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URBAN PROJECTIONS

A Cinema and Film Centre for the Cape Town East City

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[Design Report submitted in partial fulfilment of the degree Master of Architecture (Professional)]

MEANING IN ARCHITECTURE

An investigation into perceptions of form and space

Ross Mc Donald | M.Arch (Prof), UCT | Semester I 2010

[Theory Paper submitted in partial fulfilment of the degree Master of Architecture (Professional)]ww

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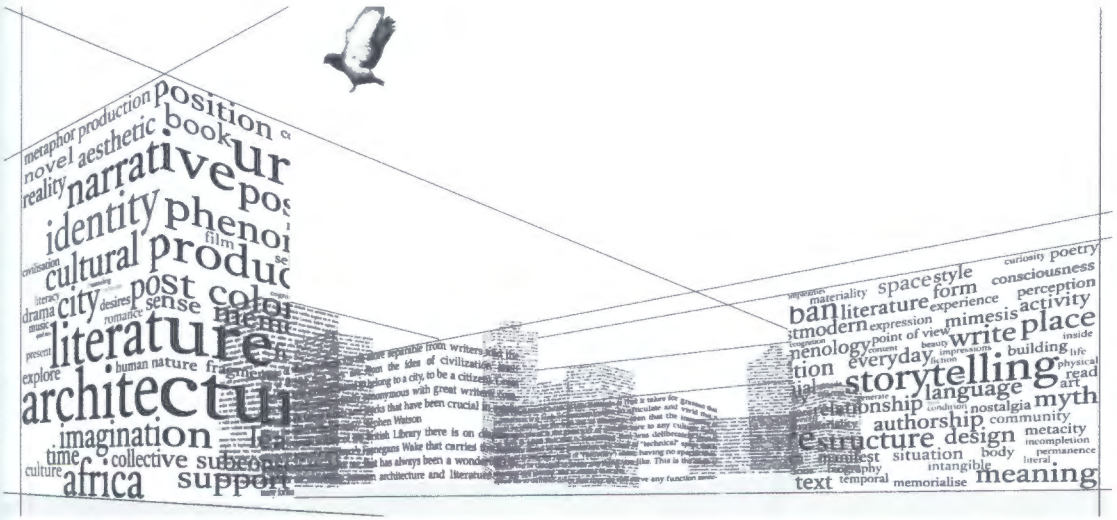
Introduction

This thesis is concerned with the particular way in which people perceive urban space around them. It is my position that, further to the requirements of making buildings and urban spaces that are functional and comfortable, architects have the responsibility to engage the users of their designs on deeper levels. This deeper response to one's urban environment is a characteristic that good architecture always has. Architecture that is invested with a strong sense of meaning, through the specificities of its experiential and formal qualities and with other associations it may possess (historical, cultural, etc.) plays an important role in shaping the everyday urban realities of people in the city.

This document serves to present the theoretical research and outline the approach to design that I have followed, regarding my thesis design project. Both my theory of architecture and theory of technology papers have been included in this document in their entirety, as they are both frames through which I have approached the design process. Interspersed are additional sections of text and diagrammes that outline the specifics of the design project I have undertaken subsequent to (and resulting from) the initial theoretical research.



I. Introduction

> 'Architecture depends on fact, but its real field of activity is in the realm of significance.'
> Ludwig Mies van der Rohe (Norberg-Schulz 1988: 185)

My initial entry into a topic for a thesis was based on a concern with how people perceive architecture and the built environment we inhabit. As an aspiring architect I felt that I wanted to have some idea of what people think when they see, experience and engage with the architectural context of their everyday lives.

Having been involved in the world of architectural design and thinking for five years, I feel that I have forgotten what it is like to go inside a building (or walk past a building or through a designed public space) and not start interrogating the way that architectural spaces and details work. What is it in a building that makes a man on the street, when he walks into a building, say: 'wow, this is a beautiful space!' or 'this space makes me feel alive and look at the world a bit differently?'

When I sit in the theatre with my friends (who are not architects) they laugh at me when I start remarking on the way the balcony handrail has been assembled, or how the bench seating arrangement make the audience feel more like a collective community sharing the experience, rather than the isolation that results from being perched on small stall seats or absorbed by the deep bucket seats at the cinema. Or, when I sit down to lunch at a café and remark at the openness of the space, because of the high-ceilings and large volume and the people I am with say: 'you're right, but I had never really thought about it like that…'

The point is that even though people do not necessarily understand the way that architects design spaces or architectural details, all of these have an (often quite profound) effect on how people experience their built environment and consequently, on how they go about their daily lives.

