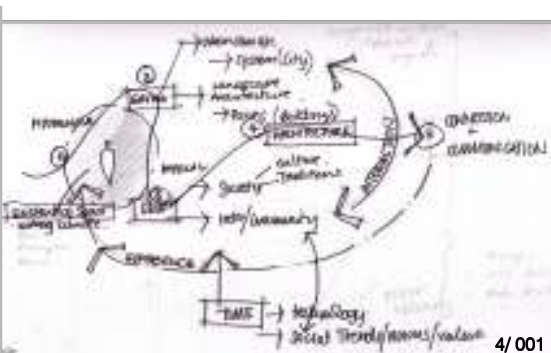
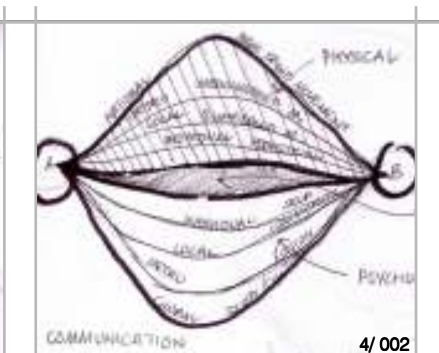



THEORETICAL DISCOURSE 4/

<p>THEORETICAL DISCOURSE 4/ Introduction Urban Design Architecture Technology Conclusion</p>	 <p>4/ 001</p>	 <p>4/ 002</p>	 <p>4/ 003</p>
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'Meaningful places are those where life is celebrated, where equity and overlap are achieved in access to the facilities of the city; where there is a balance between constraint and freedom to act; where the common denominator is man on foot; where the necessary simple human needs are accommodated; where community and that necessary sense of belonging can exist freely; and where complexity and therefore secrecy make areas most liveable.' [Nuttall 1993:17]

<p>Introduction 4.1/ Existential Space City Systems</p> <p>Urban Design Architecture</p> <p>Threshold Connection Communication</p>	<p>28</p>
<p>Urban Design 4.2/ Integrated Urban Design Access/ Interaction/ Urban Performance/ Urban Space Form/ Function/ Image/ Spatial Definition Figure-Ground Theory/ Linkage Theory/ Social Responsiveness/</p>	<p>29</p>

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<p>Conclusion 4.5/ Urban Frame City</p> <p>Movement Channels Edges Spaces Building Design</p> <p>Threshold + Movement Form</p>	<p>39</p>

'architecture is the articulation of space so as to produce in the participator a definite space experience in relation to the previous and anticipated space experiences'. [Bacon 1957:1]

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- 4/ 001** Architecture + Theory + Philosophical Diagram [Author]
- 4/ 002** Mind + Body [Author]
- 4/ 003** Informal Transport Interchange on Elandspoort Road [Author]
- 4/ 004** Space + Relations [Author]
- 4/ 005** Archway in Pretoria CBD [Author]
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- 4/ 018** Hartzog, Paul. 2004 *"Cities Without Borders– Digital Culture, what matters?"* [www.mindjack.com 08/11/2005]

Introduction 4.1/

Architecture can be seen as to 'represent a means to give man an existential foothold' and involves the 'concretization of existential space'. [Norberg-Shultz 1980:3] 'Existential Space' according to Norberg-Shultz, is that which comprises the 'basic relationship between man and his environment'. Edmund Bacon continues this notion in his book *Design of Cities* where he states that 'an expression of philosophical interaction of the forces of mass and space'...'reflects the relationship between man and nature and man and the universe'. [Bacon 1957:16] 'Mass' and 'space' being the basic ingredients of architectural design, just as Trancik declares 'Architecture' to consist of solids and voids and the 'articulation and differentiation of solids and voids produces a fabric of the city which establishes physical sequences and visual orientation between places.' [Trancik 1986:100]

Our universe involves cities and the interaction between Urban and rural landscapes and ourselves. There exists spheres of confluence around masses and it is the points at which different masses come into the proximity of each other, which is of great interest. These are zones of blurring where one environment meshes with another or zones of definite exclusion where one environment blocks off itself from anything else. The thresholds into and out of cities and the points at which man-made [urban] environments end and natural environments begin and visa versa are the edges which man truly experiences and is aware of. This point of threshold stands as a threshold for multiple systems on different scales.

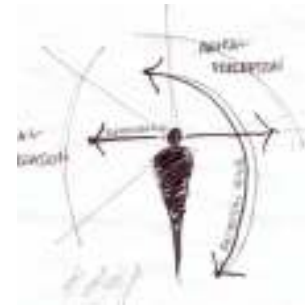
Architecture in it's purest form can be seen to involve the process of enclosure, creating boundaries and defining one space from another. One can see a boundary as limiting yet is exactly the same as a threshold. A threshold however is invariably seen as an entrance or zone of passage which is un-inhibiting yet definitely a point of introduction for the next space. Movement between spaces makes one physically and visually aware of being on the inside, or outside of one or other space, and thus aware of our location within environments and essentially cities.

