located for high activity as is found on the beachfront, yet it remains an empty and somewhat precarious space. The beachfront in itself is a mostly successful space; serving as Durban's primary asset in drawing outside interest to the city, catering for all cultures and enabling them to gather and coexist in harmony. However, with interest and tourism comes money, followed by the developer. Crosby (1965: 11) once stated that poor and unimaginative building was the greatest threat to our environment. This comment still retains validity in today's contemporary world, in that the function of architecture as an aesthetically sculpturing tool is everlasting. He suggests the first step towards resolve is to remove the visually illiterate from the control of building or planning - the speculative builder and developer, the city valuer or the borough engineer; and ensure all buildings are designed by qualified architects. This is essentially the problem that was incurred in the development of the beachfront.



Illustration 75: Outline of Victoria Park behind the hotels on Durban's beachfront. (Source: <http://citymaps.durban.gov.za>)

The booming tourism influx that the beachfront attracts seems to have resulted in pre-emptive developers erecting buildings as rapidly as possible, with little interest outside of revenue returns. In their haste, the designs are only of mediocre standard and do not investigate the impact the buildings have on their surroundings. The interests of developers appear to have been more orientated towards accommodating the tourism factor acontextually, as opposed to considering and designing in accordance to what may have been best for the city. As a result, a series of (primarily) hotels have been developed along the city's edge, all orientated out towards the sea, turning their backs on the city. In essence, a giant "wall" is created which acts as a barrier separating the city from the beachfront, both visually and physically (illustration 76). With the hotels, the retail and the recreational functions focussed on the sea side of this wall, the spaces behind on the city side are ignored and subsequently become undesirable and deserted; as is the case with Victoria Park. Illustrations 77 and 78 below show the separation of the various zones between the beachfront and the city. This separation contrasts to the concept of multifunctional development discussed earlier.

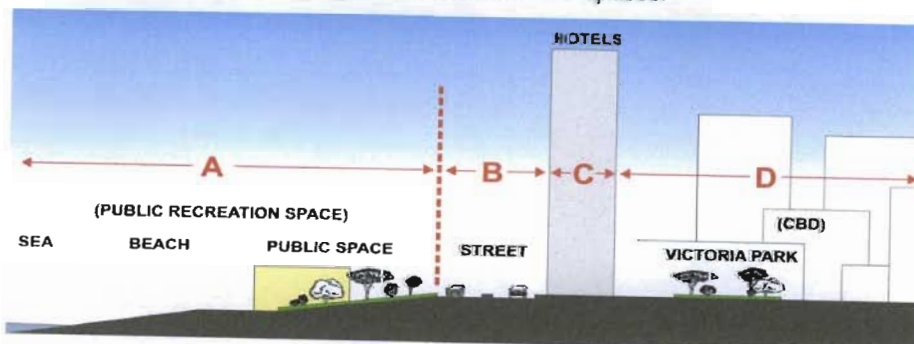


Illustration 76: A view at ground level from the beachfront, looking back at the sheer wall created by the hotels, blocking out the city behind.



Illustration 77 (above): A view capturing the wall of hotels denying any chance of interplay between the beachfront and Victoria Park.

Illustration 78 (below): A corresponding diagrammatic cross-section of the image above, expressing the segregation of functions and spaces.



The first zone (A) is mostly recreational, enabling a multitude of leisure activities from swimming to sunbathing, walking, skateboarding, cycling, picnicking etc. Amongst this are a few low-rise buildings – primarily food outlets, or retail shops selling beach or general leisure orientated products, like food, bikinis or surfboards. This zone is successful as a public recreational space but lacks integration with the city.



Illustration 79: (A) - The first zone of the cross-section, comprising the recreational area of the beachfront.

The next zone (B) comprises the space between the beachfront and the hotels. This primarily consists of parking lots and a road. While the roadway may be relatively small, with slow moving traffic, it still provides an element of danger to the public. This effectively creates a break between the integration of space from the hotel to recreation, conflicting to Van Rooden's suggestion that recreation starts at the front door (Grove & Cresswell, 1983: 11).



Illustration 80: (B) - The separating zone, pulling the recreation area away from immediate interaction with the hotels.

The hotel zone (C) is the major problematic zone denying integration between city and beachfront as aforementioned. The idea of mixed-use occurs at a minuscule scale along this zone, in the form of the occasional shop or restaurant occurring at the ground level of the hotel. This however does not occur often enough to become an interacting public space.



Illustration 81: (C) - Hotel zone with occasional added functions, yet ultimately a dividing wall.

The last zone (D) is Victoria Park leading up to the rest of the inner city. Being cut off by the wall of hotels, the recreation that occurs in zone (A) is restricted from linking to Victoria Park, and indeed the rest of the city. With the inner city primarily consisting of industrial, commercial and retail components, the absence of sufficient recreation and residential components induces no desire for one to occupy the city after working hours, and consequently the city is left dead.