With this in mind, I want to investigate the way in which people attach significance and meaning to architecture, through their own perception. By having a more critical understanding of the ways in which meaning is perceived, one can begin to interrogate architecture in a way that it would inform a more cognisant approach to design.

This document traces particular threads in the theories that deal with the meaning of architecture in the context of Post-modernist architectural thought. Towards the end of the 1960s architects began to re-evaluate many of the principles that had guided Modernist practice until that then. In reaction to the primarily functionalist mentality of orthodox Modernism, concerns for contextual and historical relevance found renewed prevalence. These issues also began to reassess the cultural significance of architecture in society, rather than merely its social function (Norberg-Schulz 1988: 233).

The essay is divided into six further parts. The first part deals with my particular view on how the fields of architectural theory and practice engage and support one another. The following four sections each deal with a different way of perceiving, reading and understanding architecture. These will deal with Structuralism and a semiotic reading of architecture; Phenomenology and a reading of place; Mimesis and the assimilation of people and environment; and Post-structuralism and understanding based on readings of difference. Each of these is a broad area of architectural theory in its own right, however I feel there is value in discussing and juxtaposing the ideas of each, the better to inform a deeper cognisance and approach to the reading of form and space.

I discuss these particular areas of theory as each has had a particular resonance to my own thinking about the perception and meaning of architecture. The order in which I discuss each section is as a result of the way in which I have found them to relate to and build upon one another, rather than to a chronological sequence or any other overriding hierarchy. Neither should anyone be seen to be more important than another, as I will discuss later.

In the final section, from a point of greater knowledge in these different approaches and grounded in a reading of the main ideas in each of theses theories, I will draw my own conclusions about the relevance of each one, and how they might be seen to constitute a synthesised *theory*. Finally, I will comment on how this process has, so far, influenced my thesis design project and how I view this design process in terms of my theoretical argument.

Consequently, I should like this document to be seen as a primer for a particular way in which to undertake design research, based on the premise that a greater awareness in how architecture is perceived would lead me to a more engaged design process. Any design project has a number of very specific design variables that could not all respond to the elements of an abstract theory or philosophy, however the ideas of such a philosophy could be brought to bear on such a process of design. In simpler terms, theory is not a design process or a design concept, but rather a precursor to such a process or concept.

II. An Approach to Theory and Practice

> 'Theory is a practice, a practice of concepts. Practice is a theory, a theory of contexts.'
> Bernard Tschumi (Tschumi 2004: 15)

I see theory as being a critical engagement with the broader discourse of architecture, together with a number of related fields, rather than theory being a pretext for design; or theory becoming a design concept for a specific project. Theory should be allowed the space to exist in its own right. From this position of autonomy it might be brought as an underlying support to the practice of architecture. In this way a particular theory can be applicable to more than a single project. Indeed there might be more than a single theory that co-exists in the manifestation of a single architectural design. It should be stated however, that any theory should have the ability to evolve and change with the addition of new and relevant thinking.

It is a pragmatic approach that should not be mistaken for an ideology. The very contingency inherent in the large number of variables that influence the architectural project make it impossible to hold a fixed view on how architectural design should be undertaken.

The theoretical concern I have relates to the way in which people perceive meaning in architecture, rather than the operations or functions that architecture fulfills through the pragrammes it contains or the agency of architecture. What does architecture mean? How do we perceive the buildings and urban spaces that we use and what is their significance in our everyday lives?