The functioning of a city as a system relies on the Urban Design Planning whereby the city is broken down into smaller systems which need to function in conjunction with each other and involve multiple levels of connection and communication. One can compare a city to the functioning of a machine consisting of multiple cogs working together. The more fluid and faster the movement of the machine the more work is achieved and the system requires less energy to keep it in motion. Thus movement becomes an important phenomenon in the functioning of a city and involves the activity of changing place by people and interacting with different elements of the city, such as solids and voids. Humans in the machine of the city are the molecules of oil which are carried by one cog to another and flow through the system and form part of the city fabric.

Edmund Bacon declares that 'in urban design there should be skilful development of architectural energy so that the influence of colour of the buildings radiates outward articulating the whole fabric of the city'. 'Character of space' is expressed through rhythm, texture and sprit and the 'articulation of space' is expressed through forms, textures, materials, colour and the modulation of light and shade. [Bacon 1957:16]

The Articulation of building edge [threshold] and the spaces it creates is the focus for the following dissertation. specific attention is paid to connection and communication with the surrounding context and the potential to reinforce this through innovative design in building. Technology is becoming an integral part of our lifestyles and has the potential to affect Architecture. Thus form, materiality and surface can be transformed through innovative design. This gives architecture the possibility to aid man and stimulate man even more than ever before, creating a truly connected and communicative environment which expresses man's place in time and character with which man can identify with.

'if architecture is an art, a cultural effort, it must be an act of innovation towards the future in opposition to establish customs' [Bohigas 1999:12]



4/ 004

Introduction 4.1/
Existential Space
City
Systems



4/ 005

Urban Design
Architecture

Threshold
Connection
Communication



4/ 006

'life is a continuous flow of experience; each act or moment of time is preceded by a previous experience and becomes the threshold for the experience'. [Bacon 1957:19]

'establish volumes of space that are in scale with the needs of the present time and defined by means which are in harmony with modern technology'. [Bacon 1957:16]

Illustrations/

- 4/ 004 Space + Relations [Author]
- 4/ 005 Archway in Pretoria CBD [Author]
- 4/ 006 Polleys Arcade Pretoria CBD [Author]

Urban Design 4.2/

The strategy towards Urban Design in the following dissertation in the 'development of architectural energy' [Bacon 1957:16] is based on the amalgamation of several approaches whereby;

- **Integrated Urban Design** is perceived to aid a city through maximized access, connection and the concentration of activities to aid opportunity within an African context,
- **Urban space** is the essence of the city and the physical domain for the modern development of the commonality, and the combination of
- **Spatial Definition** with figure-ground theory and connective qualities of linkage theory and social responsiveness of the place theory is necessary.

Integrated Urban Design

Consulting the work of Cape Town based South African Urban designers David Dewar and Roeloff Uytendboogaardt in their book "*South African Cities: A Manifest for Change*", the concept of Integrated Urban Design is applied to the South African context. Their approach focuses highly on **access** and connection to opportunities, facilities, special places and events of a city. A well connected system which is evenly distributed is recommended with the pedestrian mode of movement seen as the lowest common denominator when interacting with the city environment and thus the starting point of all design. They pose that logically 'places of greatest **interaction** in cities' invariably are 'places of greatest opportunity'. [Dewar + Uytendboogaardt 1991:17] The providence of opportunity in the South African context is of vital importance in alleviating poverty. Opportunity gives people the chance to obtain work and to support themselves. A far more sustainable form of intervention when dealing with poverty.

Dave Dewar speaks of '**Urban Performance**' as measurable by the creation of opportunity, and how 'structural configurations' such as 'new hierarchical patterns of agglomeration opportunities' [City of Cape Town, *Municipal Spatial Development Framework 1999*] generate greater opportunities which enhance living to a greater degree'. [Dewar + Uytendboogaardt 1991:17] The ultimate desire is to create people friendly environments and 'definite space experiences'. Dewar believes that the 'complexity of environment' can reflect and contribute to the richness of human experience and that 'reflecting cultural expression' is in 'the making of environments'. [Dewar + Uytendboogaardt 1991:17]

The City of Cape Town, *Municipal Spatial Development Framework*, August 1999 sets out strategies to implement in order to enhance the city of Cape Town. Such strategies include;

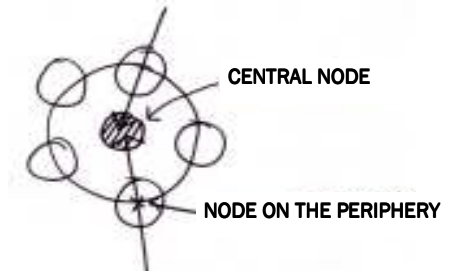
- '**Hierarchical System of Relative Accessibility**' which is part of the logical process determined by the 'balance of potential conflicting dynamics'.
- The **Maximisation of limited Resources** in a practical approach to the realities of South Africa such as Public Transportation Systems [considered the 'most equitable systems of transport'] which must be able to be accessed and allow the user freedom to 'switch directions' to 'change modes of transport' as easily and efficiently as possible.
- **Zoning** by dividing the city into zones relative to an 'accessible hierarchy' and central points which are located in relation to the distance and time span for an individual to walk from point to point. A maximum distance of 2.5 km's is devised which is gauged as being appropriate should a person walk at a speed of about 12min's/km therefore a maximum of 30min's from point to point.
- '**Expandable environments**' responding to flow the of people in order to 'accommodate movement systems' and the emphasis on 'special place quality of areas' is evident through the clustering of facilities and services at specific points. The location of valued facilities is based on the maximisation of high activity areas creating a reinforced Interlinked network and spatial framework which starts to connect on more levels and create definite spaces of place.