Illustration 82: (D) - Victoria Park behind the hotels which despite maintenance, remains an abandoned space.

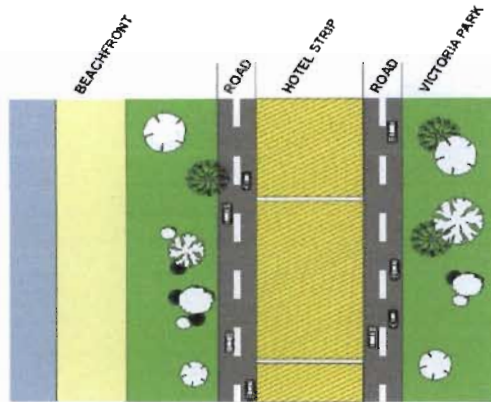


Illustration 83: Strip plan of the beachfront to Victoria Park as it appears presently.

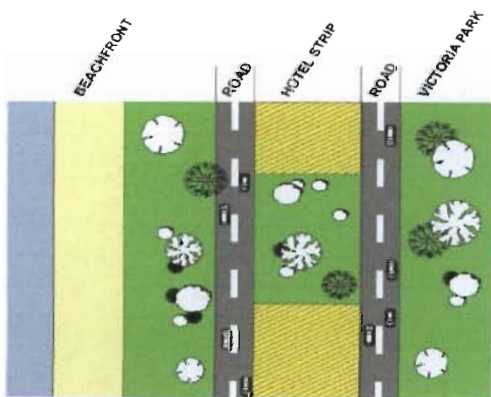


Illustration 84: First step, permeating the hotel barrier to allow visual connectivity.

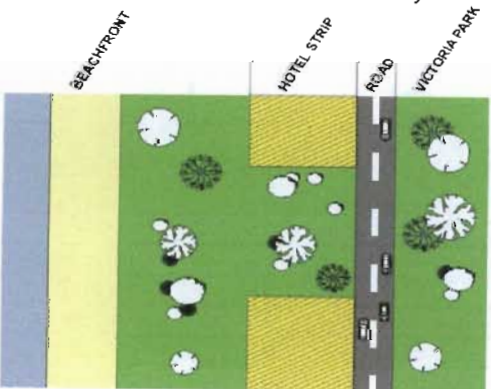


Illustration 85: Next step, removing the vehicular road in front of the hotels, enabling recreation to continue right up to and between hotels, creating a linkage to the park.



Illustration 83 depicts the current planning of a strip from the beachfront through to Victoria Park. It would seem to perhaps have been a better option to have created spaces between the strip of hotels, thus permeating the solid wall and allowing visual and physical connectivity between the beachfront and the park (illustration 84).

An even better option may have been to avoid the beachfront road altogether, and allow the recreation area to spill in-between the buildings, thus linking it with the park and more than likely encourage recreation to continue into it. Staggering the buildings would also allow the city to see through the wall and achieve a visual connectivity with the beachfront, thus no longer keeping one isolated from the other (illustration 85).

The staggering effect has been successfully implemented in Singapore, where a series of high-rise building are located on a water edge (illustration 86). Here however, the buildings have been spaced apart, allowing other buildings further behind in the city to maintain some relationship with the water edge. Also by avoiding the "wall" scenario, the edge exudes a less imposing ambience about it at a pedestrian level, humanizing the spaces around it.

Illustration 86: An example of a Singapore waterfront, showing a preferred alternative to the strategy adopted in Durban.
(Source: www.tropicalisland.de)

2. Victoria Embankment

The greenbelt along Victoria Embankment displays similar concerns to Victoria Park; also appearing cut off from the city, seemingly subsisting merely as an abandoned strip of land between the city edge and the harbour, yet not adjoined to either (illustration 87).



Illustration 87: Outline of the green-belt along Victoria Embankment between the city edge and Durban Harbour. (Source: <http://citymaps.durban.gov.za>)

The “wall” effect has also been applied to this region of the city, with an incessant series of tall buildings punctured only at brief moments where roads penetrate. As with the hotels on the beachfront, the buildings along Victoria Embankment also obstruct visual connectivity between the city and the harbour, creating a definite edge between the two rather than integration (illustration 88). Theoretically there would appear all the necessary components along this edge to create an active space – the abundance of retail at street level opening out to the public, the relative amount of residential occurring above the shops, and the large green-belt of public open space where recreation could occur. With all this in place, why then does the space remain inactive?



Illustration 88: The wall of buildings on the city's edge, with the high traffic street separating city from the green-belt and harbour.