The city forms the backdrop to and supports our day to day activities, yet we are often oblivious to the ways in which our behaviors are reactions to and relationships with the spaces we inhabit. Further than being mere containers of activity, buildings and urban space in general, evoke a different deeper level of response. It is this level of response, perhaps first intimated at by Vitruvius in his *de Architectura* as delight, the third pillar of architecture (the first two being commodity and firmness), that sets architecture apart from building – the cathedral set apart from the bicycle shed. So it should be that architects have a deeper understanding of how people relate and react to buildings and spaces in the built environment, as advocated by Robert Venturi in *Learning from Las Vegas:*

> 'Learning from the existing landscape is a way of being revolutionary for an architect. Not in the obvious way, which is to tear down Paris and begin again, as Le Corbusier

suggested in the 1920's, but another, more tolerant way, that is, to question the way we look at things.' (Venturi, Scott Brown, and Izenour 1972: xviii)

III. Structuralism and a Semiotic Reading of Architecture

> 'The city is a writing. He who moves about the city, eg. the user of the city (what we all are), is a kind of reader who, following his obligations and his movements appropriates fragments of the utterance in order to actualize them in secret.' – Victor Hugo (Eco 1999: 191)

Structuralism was concerned with an analysis of the underlying systems that support the relationships and productions of society. Although the theories pertaining to structuralism are varied and applied to a number of areas of cultural theory, it was applied to architecture through the particular use of semiotics. (Leach 1997: 163)

Semiology is, in the first instance, a branch of linguistic theory that breaks down the parts of language (words) into a system of signs, where any word has a signifier (the word itself) and a signified (the idea or concept that the particular word expresses or describes) (*Fig.01*). (Leach 1997: 163,164) This has particular significance in architecture, where architectural elements can be seen to constitute a language that can be 'read' and understood more fully through a decoding of the urban 'text' through a process of looking at the signifier/signified relationships of architectural elements. (Leach 1997: 163; Jencks and Baird 1969: 2)

As a form of cultural production, architecture can be understood to constitute a means of communication - a language. The analytical field of semiotics has been used thus as a way of

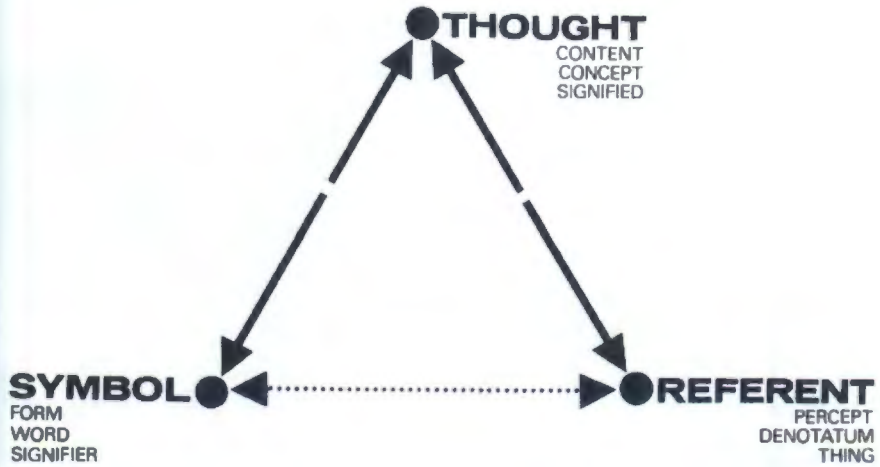


Fig 01: The 'sign triangle' showing how signifier and signified are connected.

understanding the communication systems or structure of architecture, in an effort to uncover the modes by which architecture might carry meaning.

The primary necessity demanded by architecture is to perform some specific function (Eco 1999: 184). But in order to fulfill that function, the possibility of that function must be communicated to those that are in a position to avail themselves of that function. This message of primary function is referred to as the denotative meaning: 'The presence of a sign vehicle [signifier, in this case an architectural object], meaning is the function it makes possible.' (Eco 1999: 185)

Additional meanings can however be attached to a particular sign vehicle in the form of secondary functions. These are the attributes that have symbolic value or connotative meaning. Sign vehicles or signifiers thus have dual functions that express various levels of meaning. (Eco 1999: 187)

For example, the denotative meaning of a door would point to the primary function or utility of allowing passage between two adjacent spaces that are otherwise separate from each other. The connotative meaning of a *particular* door would be resultant from the secondary or symbolic function of the door, which might be reliant on a particularly large and imposing scale, symbolising a certain grandeur; or intricate decoration that suggests some specific importance that is unrelated to the primary utility of facilitating passage from room to room. The door at 10 Downing Street in London has a symbolic function in its representation of the residence and Office of the Prime Minister of the United Kingdom (*Fig.02*).