4/ 007

Urban Design 4.2/

Integrated Urban Design
Access/
Interaction/
Urban Performance/



Hierarchical System of
Relative Accessibility

4/ 008

'through sense of connection with a system greater than himself man achieves aesthetic satisfaction'
[Bacon 1957:15]

'The city is the physical domain for the modern development of the commonality; we have to accept that in physical terms the city is the conjunction of its public spaces'. [Bohigas 1999:9]

Illustrations/

4/ 007 Zoning Applied in KM radius around site [Author]

4/ 008 Centrality Concept [Author]

Urban Design 4.2/ Urban Space

According to Bohigas's *"Ten Points for an Urban Methodology"*, Urban theory needs to resolve questions of 'identity' and 'legibility'. [Bohigas 1999:9] Aspects of social identity is seen to relate closely to the environments in which we procreate, and thus public spaces need to respond to a coherence of form, function and image with which we can connect to, relate to and can interpret. '

'space of a collective life must be not a residual space but a planned and meaningful space'
[Bohigas 1999:9]

The 'city' provides a 'language of it's own' where 'anthropology is embodied in the street, square, garden, monument and city block'. [Bohigas 1999:9] Fragmentation and separation characteristics in urban design is a commonality in our South African city contexts and can be interpreted in the 'lack of physical and social continuity' of our city fabric.

'Integrated approach must combine the spatial definition of the figure-ground theory with the connective qualities of the linkage theory and the social responsiveness of the place theory'. [Trancik 1986:219]

Spatial Definition

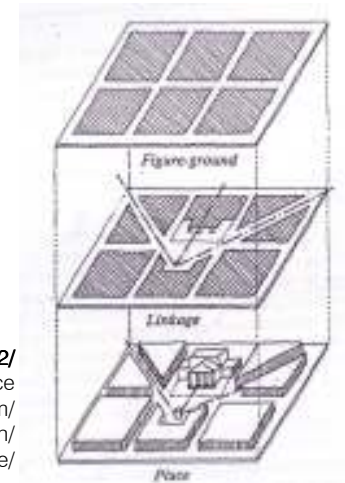
The work of the Urban theorist R.Trancik in his book *"Finding lost Space"* focuses on the concepts of 'Spatial Definition' and the 'Integrated Approach' to Urban Design combining 'Figure-Ground Theory', 'Linkage Theory' and 'Social Responsiveness'. Trancik speaks of design principles which incorporate 'Linkage', 'Integration, and 'Specific Place' to formulate characteristics of surrounding environments. These principles work towards creating the urban experience and a definite space experience'. Response to 'patterns of human activity' reflects the necessary understanding of a city and locations dynamics in order to acknowledge the implications of intervening. He goes further to guide one to 'identify primary spatial structure' and to map visual quality and use these as dictators in design.

'public spaces give symbolic content and meaning to the city by providing gathering places, paths, transitions between public and private domains and arenas for discourse and interaction'. [Trancik 1986: 100]

'Space is the medium of the urban experience'... it 'provides the sequence between public, semi-public and private domains'. [Trancik 1986:100]

'Design must respond to the dynamics of social uses in its physical form'. [Trancik 1986:219]

"Town- tool for an ordered, stratified, efficient, modern life, provided for people who are fully adapted to an industrial society"... "City- is the grip of man on nature, a human organism both for protection and for work"
[Righini 2000:75]



Urban Design 4.2/
Urban Space
Form/
Function/
Image/

Spatial Definition
Figure-Ground Theory/
Linkage Theory/
Social Responsiveness/

4/ 009 Diagram of Urban Design
Theories [Trancik 1989:98]

'Architecture should be primarily a consequence of the form of the city and of the landscape and should participate in the new configuration of these'. [Bohigas 1999:12]

THEORETICAL DISCOURSE 4/ Architecture 4.3/

Architecture 4.3/

'architecture is the articulation of space so as to produce in the participator a definite space experience in relation to the previous and anticipated space experiences'.

[Bacon 1957:1]

Edmund Bacon ascertains that the 'conscious expression of space is essential to the highest expression of architecture', [Bacon 1957:15] and according to Adrian Forty the expression of architecture comes down to 'architecture as the medium of communication' [Forty 2000:71] If communication is about interpretation then one can agree that the 'awareness of space is experience' which is through the 'manipulation of mass and space' according to Walt Whitman, whereby the essence of design is the interrelation between these two to realise space'. [Bacon 1957:15]

The ultimate search is thus for 'order', through expressing meaning in a physical sense whereby the relationships between elements or components is represented in order to give man an 'existential foothold'. Representation becomes a form of communication, legibility and logic through ordering 'form' or 'mass' and 'space' to order experience.