The primary reason for this lies in the placement of a high traffic roadway between the city edge and the green-belt. This example is precisely depictive of the scenario discussed in theory earlier (illustration 7, pg 14), where roads create a barrier between building and space, preventing free passage from one to the other. Despite the potential of the green-belt to serve as an active space, the presence of Victoria Embankment denies people easy access to it, thus it is left unpopulated and ultimately becomes a dead space (illustration 87). Furthermore, the planting of large trees within this space creates a sheltering canopy hiding the happenings here from the public eye, enabling a more dangerous environment to exist.



Illustration 89: The deserted character of the green-belt strip alongside Victoria Embankment.

In addition to this, the green-belt is also left ostracized by its harbour side through a series of deterrents between the two – a fence, a railway with a wall either side, and then a road. The length of the green-belt follows the harbour edge all along Victoria Embankment, and could possibly have provided an active waterfront edge to the city had adequate forethought gone into the planning. Instead, it seems as if public integration with the harbour edge is trying to be prevented, with access restricted to only a few points, rendering almost the entire length of the green-belt cut off from the water edge. Thus the space stands as its own inactive island, isolated from the city and rejected by the harbour.



Illustration 90: Image showing the various barriers separating the city, the green-belt and the harbour from one another.

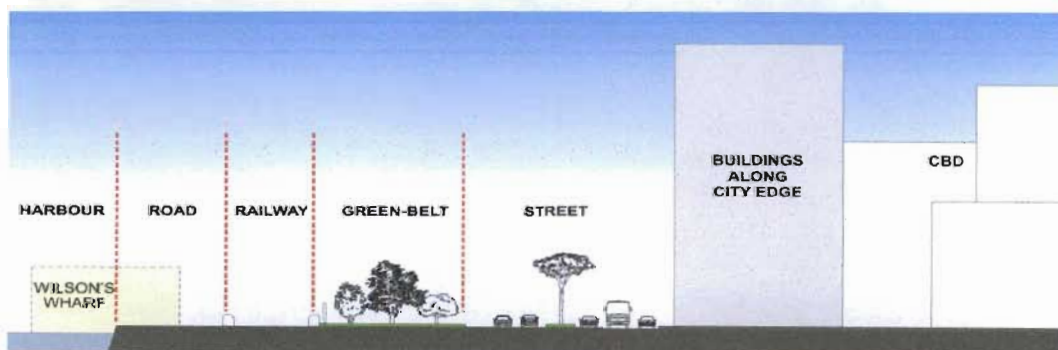


Illustration 91: Cross-section of the harbour to the city, highlighting the various barriers and functions.

Similar with the beachfront, a proposal to remove the high traffic street and other barriers from this region would enable integration to occur freely between the city edge and the harbour at a more pedestrianized level, creating a waterfront perhaps. This would allow the green-belt to be incorporated as a recreational transition between the two, thus revitalizing the currently dead space into an active functioning one. Whether this would be possible however, given the city's established infrastructure and the importance of Victoria Embankment in that, it would appear highly unlikely.

While it may not be possible to achieve a satisfactory level of integration between the harbour and the city, it does seem possible however to turn the greenbelt into a more active space than it currently serves. Illustration 92 is a typical depiction along the existing greenbelt. Entry into the harbour is restricted to a single point, the rest of which is blocked off by a low level wall running the length of the greenbelt. This means that for one to get from (A) to (B) or vice versa, they would have to travel all the way to the entry point and the same distance back again, which is not very pedestrian friendly and a likely reason why those working in and around the harbour show no interest in utilizing the space, and hence it remains unpopulated.

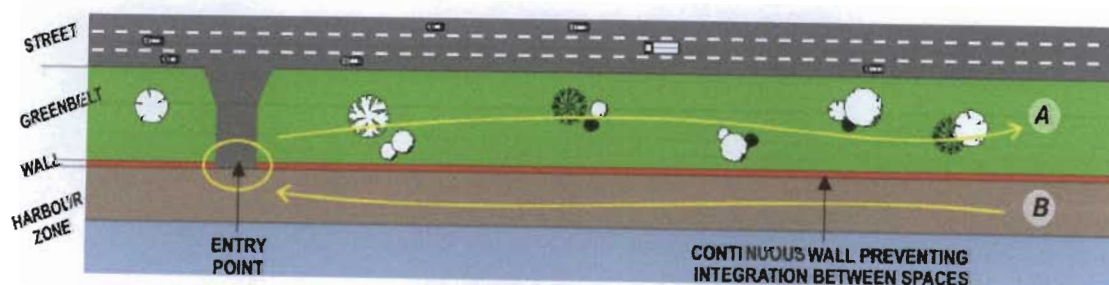


Illustration 92: Existing layout of the greenbelt along Victoria Embankment. One can observe the single entry point and continuous wall which act as the primary factors separating the greenbelt from the harbour zone.