There is a necessity for *codes* that allow for the engagement with the architectural object. The code is the specific way of interpreting the signified meaning of the sign vehicle, be this the

Fig 02: 10 Downing street. A door that has strong symbolic mean ing, beyond the utility of a door.

Fig 03: Stilletos hinder the functional require ment of shoes.

Fig 04: Trusses in Rob ert Ventur's Sainsbury Wing of the National Gallery do not perform the function of a truss and are purely decora tive.

denotative or connotative meaning. Codes that pertain to connotative meanings can often be specific to a certain culture or social group and this meaning could remain unapparent to someone who doesn't understand the necessary code. Different codes applied to any particular signifier would lead naturally to different meanings. It is this symbolic function that holds social or cultural value, accessed through particular cultural codes. (Eco 1999: 191)

Often the connotative meaning or symbolic function of an object, architectural or otherwise, becomes more important than the utility of that object. In some cases underlying functionality may become hindered, obscured, or made impossible, depending on the symbolic message needing to be transmitted (Eco 1999: 182). This interesting anomaly is evidence to the way in which societies and specific cultural groups turn functional objects into symbolic objects associated with the expression of human ideals or emotions. For example, the wearing of stiletto healed shoes (which are generally uncomfortable and relatively difficult to walk in) shows how the symbolic function of a shoe (through its association to a particular fashion) overshadows the utilitarian function, which is to assist comfortable walking (*Fig.03*). Another example of this is use of a truss (which is an inherently economically structural member) as an architectural element, either in a purely structural way; or with both structural and aesthetic functions; or in a manner that has absolutely no structural function, thereby obscuring the primary meaning (*Fig. 04*).

At a larger scale, the symbolism attached to a particular building goes beyond the mundane functionality of the building. An example of this is the White House, in Washington D.C. Here the image of the building is strongly symbolic of the presidential and general political power of the USA, exemplified by the metonymical use of the White House in reference to the US Presidency. While in this case the symbolic meaning of the White House does not in fact obscure the functionality of the building, it is certainly transcendent of that function - that of essentially housing residential and administrative functions (*Fig.05*). (Wiktionary 2010)

At the urban scale there is sometimes conflict between the functional necessity and the connotative meaning of the city based on cultural and social tradition and history. The cultural theorist and semiotician. Roland Barthes, describes this phenomenon using the example of Rome where there is tension between the overbearing history of the city and the functioning of a modern day metropolis (*Fig.06*). In Cape Town a not dissimilar tension lies in the debate surrounding the redevelopment of District 6, in that the potential of open land near the heart of the city is being obfuscated by the political context of reappropriation by the original inhabitants of the area (*Fig.07*). (Barthes 1999, 166)

Modernist architects rejected the idea that architecture was required to hold any meaning, believing rather that it should be required only to be functional. This premise (and the maxim that *'Form follows Function'*) led to a period of architectural design that was characterized by its lack of decoration. The aesthetic that resulted (influenced in part by the Le Corbusier's five points for architecture: pilotis, free plan, free façade, strip windows and a roof garden; as well as the assertion by Adolf Loos that 'decoration is a crime'), is typified by minimal rectilinear volumes that celebrate the material of their construction (*Fig. 08*). In 1932 Hitchcock and Johnson dubbed this the *International Style* in an effort to describe the uniformity of form particular to architecture of the time. Although this attachment of a *style* went counter to the best intentions of the true Modernist Project (of architecture as an instrument fir social change) (St. John Wilson 1995: 28), it goes some way in explaining the way in which architects of the time were not chiefly concerned with the symbolic nature of their work.

Fig 05: The iconic symbol of the White House transcends the functions it supports.

Fig 06: There is an ambiguity between the preservation of ancient buildings such as the Colloseum and the functioning of a modern city.

Fig 07: District 6, an area on the outskirts of the Cape Town CBD. There is a conflict between the historic and political symbolism of the area and the potential of open land so close to the city.

The phrase *'Form follows Function'* could be understood to be ironically false in the light of a semiotic reading of modernist architecture, as the reduction to a minimal formal rendering was often not expressive of the function of the building. This is evident in the minimal rectilinear boxes of Mies van der Rohe, which do not express the functions they support (*Fig. 09*) (Jencks and Jencks 2002:14). Jencks, curiously, suggests otherwise as well; that modernists conceived of form as diagrammatic of the function contained within that volume, exemplified in the Russakov Club by the Russian architect Konstantin Melnikov (*Fig. 10*) (Jencks and Jencks 2002: 28). This contradiction in a primary tenet of Modernist ideology points to the pervasive ambiguity within the movement.