'life is a continuous flow of experience; each act or moment of time is preceded by a previous experience and becomes the threshold for the experience'. [Bacon 1957:19]

The articulation of anything one could see as the idea of asserting 'order' to the natural haphazard arrangement of things. The difference between natural and man altered. Any form of alteration reflects a trace of mans existence. The ordering of 'space' 'form' or 'mass' and 'movement' could be construed as the very essence of architecture. 'Space' is ordered through the implementation of 'hierarchy' which is interpreted and communicates a value system and aids in 'creating a sense of place'. [Righini 2000: 14] In the tectonics of 'form' or 'mass' order is reflected through the relationships between elements, the expressions of 'spatial connectedness' and through the creation of a 'sense of visuality'. The ordering of 'movement' involves 'levels of interaction' and as Righini states the 'dynamic element in spatial composition' giving importance in experience. The importance of experience is acknowledged as a process when moving through space, through the 'structuring' of space to help one experience it and the reflection of relationships between the building and ;

- Form and function enabling 'spatial continuity' and 'spatial relationships'
- Movement in 'orientation in space'
- Technology in the 'modulation of space'

'space creates the special relation between function and social meaning in buildings'.

[Hillier 1984:1]

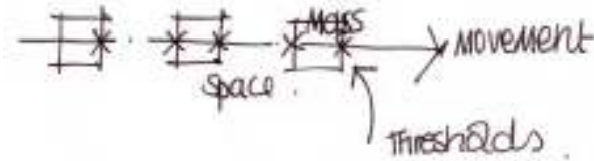
Thus 'thresholds' as 'introductory spaces' need to be considered as important as the 'space' to which it is complementing, however acknowledge that it is the 'threshold' still and not the final destination. Connection and communication of this needs to be incorporated into the articulation of space, form or mass and the patterns of movement with which the building is coming into contact with.

'the purpose of a building' is in 'ordering space'.

[Hillier 1984:1]

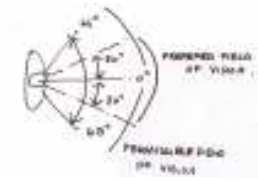
'one of the prime purposes of architecture is to heighten the drama of living'

[Bacon 1957:19]

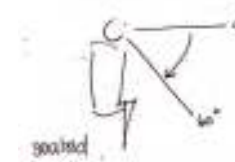


4/ 010

Architecture 4.3/
Experience
Order
Space/
Form or Mass/
Movement/
Technology/



4/ 011



4/ 012



4/ 013

Illustrations/

- 4/ 010 Essence of Architecture [Author]
- 4/ 011 Visual Capabilities of people [Author]
- 4/ 012 Visual Capabilities of People [Author]
- 4/ 013 Circulation Edge [Author]

Architecture 4.3/ Expression

Victor Hugo in his book *"Notre Dame of Paris"* once said 'architecture' can be seen as 'the great book of mankind, man's chief form of expression in the various stages of his development, either as force or as intelligence'. [Hugo 1978: 189 in Forty 2000:72]

Experience of environments involves two concepts spoken of by Adrian Forty in his book *'Words and Buildings- A Vocabulary of Modern Architecture'*, 'visual sensation and mental perception' which act in the transfer of communication. [Forty 2000:27] The theorist Herb Greene in *"Mind & Image- An Essay on Art & Architecture"*, speaks of 'images' as a 'form that acts as a symbol' and the 'reflection of life experiences of the individual user of architecture and 'expression' of the organic nature of life'. [Greene 1976:44] He continues stating how 'experiences supply principle routes for participatory emotions' and that 'the body is the primary agency through which we have learned our responses to the phenomenal world'. [Greene 1976:68]

'it is through the most intimate experience of our own body and it's projection into inanimate nature that the aesthetic perception occurs' [Wolffin 1886:159]

Adrian Forty speaks of architecture as an expression similar to language and he quotes Fichte Goethe whom adapted the idea of J.G von Herder that 'language originated in the human capacity for reflection' to then say that similarly 'architecture was the outcome of the human will to self expression in plastic form.' [Forty 2000:76] The idea of form being the reflection of expression and expression being a search for meaning reflecting values.

'Goethe saw that architecture, like language was not simply a medium of individual expression, but more importantly expressed the entire collective identity of particular people, the Volksgeist'. [Forty 2000:76]

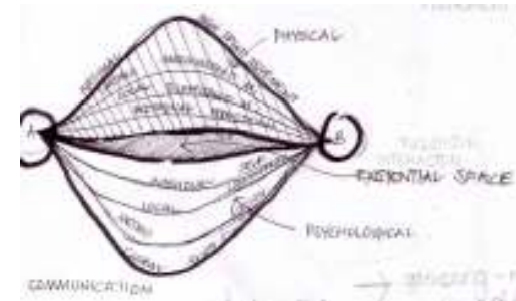
'For in man is a plastic nature, which at once, when his existence is secure, proves active. As soon as man has nothing to worry him of to make him fear, the demi-god gropes around for matter to breathe his spirit into'. [Herder 1872 : 159 in Forty 2000:76]

Architecture has the ability to articulate our environments in order for man to be able to relate and identify with it. This communication allows man to interpret expression and locate value and meaning through experience, in interacting with two dimensional surfaces and three dimensional forms.