An alternative option might have been to have a series of breaks in the wall, where pedestrian passage through could be allowed (illustration 93). This could enable the greenbelt to become an extension to the harbour zone, acting perhaps as a park for those working in the vicinity where they would be able to sit and relax during their breaks for example. By having direct access across to the greenbelt, the inconvenience of having to travel to the entry point in moving between (A) and (B) is no longer present, and therefore the space is likely to be more commonly used.



Illustration 93: A proposal to allow more pedestrian access points through the wall, creating a stronger level of integration between the greenbelt and the harbour zone.

An increase in pedestrian numbers could also initiate the beginning of a recreational culture linked to the harbour - like the waterfront concept. Shops, attractions, additional parking and other related amenities could be implemented to promote this culture and turn the space into an actively functioning one, if not with the city at least between the harbour and greenbelt.

In a positive move however, a smaller scale waterfront development, Wilson's Wharf (illustration 94), has been created on the harbour's edge, suggesting that ideas to vitalize this edge have been circulating. Yet despite a fair level of success in terms of visitors and revenue, due to its difficulty to access, the development remains very much a destination place rather than a publicly integrated one, and as result also remains isolated from the city.



Illustration 94: Artists impression of Wilson's Wharf in the context of the city behind. Despite the development's positive design, due to its restricted access, it still remains isolated from the city. (Source: www.ithala.co.za)

chapter 8

case study

Durban's Music Culture

One of the objectives in this project is to investigate whether music and sound as an entity possesses the ability to influence a person's perception of the character of a space. Precedents have been analyzed in support of the argument; however they occur in their own context relative to their own situations and people. To implement this argument into the city of Durban, one needs to ask the questions – how much of a culture is music in Durban; and how do people in Durban react when hearing music or sound in public spaces?

It seems safe to say that the majority of people, regardless of individual backgrounds or cultures, enjoy sounds of some form or another. This could entail anything from recorded music, religious worship, sporting warcries or even the likes of natural rhythms such as crashing waves or chirping birds; even complete silence is in itself a sound typology.

Various small-scale examples of music being played in public to create a mood can be observed in and around the city of Durban. The first and probably most common in terms of public displays, is likely to be the car stereo system. Whether its radio shows, sports commentary or ones own selected music, many people choose to listen to some kind of sound while driving rather than nothing. This could be for any number of reasons; for some it could simply be to drown out the sounds of encompassing traffic, replacing an undesirable sound with one more pleasant; for others it acts as a form of company so as at a subconscious level they feel there is an interaction between the radio presenter or the artist singing and themselves, thus not feeling as alone as they would driving in silence. Music also represents a certain amount of pride to some people. It's not an uncommon sight to witness cars driving past in public areas with the windows rolled down and the volume turned up high, enabling the driver in some cases to showcase his musical preference, and in other cases to show off the power of his sound system. Music thus begins to become a manner in which one can express themselves and assist in shaping ones image in which they wish to be perceived by others. Lastly, some motorists also listen simply for the pure enjoyment of it.

Music is often used to set an ambience to an environment where a group of people come together, particularly for recreational purposes. Illustration 95 is a common sight on weekends and holidays where groups of people find an open space in which



Illustration 95: Utilizing music from the vehicle to create a better atmosphere.

to gather and intermingle, often accompanied by food and drink. In many of these instances, where the vehicle is parked in close proximity to the area of interaction, the car's sound system is turned up, and the doors and boot left open allowing the music to infiltrate the group's environment and enhance the atmosphere within it.



Illustration 96: Groups bringing portable radios to set the mood for their gathering.

In other cases where vehicles are out of range, a group of people might bring a portable radio with them to a gathering for much the same reason (illustration 96). Music almost seems synonymous with crowd congregation when it comes to socializing.

Public events centred around recreation also commonly utilize music as a means to set an ambience about its environment. Illustration 97 is of the beachfront flea market and one can observe two of the large speakers placed within the area, which broadcast music to add vibrancy to the space. Thus the visitors, even if they are not really listening, are exposed to a subconscious level of entertainment adding to their experience, which in most cases is likely to maintain their interest in the area for a longer period than had it been silent. The Ocean Action festival (illustration 98), is



Illustration 97: Speakers positioned to play music at Durban's beachfront flea market.



Illustration 98: Music played for the crowd along the beachfront promenade.
(Source: www.lifelounge.com)

another example where music is used to stimulate the crowds interest, attempting to portray the festival as being a non stop action packed experience, where something is always happening.

All of the above examples illustrate music being used as an added dimension to enhance the mood of a space, however none of a particularly intense and imposing stature. In Fisher's work we saw how huge numbers of people united into a mass "tribal" body when subjected to an enhanced shared experience. Durban crowds are no different, as can be observed in the annual Mr Price Pro beach concerts (illustrations 99-101). Although the lighting and stage designs may not be as elaborate as those of Fisher's, the heightened emotional behaviour of the audience as result of the experience remains omnipresent.