This use of code and metaphor dealt with by Charles Jencks in his seminal work, *The Language of Post Modern Architecture*. People are inclined to understand one building by relating it to other buildings with which they are familiar (Jencks and Jencks 2002: 26). In the event of a building

that is formally original or different to the norm, association might be made between it and other objects. These associations are often not thought of by the architect that designed the building. The often quoted example is the Sydney Opera House which has been described as numerous non-architecture related objects, including armadillos and nuns in a rugby scrum (*Fig. 11*) (Jencks and Jencks 2002: 26). 'The basic point is that codes of perception underlie the way we see architecture and value it.' (Jencks and Jencks 2002: 27)

This use of metaphor for explaining architectural form was largely ignored by orthodox Modernism in favour of minimal, geometric compositions. In some instances however, reference was made to the forms of machinery and engineered structures as being suitable aesthetic models for architecture through the seemingly beautiful proportions and geometries arrived at by the economic logic of engineers (*Fig. 12*). (Le Corbusier 1989: 2)

Metaphoric form-making that relied on the associations that people make presupposes that different people will make different connections, leading to a plurality of association. Jencks suggests that ambiguous forms that allow for multivalent association leads to a more interesting building with greater appeal – buildings that hold the viewers attention through the wittiness of their non-literal form. Buildings with these qualities are referred to by Jencks as enigmatic signifiers – suggestive buildings that allow people of different (visual) cultures and subscribing to different visual codes, to attach different meanings that might, over time, also shift or change (*Fig.13*). (Jencks and Jencks 2002: 30,31)

> 'Architecture as a language is much more malleable than the spoken language, and subject to the transformations of short lived codes. While a building may stand three hundred years, the way people regard it and use it may change every decade.' - Charles Jencks(Jencks and Jencks 2002: 30,31)

Fig 08: Villa Savoye in Poissy, by Le Corbusier, 1928,

Fig 09: The IIT Chapel in Chicago, by Mies van der Rohe, 1952.

Fig 10: The Russakov Club in Moscow, by Konstantin Melnikov, 1928.

Fig 11: A sketch of the Sydney Opera House designed by Jorn Utzon depicted as a group of turtle shells.

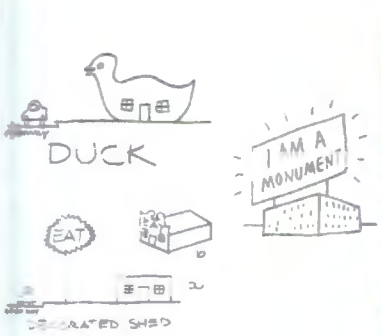
Fig 12: The Garabit Viaduct designed by Gustave Eiffel in 1880 and refered to by Le Corbusier in *Vers Une Architecture* as an ex ample of the aesthetic qualities of engineers geometric forms.

Fig 13: Charles Jencks' sketches of formal interpretations of Le Corbusier's chapel at Ronchamps.

Further to this point made by Jencks is that while the function of a building might change, the meanings of that building (or at least part of the meaning) could remain unchanged, or in fact shift due to influences entirely unconnected with function.
Architecture operating as a sign has come up as a continual theme in the theoretical work of Robert Venturi. In the 1972 book by Venturi, Denise Scott Brown and Steven Izenour, *Learning from Las Vegas*, architecture as sign is interrogated in the context of the late 1960's Las Vegas Strip. In this study buildings are catagorised into two main types, *duck* buildings and *decorated sheds* (*Fig. 14*). (Venturi and Scott Brown 2004: 35)

Duck buildings are buildings that are formally iconic, in which the form is in some way directly connected to the function or content of that building. Decorated Shed buildings were enclosures (whether simple sheds or buildings with more complex internal arrangements) that have superficial decoration applied to them in the form of billboards or non structural facades (Venturi and Scott Brown 2004: 35). As the study shows, in the context of the 'American commercial vernacular' (*Fig. 15*) these two strategies of architectural-form sign-making grew out of a need for architecture to communicate a variety of messages in an environment dominated by the motorcar . (Venturi and Scott Brown 2004: 34) However, Venturi suggests that this mode of sign making should be better acknowledged by architects.