Our current point in time is deeply rooted in technology. The architecture gives the opportunity for further communication both physically [form] and Surface Display with Media and Image in digital format. Media and Image can be interpreted as a modern form of art. 'Art and Architecture' spoken of by a UNISA Architectural Academic Sabine Marschall discusses the architectural theories of P. Damaz and J. Fassler.

'Art, for example, can describe a building's function; it can imbue a space with a spiritual quality; it can visually enlarge a space by creating an illusion; it can confer status; it can demonstrate wealth; it can convert a neutral space into one suited for a particular ritual; it can ascertain claims about a building's owner or users; it can establish links between cultures or attempt to recover values of the past; in short: art plays a vital role in shaping a building's identity.' [Marschall 2003 www.unisa.ac.za/ academic journals]

Art in Architecture reiterates 'Architecture' as an expression and a means to mans 'Existential Foothold'. Surface aids in articulating space and if art is incorporated into architectural surfaces the spaces are embedded with an even greater energy. Expression is communicated and interpreted in physical form. Art which one moves in and out of but essentially serves a function with Architecture greater than it self.



Architecture 4.3/

Expression
Communication
Meaning

4/ 014 Mental Perception + Visual
Sensation Diagram [Author]

'images used in the environment can help maintain existing values as well as create evolutionary change'. [Greene 1976:116]

Architecture 4.3/

'space creates the special relation between function and social meaning in buildings'
[Hillier 1984:1]

Space

The 'realisation of space' involves the articulation of both 'mass' or 'form' and 'space' with careful detail to edge and the point at which 'mass' and 'space' abut with one another. The manipulation or articulation of space some might see as the 'articulation of edge' whereby the character is established in order to work with space to create place. According to Christian Norberg-Shultz 'a place is a space which has a distinct character'. [Norberg-Shultz 1980:3]

The theorist Bill Hillier in his book, *"The Social Logic of Space"*, quotes that architecture involves 'levels of space' and in essence 'giving space and form to our material world'. [Hillier 1984:1] This he explains is achieved through structuring the system of space and articulating the 'level of surface that defines space'. The 'logic' and 'structure' of space' is derived from 'social structure' whereby 'functional objectives' important to society at present, concerning practicality are achieved.

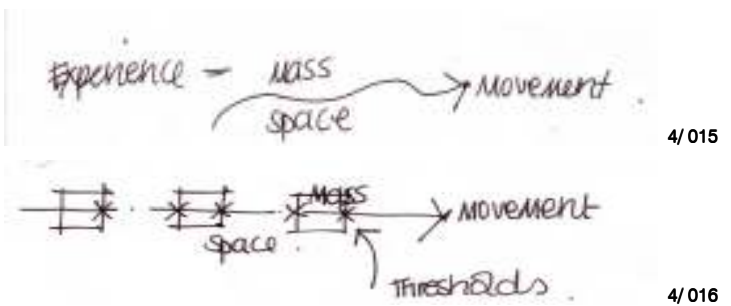
'The ordering of space in buildings is really about the ordering of relations between people'
[Hillier 1984:4]

'functional objectives concern practicality'
[Hillier 1984:120]

Introducing logic and rationality to the relationships of buildings and components one could see as a search for order and pattern. Hierarchy in order allows for 'spatial orientation' through logic and coherence. This clarifies 'organizational principles' and 'facilities'. [Righini 2000:47] This then enables the 'resolution' and 'making of space' creating meaning which is 'attached to our experience of space'.

'architecture needs structure and order' and the 'chief requirements for the creation of a comprehensible form are logic and coherence' [Righini 2000:47]

Architecture thus holds the potential to order the 'sequence of experiences' through the 'sequence of spaces' creating a 'spatial composition' which expresses the way things are brought together thus introducing a logic through the organization of technical issues. Logic at present is located in an approach to design which enables a building to function to the best of it's ability and provide the most efficient environment to aid production. Production being the 'current' measure of performance and the 'ultimate goal' being the maximum product from the least input.



Architecture 4.3/

- Space
- Character
- Logic
- Structure
- Hierarchy
- Function

'the purpose of a building' is in 'ordering space'.
[Hillier 1984:1]

Illustrations/

- 4/ 015 Experience according to Norberg-Shultz [Author]
- 4/ 016 Essence of Architecture [Author]

Architecture 4.3/

Function + Form/ Mass

The relationship between a building and its function essentially becomes an integral component in design whereby the values held by the users are acknowledged and are responded to through appropriate design in order to create an efficient building according to the users. The form and function are driven by 'spatial continuity' and 'spatial relationships' required by the users. The form of the building is determined from the function and the form reinforces the function yet at the same time holds the potential to initiate new functions which build off of the original driver.