Illustration 99: The less expansive stage set of Durban's Mr Price Pro.
(Source: www.gearhouse.co.za)



Illustration 100: One of the bands performing at the Mr Price Pro music concert.
(Source: www.gearhouse.co.za)



Illustration 101: The Durban crowd at the show, connecting with the band on stage.
(Source: www.tellitlikeitis.co.za)

chapter 9

case study

Music and Architecture

With the presence of a music culture in Durban established, the question now is how can this be integrated with architecture and implemented as a strategy to revitalize dead space within the city? As the argument in this project is predominantly theoretically based, achieving accurate results through the application of the argument to specific areas is not possible, thus this section of the project utilizes a typical model of public urban recreational space that might be found within the city of Durban; this could include the likes of such spaces as Victoria Park and the Victoria Embankment greenbelt discussed earlier.

One generally conceptualizes a building as being a container, protecting its internal contents from the reach of the outside world – physically, visually and aurally. Creating a privatized sanctuary that can respond to its required functions as comfortably as possible, minimizing the amount of foreign stimuli that can enter the internal environment and cause disruption (Grueneisen, 2003: 22). While this much is true, architecture is also much more than that. It shapes the outside world, defines space and experience outside the perimeters of its own edifice, sculpting a viewer's visual landscape to create an impression, stimulate a resultant feeling, and ultimately induce a corresponding reaction within that viewer. The limitation with visually orientated stimulation however, is that the act of seeing is restricted only to one visual surface at any one given time. If one were to view their surroundings as a piece of sculpture, the eye can only look in a single direction at one time, thus unable to immediately engage with and interpret the entirety of that which is presented, rather has to rely on a series of succeeding views merged together. Hearing as a medium on the other hand, is well suited to the idea of sculpture as it exists in the round, detecting all directions and dimensions simultaneously. One is able to grasp an entire collaboration of sounds in a single instance and interpret the situation accordingly. The human brain understands the information relayed in the sound without necessarily having to know or see where the source of the sound is originating from (Grueneisen, 2003: 22).

Ideally of course, a combination of multiple sensory media would be more effective than any individual one, as was observed in Fisher's stage designs where the integration of visual and aural landscapes radically intensified people's emotions and their resultant behavioural actions. While obviously proposing the idea of perpetual music concerts to occur in all dead spaces as a means of revitalization would be an

unrealistic proposal to entertain; however perhaps adopting the underlying concepts associated with that ideology on a more subtle level could be more credible.

If one were to take a space and apply a visually orientated design that targeted recreational interests, while this may draw people into the space, the interest would only reach to the extent of where the visual connectivity with the source can be maintained. This is demonstrated in illustration 102, where one can see (A) and (B) fall inside the perimeter of visual connectivity, whereas (C) and (D) are blocked off by obstacles in their path of view, and as result they are not able to engage with the source of recreation and therefore remain isolated and dead. To counter this would be the option of placing a series of sources around the park such that all parts have something to interact with; but this would result in a series of detached structures functioning individually rather than as an integrated whole, the appearance of which furthermore would also degenerate the natural environment associated with a park setting.

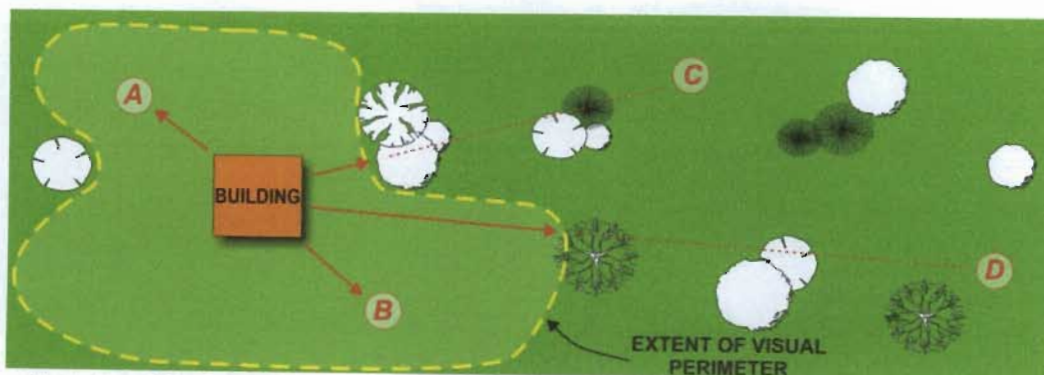


Illustration 102: An example of the limitation of visual connectivity between the source and various positions. The connection is restricted to the first line of objects, and does not link to the positions behind that barrier.

Illustration 103 is an example of the same scenario, except utilizing aurally orientated means of interaction. (A) and (B) still maintain a connection with the source, yet as sound has the ability to reflect and deflect it is thus able to reach beyond objects that might be obstructing a direct path with the source; therefore (C) and (D) are also able to engage with the source despite being behind other objects.