In more recent work, Venturi and Scott Brown have been even more explicit in their advocacy of architecture that engages people at the level of the sign, pointing to precedent from ancient Egyptians architecture onwards (Venturi and Scott Brown 2004: 24). Their argument for architecture that engages contemporary modes of expression and communication has also led to discussion surrounding the use of electronic signage in architecture, in a response to the electronic/information/media age we find ourselves in today (*Fig. 16*) (Venturi and Scott Brown



2004: 34). Venturi uses the example of Times Square in New York City as a being public place that celebrates the flows of information displayed on digital billboards, which mimic the flows of human traffic. He calls Times Square 'the significant urban space of our time' and likens the richness of the space (due to the symbolic and spatial qualities) to the Venetian Piazza San Marco of the Renaissance. (Venturi and Scott Brown 2004: 96)

While the writing of Venturi and Scott Brown is quite compelling in the way it suggests sign as being an important element in architecture and the urban environment, the resolution of these theories in their own built work is not as successful and tends to be reduced to what could be described as simplistic scenographic facadism. They would refute these claims by asserting that architects are not in fact aware of or in tune to the tastes of the general public and that in most instances architects design in a way that does not take these popular tastes into account. (Venturi, Scott Brown, and Izenour 1972: 2)

This reductionist attitude to symbolic meaning in architecture is symptomatic of much of what is referred to as Post Modern architecture with its reliance on historic reference, which was a very literal reaction to the negation of history by modernist architects (*Fig. 17*). 'Po Mo', as this style of architecture became popularly known as, took at face value the credo of the complexity and contradiction advocated by Venturi in his 1966 book of the same name, rather than critically understanding and engaging with the complexity of a rapidly changing world. (Venturi and Scott Brown 2004: 8)

Barthes takes this idea of communication of space to the scale of the city in his assertion of the city or larger urban environment behaving as a discourse (Barthes 1999: 166). That the city can be legible as a 'text' is a compelling idea and Barthes expresses its importance: 'The city is a

Fig 14: Robert Venturi's sketches explaining his ideas of duck buildings and decorated sheds.

Fig 15: 'American commercial vernacular'

Fig 16: Times Square, New York City.

discourse and this discourse is truly a language: the city speaks to its inhabitants, we speak our city, the city where we are, simply by living it, by wandering through it, by looking at it.' (Eco 1999: 191)

While semiotics and a structural approach to the understanding of architecture was proposed in the early post modern era (late 1960s), this proposition has seen as a re-evaluation in its application in the intervening period. Rather than there being a definite correspondence between signifier and signified, a plurality of signification is supposed – 'the notion of the lexicon as a set of lists of signified and their corresponding signifiers' is no longer valid. (Eco 1999: 191) Instead there is an ambiguity and a constant shifting of connection between that which is signified and that which signifies. This shift is often resultant upon contextual relationships rather than context. (Eco 1999: 191)

These ideas about the evolution of the semiotic approach to understanding cultural production (including architecture) were later expanded and added to, resulting in what became referred to as Post-structuralism, the key concepts of which will be discussed in their own right.

This structural approach to understanding meaning in architecture (and other forms of cultural production) is an important aspect in a holistic interpretation of space that I believe is a necessary precursor to design. Advocates of this reading of architecture believe strongly in the phenomenon of architecture as sign as well as its further potential. I am skeptical of this as an isolated approach but at the same time, I believe that an analytical approach to looking at individual elements of architecture as well as looking at buildings and urban spaces as elements of larger urban systems is an entirely valuable exercise. 'Rather than being a methodology for

Fig 17: The AT&T Building (now the Sony Building), by Phillip Johnson, 1984. An example of Post Modern architecture.

Fig 18: T shirt with a facial caricature of Che Guevara, designed by Jim Fitzpatrick.

practice, semiotics in architecture should, in the first instance, be used as a means of analysis and interpretation of architecture.' (Norberg-Schulz 1988: 189)

It is evident therefore that 'every act, object and statement that man perceives is meaningful (even 'nothing')' (Jencks and Baird 1969: 13). With this in mind, we can either resort to a consciously analytical study of meaning (through the practice of semiology) or merely rely on our unconscious and intuitive perceptions. As architects, being aware of the potential understanding that can be unlocked through a semiotic reading, it seems sensible that this approach is considered during an investigation of meaning in architectural form and space.