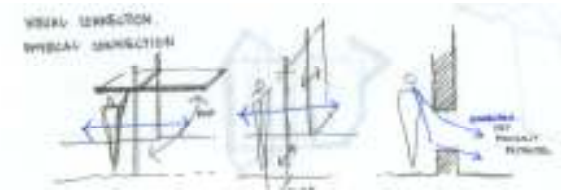
Programme in a building is a form of order whereby specific activities are catered for with appropriate spaces. The function of a building can be seen as to express the programme to create 'place' and thus facilitate the activities. This is achieved through the articulation of form whereby 'material realization' is achieved. The direct relation through 'material preconditions' is said to affect programming within a building reflected in 'patterns of movement' which ultimately results in a 'material realisation'. [Hillier 1996:154] 'Material realisation' directly relating itself to a physical concept whereby 'physical forms possess a character only because we ourselves possess a body' [Wolffin 1886:151] Edmund Bacon relates architecture to the idea that 'Character of space' is expressed through rhythm, texture and spirit and the 'articulation of space' is expressed through forms, textures, materials, colour and the modulation of light and shade. [Bacon 1957:16]

These characteristics however are only expressed through a conscious awareness and applied logic based on a set of values derived from a specific culture. According to Karl Friedrich Schinkel architecture should 'convey cultural meaning on many levels' and is achieved through, 'Tectonic, Construction logic and Efficiency of building'. [Frampton 1995:1]

Paul Righini in his book "Thinking Architecturally" speaks of form and function as reflected in the tectonics through the attitude towards 'spatial composition and structure'. The 'language of architecture' in which 'function' is seen as a 'rational pragmatic' and 'form' as 'aesthetic' forming the building elements towards 'visual logic and design'. Different functional activities have different functional requirements. Different spatial requirements have different identities and thus 'form' reflects 'spatial attitude' through 'spatial hierarchy'. 'Ordering ideas' are seen to have 'aesthetic value' which involves giving 'visuality' weight through the ability of the composition to communicate and be experienced such as;

- Structure
- Spatial Organization
- Qualitative Aspects of Place
- Spatial Proportion
- Space Enclosing Systems
- Space Defining Systems

Righini, Paul. 2000. *"Thinking Architecturally- An introduction to the creation of form and place"*, University of Cape Town Press, Cape Town.



4/017 Edge Condition [Author]

Architecture 4.3/

Function + Form/ Mass

Efficiency
Practicality
Programme
Material Realization

Ordering Ideas

'one of the prime purposes of architecture is to heighten the drama of living'
[Bacon 1957:19]

Architecture 4.3/

'an axis is perhaps the first human manifestation; it is the means of every human act. The toddling child moves along an axis, the man striving in the tempest of life traces for himself an axis. The Axis is the regulator of architecture'. [Le Corbusier *Vers Une Architecture*]

Movement

'aspect of aesthetic perception' - Forty, Adrian 2000. *"Words and Buildings- A Vocabulary of Modern Architecture"*, Thames & Hudson, London

The concept of movement is an important factor dealing with architecture because we as people are not stagnant, we move around and it is the process of movement which initiates experience and 'movement through space creates a continuity of experiences derived from the nature and form of the spaces through which the movement occurs' [Bacon 1957:19]

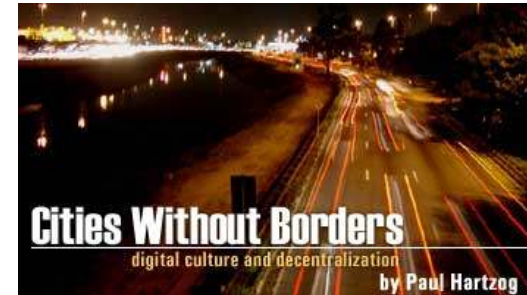
The theorist Bill Hillier in his book *"Space is the Machine- A Configurational Theory of Architecture"*, speaks of cities as 'movement economies' which incorporate a 'series of movement systems' and how the design of a system should be directly related to the 'tempo of movement'. [Hillier 1996:152] The 'Physical City' can be seen as 'buildings linked by space and infrastructure' and the 'Functional City' supports processes of 'Economic, Social, Cultural and Environmental' activity. [Hillier 1996:154]

'space is given to us as a set of potentials and we exploit these potentials as individuals and collectives in using space'. [Hillier 1996:154]

'principle of natural movement' is reflected in the structure relationship between the urban grid and movement densities '[Hillier 1996:154]

Hillier in his article *'Designing for Context'* relates to movement in cities as 'patterns of pedestrian and vehicular movement' reflected in levels of space used in urban areas. The 'key facts in urban systems are the distributions of activities and land uses that 'generate' and 'attract' flows between geographic locations'. [Bill Hillier: www.spacesyntax.org : 23/06/2006]

'Buildings constitute the social organisation of everyday life, as the spatial configuration of space in which we live and move... they represent social organisation as physical configurations of forms and elements that we see'. [Hillier 1996:154]



4/018 Hartzog, Paul. 2004

Architecture 4.3/

"Cities Without Borders- Digital Culture, what matters?"
www.mindjack.com 08/11/2005

Movement

Experience/
Physical City/
Functional City/

'images used in the environment can help maintain existing values as well as create evolutionary change'. [Greene 1976:116]

Architecture 4.3/ Articulation

'Form' constitutes a physical presence of expression within space as Bill Hillier speaks of architecture involving 'levels of space' and in essence 'giving space and form to our material world' through attempting to 'structure the system of space' through expression. Space is seen to be affected by the 'level of surface that defines space' which creates a 'level of individual space'. [Hillier 1984:6] 'Level of surface' one could interpret as incorporating the 'articulation of edge' with which we physically interact with and truly experience. A specific attention to physical tectonics otherwise known as 'texture' as Herbe Greene states 'our responsive recognition of such contrasts make it evident that texture is among the primary vehicles through which we understand the diversity of substances and materials in the world'. [Greene 1976:67]

Space/

The articulation of height, form and volume become the variables when dealing tectonically with space. Technology then orders space in the modeling and definition of space through materiality and in the example of 'scale' which affects the 'significance of space', the 'positioning of spaces' and their relation to one another.