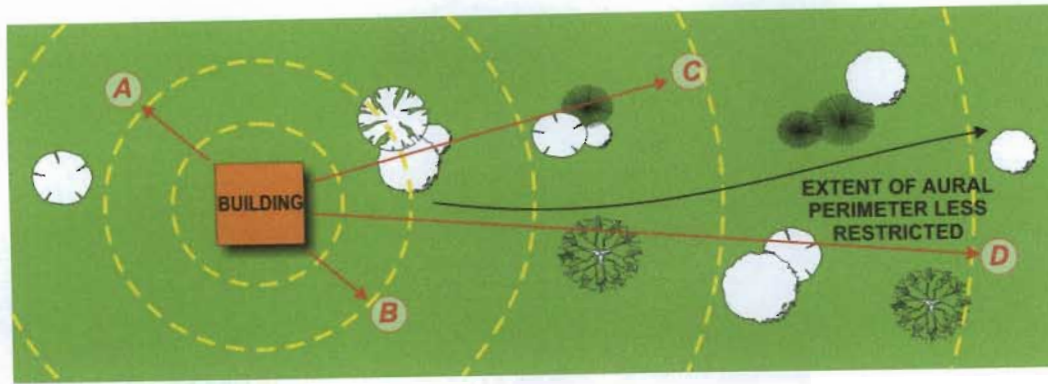


Illustration 103: The same example showing aural connectivity between the source and the various positions. Sound as a medium is able to traverse the obstructing objects and reach the entire space.

The aural medium is able to cover the entire space of the park, and people are able to engage with the information or sound being conveyed without having to be in the vicinity of the source. Listening provides access to what is hidden from sight (Juslin and Sloboda, 2001: 137).

Humans in general are naturally drawn towards activity. Unless one specifically desires to spend some time by themselves in public for a particular purpose, human preference to be in the company (or at least in proximity of the company) of others in public will typically direct one towards a space expressing activity over one that appears secluded and deserted. Music or sound stands well adept to inspire activity as it is in itself commonly linked with recreationally based culture. As discussed earlier, it has the capacity to draw people together and create a sense of unity amongst them, out of which a level of activity automatically commences.

In *Unheimlich* (unhomely), Freud's theory of the uncanny, he relates human feeling and experience of a space to that of the home. The house as a physical object inhabits a deep place in the human subconscious, a perfectly balanced refuge of comfort and serenity where one is free to feel safe. Freud describes the uncanny as an experience whereby that balance is upset, where special circumstances give rise and the ordinary becomes haunted, where the interchange of memory and imagination draws hidden trauma out into the material space of the home. The comfort and safety is replaced by a disturbing foreign presence, a psychological unease, things suddenly don't feel right and the private organization of the home is disrupted (Grueneisen, 2003: 26).

The key to creating a successful space is to reproduce that comfort and balance within the realm of public space. The feeling however does not need to be genuine; it merely has to be perceived as the same feeling. Thus if music or sound can manipulate a person's feelings and warp their perception of a space, a simulation of that inner comfort zone within each person would seem possible.

To induce specific human behaviour, one would need to be able to prompt the connecting human emotions to that behaviour. Again there is always going to be difference of opinion and interpretation when it comes to an individual's sound-emotion responses. A sound that soothes one person is just as likely to provoke agitation in another (Storr, 1992: 25). The requirement would be to ascertain a generalized or most common linkage between various sound typologies and the emotional and behavioural reactions attributed to them. This would enable the general majority of the public to respond to a calculated design in the accordingly predicted manner.

The complexity and capabilities of the human auditory system largely pass us by unnoticed and oblivious to its functioning. Human hearing and perception is a highly evolved system, able to detect and identify a wide range of stimuli, and to recognize and select different sounds out of an array of other sounds (Grueneisen, 2003: 52). One can decipher immediately what information is being relayed, triggering the resultant reaction in an instantaneous bolt of comprehension. True sounds can be manipulated however to convey a preferred sound hence an adjusted interpretation thereof.

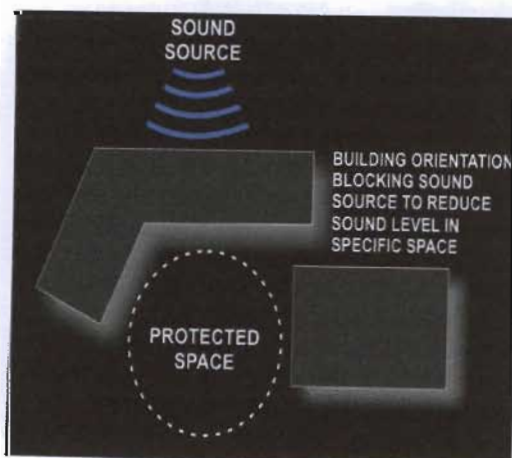


Illustration 104: Building placement and orientation to adjust sound level in certain spaces. (Source: Grueneisen, 2003: 56)

Architecture and design contain the capacity to manipulate these sounds, and there are numerous means in which to do this.