I find this structural approach to understanding the meaning inherent in architecture and in everyday life valuable. Analysing the signs we are faced with is an interesting and very useful way of engaging with how people live and express themselves. Intentionally or not, we display very vivid (and often quite contradictory) messages, in our particular behaviours, in the clothes we wear, in the music we listen to, etc. By looking critically at these signs we can arrive at a clearer understanding of the world around us.

In a global society continually bombarded by cultural stimuli, we begin to operate our lives in a blasé fashion and miss the true meaning of the messages that are continually transmitted (Leach 1999: 34). A good example of this blasé attitude to the expression of a message is the Ché Guevara branded t-shirt (*Fig.* X) that one often sees worn by middle class youths. There is an incongruity in a communist revolutionary icon being presented in a way particular to the fashion sense typified by a global capitalist society. A further irony is the fact that the people that wear these t-shirts are most likely not even aware of the confused message that they send.

Observing the world with this semiotic approach begins to unlock these associations and their underlying meanings. Not only does semiology break these signs down to their component parts, but the very act of consciously looking for meaning in our surroundings leads to a greater appreciation and general awareness. In architectural terms, the way that buildings engage with the urban context, as well as the way in which elements within buildings relate to one another influences our perception of the built environment. Not only does semiology help architects to understand how people perceive their environments (to whatever degree of consciousness this occurs), it has the potential to assist in the design process through being more conscious about the messages one's own buildings transmit.

IV. Phenomenology and Meaning of Place

> 'Our task is a double one: firstly to understand the existential basis of architecture, and, secondly, to explain how the existential content is kept and visualised by means of the language of architecture.' (Norberg-Schulz 1988: 238)

Phenomenology is an area of philosophy and architecture theory that seeks to uncover a deeper meaning of space through human experience of space. It argues that interpretations of the visual signs of the surface are insufficient and that a meaningful connection to one's environment can be achieved only through a more holistic appreciation of space. (Leach 1997: 83)

Phenomenology is concerned with a deeper understanding of place as a way of giving meaning to the world around us. The nature of our environments and the relationships between aspects of them has a direct bearing on our own personal relationships and how we experience our everyday lives.

Place, as a concept different to the idea of architectural space, describes how space is given qualities of meaning through a deeper psychological awareness and connection. Modern life, it is argued, has resulted in man's disconnection from his surroundings and ultimately from himself, and that through a process of reconnection to place, we might lead more meaningful lives. Our relationship to places we inhabit have a definite bearing on our identities and through shared association with places with inherent meaning (Norberg-Schulz 1988: 196), our relationships with other people lead to more meaningful community ties. In phenomenological terms, architecture can be described as the making of place and is directly responsible for the way we live and relate to the world.

A phenomenological interpretation of space is based on a qualitative totality of perception of place, rather than an analytical reading, that is related to the holistic modes of perception of *Gestalt* psychology (Norberg-Schulz 1988: 195). The dynamic nature of space, the fact that it changes at each new encounter, requires an understanding at an experiential level. It is necessary to incorporate a totality of situation or place in our perception, in order to achieve a fuller understanding of the places we wish to know. This could otherwise be described as an environmental synthesis, where understanding is achieved through a synthesis of a complex whole, rather than an analysis of the structural components. There is a certain immediacy in this response to our surroundings that responds to a very basic level in our human nature.

This way of understanding space concerns a psychological or emotional connection to our environment, rather than a concern with the functional aspect of space or the requirements of supporting a particular activity. The emphasis placed on the functionality of architecture in orthodox Modernist design led to buildings that failed to evoke sympathetic human emotions. Through an attention to functionalism comes what Norberg-Schulz refers to as 'environmental monotony' and a loss of place, due to the architects not being able to reconcile the practical and psychological elements of their architecture. '"Mood" and "understanding" are interdependent aspects of man's being in the world, and indicate the basic unity of thought and feeling.' – Christian Norberg-Schulz (Norberg-Schulz 1988: 193)