'space creates the special relation between function and social meaning in buildings'. [Hillier 1984:1]

Form/

'Structure as order' becomes an 'ordering mechanism' spoken of by Paul Righini. 'Structure' is the result of 'construction and form' and 'resides in form' such as solid, skeletal or load bearing types. 'Structural Principles', 'Spatial Modulation', 'Hierarchy' are all concepts towards an attitude to space which can be ordered meaningfully.

'structural order must be given its proper role in ordering spaces' [Righini 2000:76]

Movement/

As a 'structuring idea' movement can order through activities requiring to be functionally related. The process of movement involves the sequencing of space destinations and movement configuration, organising patterns of spaces as links between destinations and separate movement types. The providence for movement and the acknowledgement of movement patterns brings into play the articulation of edges corresponding to moving individuals and how their needs are catered for through visuality, stimulation, connection and communication.

'Modernists believed that "Architecture should be the product of logic.... the logic of pure form' [Righini 2000:40]

Construction

The crafting and making of buildings can be seen as a process of detailing with materials and the 'assemblage of components'. Construction should give possibility to expression of the above three dictators of architecture on a level with which people physically interact and relate to buildings on a human scale.

'Character of space' is expressed through rhythm, texture and sprit and the 'articulation of space' is expressed through forms, textures, materials, colour and the modulation of light and shade. [Bacon 1957:16]

Technology should embrace the functions that a space requires and communicate a language of architecture which is subtle yet orders the process of experience. Connecting and communicating on multiple levels so that the user fully interacts and experiences architecture and their environment.

Architecture 4.3/

Articulation
Surface
Texture
Tectonics

Space/
Form/
Movement/

Construction

'the ordering of space in buildings is really about the ordering of relations between people'. [Hillier 1984:2]

**Technology 4.4/
'establish volumes of space that are in scale with the needs of the present time and defined by means which are in harmony with modern technology'. [Bacon 1957:16]**

To be in harmony with modern technology in this day and age requires the acceptance of computer technology into our lives. Computer technology is incorporated into the cars we drive, the way we communicate i.e.. Email, internet, the way we learn and the way we live. Communication networks through internet allow global connection at the click of a button and ultimately our city environments which rely on the careful functioning of systems to allow our cities to function efficiently and to handle the movement of People, Goods, Information, Money and Capital.

Keller Easterling's article "*The New Organism: Logistics as an Organising Principle of Contemporary Cities*" in Stephen Graham's "*Reader-Urban Reader Series*", looks into the relationship between technology and cities, in the intersection between 'digital technologies and urban life'. [Easterling 2004:17] Easterling speaks of 'Logistical Flow' as a 'dominant system which shapes cities and urbanism', such examples are 'Finance systems, Transport systems, Consumption and investment patterns and Construction Systems', which become the informers and the expressions of cities creating characteristics recognised currently as 'speed, complexity, dynamism and mobility'. [Easterling 2004:18]

'the idea of the city changes as the city changes as we consume new media' [Easterling 2004:19]

Manuel Castells follows on from Easterling with "*Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age*", in Stephen Graham's "*Reader-Urban Reader Series*", in which he declares that 'cities are caught up in a complex interplay of space of flows' as a result of 'accelerating domains of trans-local and trans-national technological movement and flow'. Castells' view is that the 'changing nature of social movements and social identities' is evident in the 'changing geographical structures of cities around the world'. [Castells 2004:83] Function, form and meaning alters dependent on the ways in which they are produced reflecting the interplay between Spatial Transformation and Social Transformation. Transformations in 'economic dynamics' affects 'urban physical form' in essence, 'spatial transformation is a fundamental dimension of the overall process of structural change'.

'space does not reflect society, it expresses it and is a fundamental dimension of society, inseparable from the overall process of social organisation and social change'. [Castells 2004:83]

Our current point in time is expressive of a lifestyle altered by technology and especially computer technology. One could term us the Digital Society, the Network Society, the Information Age and conceive of our culture as technologically based. The largest reflector of this is in the realm of communication whereby the internet is providing the opportunity for people to interact. 'Virtual Space' is forming a new dimension in which people escape the 'real world' to engage in mental stimulation. However we are still concretely transfixed to our real world situation no matter how many hours we spend surfing on the web, imagining we are in paradise. The art is in using technology to aid our real world environment and thus essentially communication and connection. One should take advantage of 'cities as communication systems'... 'transformed by the interface between electronic communication and physical interaction by the combination of networks and places'. [Castells 2004:83] Expression through technology should still be about communication and connection of people and the 'diversity of expressions of local life, relationships to media culture' informing a 'new form of Sociability' spoken of by Castells. This is achieved through 'public spaces' which initiate 'social interaction' and are the 'communication devices of our society'.