Illustrations 104-107 show a few examples, acquired from Grueneisen (2003: 56), of how this can be achieved through physical elements in the landscape. The first of which is building placement (illustration 104).

Orientation and shape of a building in a space can either block out or channel sound along a specific path, affecting the sound levels within specially formulated spaces.

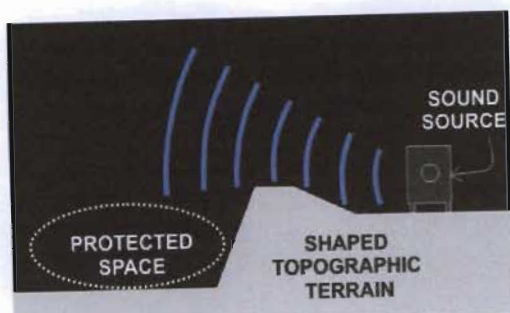


Illustration 105: Changes in surface levels control sounds reaching certain areas. (Source: Grueneisen, 2003: 56)

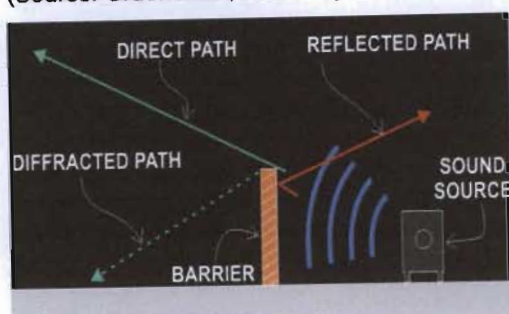


Illustration 106: Barriers can reflect, absorb or diffract various sounds, dependent on frequency levels and treatment of barrier surface. (Source: Grueneisen, 2003: 56)

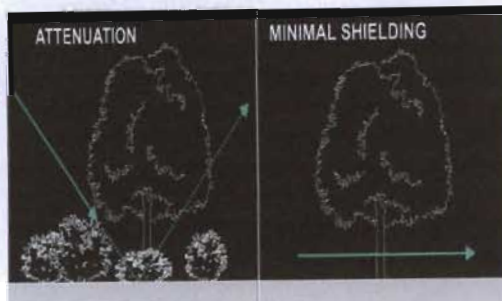


Illustration 107: The use of surface vegetation may attenuate reflected sound, however it is not highly effective as a sound barrier. (Source: Grueneisen, 2003: 56)

Surface topography (illustration 105) acts in a similar manner, except occurring in section rather than plan. Level changes allow sound to pass above or below other levels, thus also affecting sound levels at the different locations.

Illustration 106 relates to the theory uncovered in chapter 3 (illustration 27, pg 34), whereby outdoor obstacles might absorb, reflect or diffract certain sounds. Different frequencies interact differently with obstacles; higher frequencies tend to deflect, absorb and reflect, while lower frequencies tend to diffract, rendering them less effective over greater distances. This level of control over frequencies affects the overall sound that is allowed to circulate the space, and thus the type of sound ultimately reaching the listener. The reflected sounds can also be adjusted according to the surface treatment of the obstacles in place, further shaping what one hears.

The last example (illustration 107) is a common theory where the use of surface vegetation is employed to absorb sound. While it does help attenuate the spread of sound, its shielding effect as a sound barrier is often overestimated, and unless the vegetation is relatively dense, the effects could be negligible.

In some cases urban spaces may not wish to function as vibrant recreational environments, but rather express more naturally tranquil park atmospheres. The use of natural occurring sources – wind and water for example, are powerfully emotion interacting elements. Naturally occurring sounds are widely accepted as part of the environment and rarely considered to be particularly disturbing (Grueneisen, 2003: 55). The sound of the sea, or flowing water in general, is often used as a soothing remedy

to assist a listener in reaching a relaxing or calming state of being. This can be applied to urban space that desires a similar atmosphere; ponds and other water features can be designed to convey these sounds within specific spaces, as well as providing a visually aesthetic quality. Similarly, wind can also be utilized to create various sounds. Designing specific wind chime or pan-flute systems for example would be able to create certain sounds that corresponded to the flow of a passing breeze. As one feels the motion of the breeze pass their body, they are able to relate it to the tempo of the sound they hear, thus the sound becomes recognized as an extension of the breeze, expressing the sound as a more naturally related element.

A different approach to controlling sound is through the use of digitally enhanced media, which is then broadcast into a specific space. This is a more complex yet probably more effective option, as one can attain a much wider variety of pre-recorded sounds; hence arouse a wider variety of emotions. This type of technology (active acoustics) is already implemented in various situations where existing sound levels are not optimum. Such examples have been known to occur in office environments, where the ambient noise levels are too low; electronic sound masking systems provide the space with an artificial background noise level, which creates a less sterile environment and improves speech privacy (Grueneisen, 2003: 64).

Obviously this method is also able to transmit natural sounds to create that naturally desired ambience within a space. This method is perhaps better suited to public urban space as it eliminates the intrusion of physical structures in the vicinity, thereby maintaining the natural visual landscape commonly associated with parks, pleasant as a relief from the hard concrete aesthetic of the city.

There are many possibilities with this – similar to the office situation, one could transmit a level of background noise allowing it to reflect off objects to all regions of a space, thus giving the perception that there is a human presence in the vicinity. This could serve as a deterrent to muggers and other criminals looking to conduct unlawful activities in precarious spaces, providing them with the feeling that their actions are being watched or surveyed. Similarly, sounds could be used inform people of the nature of the space they may be entering. If a space is a safe recreational environment, then an accordingly conveyed sound prescribing the corresponding feeling could inform visitors of that; just as an eerie sound may inform people of a dubious space and encourage them to steer clear of it or at least warn them to be vigilant.

While in many ways this theory argues to improve the environment of a space, the danger (theoretically) however is the possibility of providing people with false perceptions and inaccurate readings of a space. Influencing people to think a space contains certain properties when it in fact does not could be hazardous. For instance trying to change the atmosphere of a dangerous space to appear safe, stands to create a false sense of security within the person, leaving them unaware of the potential dangers they may incur, thus increasing their chances of falling victim to such events.

That being said, assuming the theory were accurately calculated and applied to appropriately analogous scenarios, the suggestion would be that should one be able to uncover a system of sounds (or music) that corresponded to a particular emotion typology, theoretically one would be able to apply that sound to a specifically designed physical environment and enhance the desired atmosphere within that space. The derivative of sense and emotion, perception and interpretation, architecture and music.

chapter 10

Conclusions

That music and sound can influence a person's reactions at an emotional level seems a plausible deduction to make. Mark Fisher's work showed how integrating an aural experience with a complimenting visual one can enhance the ambience of space and intensify the experience within it, influencing people to act in a manner different to their everyday behavioural patterns. Coop Himmelblau's expo at Biel also engaged with space and architecture through a more cerebral and emotional method of interaction, attempting to influence people's emotions and thus their perception of their experience of the expo. Both cases explore moods and perceptions as their conceptual basis, designing a building or space as an emotional experience rather than a physical object.

Music's linkage with the human psyche – consciously and subconsciously, appears to have viable potential to offer the architectural realm. Theoretically, sound itself is a measurable entity thus the physical aspects thereof can be evaluated to calculate and attain accurate predictions of relating variables (Grueneisen, 2003: 53). The difficulty in achieving specific results in applying the argument to humans however, lies in each human's individuality and thus unpredictability. The theory nonetheless is not implausible. As with the rock concert scenario discussed in Fisher's work, people occupying that space are all there out of a common interest, thus the likelihood is that the majority of them share comparable traits and might therefore respond to the experience being conveyed in similar fashions. If one can assume that spaces designed to convey a specific experience would attract a certain human "typology", most of whom shared related character and emotional properties, then the possibility of predicting the generalized form of human emotional response and behaviour of those people might seem feasible.

Experiments could be implemented to acquire relatively accurate readings of the reactions and resultant actions of a number of people typical to specifically created environments, from where an averaged baseline from which to work from could be established. From there, testing different people typologies against those different environments, one could formulate a network of combinations between the two, acquiring a range of results displaying the likelihood of how various types of people would react to certain environments. Spaces could then be designed to convey the appropriate environment likely to attract and relate to the desired type of people, in order to achieve the desired human behavioural response. To implement these

experiments however and acquire such a system of results would require extensive research and much greater level of resources, which fall outside the scope of this project.

The whole argument does also raise concerns and issues regarding moral ethics. While it may be under the intention to do good in seeking means to revitalize dead spaces, achieving this through manipulating people's perceptions, simulating what one understands to be reality with an artificial recreation, a simulation of the real; is this morally acceptable? Providing a false sense of security and indeed reality where there is in fact none. Does one not have the right to know what is real and what is in fact merely a manipulation of one's own mind and senses? That one can begin to shape a person's feelings and perception at that person's obliviousness, is in many ways not that dissimilar from imposing a subtler level of brainwashing or hypnosis upon that person and indeed society at large. While the application of this argument may have started with the objective to improve cities and society alike, with continuous advances in modern technology and extremist totalitarian political agendas not unheard of; should this theory be realized, perhaps a more fearful question of the future might be: where could it end?

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