**Technology 4.4/
Cities
Logistics Systems
Change**

Social Transformation
Spatial Transformation

Digital Society
Communication
Sociability

'Architecture is as much concerned with beauty, style and aesthetics as it is with technology, economics and politics. It is the product of architects, engineers, builders and entrepreneurs; it is used by ordinary people whose voices until recently have rarely been heard'. [Conway + Roenisch 1995:8]

Conclusion 4.5/

The Design aim is therefore, to reinforce the Urban Frame to express a threshold on the periphery of the city and to concede that it is most definitely connected and needs to be layered with more connection lines and communicate to the city system.

Connection being the means of interaction which enables communication through interpretation. Visual and physical connection are the two main factors of connection in architecture. However connection can also relate to psychological connection through knowledge. Knowledge is facilitated by communication. Communication being the means to expressing mans 'existential foothold' spoken of by Norberg-Shultz. Communication can be in the form of symbolic form, this being the ordering of forms to create hierarchy, reflecting value. Another form of Communication can be seen as that of Art. Art being an expressive example of mans traces. The intention with the following dissertation is to combine the aspect of Art and Architecture. Surface Display becomes an Artistic Expression and gives structural architectural elements the opportunity to provide that much more. It is the strategic location of the following dissertation which allows for this approach to design.

The aim is to define the threshold of access into the city and to maximize facilities and services at the threshold. This allows for maximum access and opportunity for interaction. This then introduces one to the city and provides the realm of space, making place, and in turn making the city a socially rich, efficient, interactive and economic opportunity providing place, reflective of a new sociability and reflective of our current point in time.

Connection and Communication become the theoretical Concepts for the following dissertation. Connection between objects, people, media and the world on multiple levels through different means of Communication. Communication goes further into locating oneself within our world and within time. Current Architecture needs to set new boundaries and make use of new technologies to a achieve new environments. But connection to the whole i.e. the city environment and even the world need to be deeply etched within New Development. This then enables a continuity and sequence connected to the whole which overall is a reflection and expression of a context which relates to the people whom use it.

'Architecture should be primarily a consequence of the form of the city and of the landscape and should participate in the new configuration of these'. [Bohigas 1999:12]

The aim is to suggest spaces and edge these to allow for activities which can connect and enhance the movement channels which cross the intervention such as;

- **Pedestrian routes:** these require shelter, safety, stop off points and interactive edges for trade, communication through visual stimulation and appropriate physical interventions allowing for maximum efficiency and a stimulating environment within which one can orientate oneself in.
- **Vehicular Movement:** this needs to be uninhibited so as to allow fast access to the CBD however needs to be controlled so as not to impact detrimentally on the surrounding context as a brutal highway. The opportunity to stop and park and change modes of transport is needed along with visual display in order to communicate location to the passer by and to create a definite space experience and visual introduction on arriving into Pretoria.
- **Public Transport:** the Metro Rail and the Gautrain are limited in interaction opportunity due to the dynamics of the technology, however visual interaction is possible whilst in movement and interaction between the transport interchange facility and the context is still possible. Sound, wind and dirt barriers need to be

Conclusion 4.5/

Urban Frame
City

Movement Channels
Pedestrian Routes/
Vehicular Movement/
Public Transport/

Architecture consists of solids and voids and the 'articulation and differentiation of solids and voids produces a fabric of the city which establishes physical sequences and visual orientation between places.' [Trancik 1986:100]

Conclusion 4.5/

Edges can incorporate buildings and will aim to reinforce the Urban Design concepts through creating a fully integrated building which connects with the context through expressing the understanding of the potential that mass holds. Working from a programmatic point of view, education, production and display hold the possibility to communicate and integrate with the city fabric. This holds challenges involving security for the facility and the functioning of a city. The ordering and edging of public spaces and semi-public space area and private areas specifically for the students becomes a design challenge. In this specific location connection to features of the Urban fabric as far as residential areas of Muckleneuk and Sunnyside, Mears Train Station, Elandspoort Road, pedestrian movement routes and UNISA, are all important factors. They need to be responded to through the form of the building, the spaces it edges and creates and the impact it has on these systems.

Levels of interaction involve the interplay of the horizontal and vertical axis thresholds through movement. Movement past and through the threshold. Building involves the method in which each mode of movement is handled with specific attention to experience through visual communication and physical connection. Depth in interaction depends on form, whereby materiality [glass, canvas, solid concrete], rigidity [moveable forms, sliding screens] and surface [wall, roof, floor, ceiling] hold great potential for expression, communication and connection.

Connection and Communication are to be ingrained into the following dissertation in both Urban Design and Building Design. The creating of Thresholds between spaces accentuates spaces and defines spaces to communicate an experiential and architectural language. Surfaces are to be used in both 'articulating edge' and in creating stimulating visual edges. Art and Architecture are manifested in an attempt to provide canvases for expression whilst still serving an Architectural and Urban Fabric function.

Conclusion 4.5/

Edges
Spaces
Building Design

Threshold + Movement
Horizontal/
Vertical/

Form
Materiality/
Rigidity/
Surface/