The work of the likes of Finnish architect, Alvar Aalto and Swedish architect, Sigurd Lewerentz are, however, directly connected to the places they inhabit and speak to the spirit of the cultures and landscapes of the countries they occupy, while still responding to the Modernist functional imperative (*Fig. 19,20)*. This is achieved through a sensitivity to spatial relationships of context and careful selection and crafting of materials that evoke both the landscape and the traditional vernacular of the places in which they worked. (Norberg-Schulz 1988: 199)

The German philosopher Martin Heidegger is considered the father of modern phenomenological thinking, and has been an important influence in the field of architecture, through the interpretations of his work by Christian Norberg-Schulz. In his seminal text, *Building, Dwelling, Thinking*, Heidegger expresses the relationship between man's act of building and his ability to dwell: 'The nature of building is letting dwell. Building accomplishes its nature in the raising of locations by the joining of their spaces. Only if we are capable of dwelling, only then can we build.' (*Fig. 21*)(Heidegger 1999: 100)

Fig 19: The Sanyat salo Town Hall, by Alvar Aalto, 1951

Fig 20: St. Marks Church, Bjorkhagen, by Sigurd Lewerentz, 1956.

Fig 21: Heidegger's cabin in the Todtnau berg, Germany. This simple dwelling type has become a symbol for phenomenological design because of its connection to place.

The act of dwelling is central to phenomenology and is characterised by living in harmony with and an appreciation for the environments we inhabit. It is necessary for us to have a strong relationship with a place for us to effectively act on that place and change it through the act of building. Dwelling and building are thus powerful ways in which man relates to and reflects upon the world around him (Norberg-Schulz 1988: 241).

This ontological approach to the understanding of space is based on the feeling of all of the senses. Where as the visual reading of space is favoured (or necessitated) by structuralist theory, phenomenologists believe that it is the experience of all of the senses that lead to its full appreciation. Typified by what Juhani Pallasmaa calls 'the eyes of the skin', the human body connects with and is a measure of the place that it occupies, becoming a part of the place itself.

Pallasmaa proposes that the body should be brought back to the centre of the experience of architecture. There is a dislocation inherent in the preference of sight over the experience of the other senses. Through a dulling of the visual, space can be more fully appreciated by hearing, tasting, smelling and touching. These senses require a much more direct and intimate association with space and evoke one's memory, leading to a deeper sense of belonging and meaning. (Pallasmaa 1996b: 26-48)

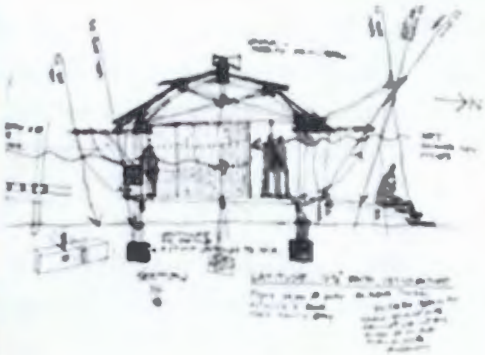
These associations and connections constitute the real experiences that buildings are meant to offer those that use them. Pallasmaa contends that architects should design buildings with the experience of users in mind, rather than as mere physical objects to be looked upon. (Pallasmaa 1996a: 450)

Norberg-Schulz is seen to be the figure most responsible for the incorporation of phenomenological ideas into the realm of architecture. He proposes that each place has a particular spirit or 'genius'. This *Genius Loci* (spirit of place) is the somewhat ineffable character of a place that man connects with on the emotional or psychological level. 'It is a necessity for man to come to terms with the genius of the locality where his life takes place. We have to be 'friends' with the environment to gain an existential foothold.' (Norberg-Schulz 1988: 254)

This evocation of place is vital for an understanding and deeper appreciation of one's connection to context. The feelings of comfort that may be derived from this can only serve to enhance the way in which one engages with the possibilities, both utilitarian and joyful, offered by architectural space. The marrying of tectonic materiality and contextual topography should

appeal to all one's senses in such a way as to bring one's awareness to a wider and more holistic understanding of one's surroundings, both tangible and intangible.

The advent of Critical Regionalism as a specific approach to architectural design picked up on many of these issues in its proposal of an architecture cognisant of its context in a way that engages built form with the specificities of its location, rather than responding to some overriding rationale or ideology. Critical regionalism is premised on the notion that architecture should reflect and serve the context that it is rooted in and that different contexts should necessarily require different approaches to design (Frampton 1992: 314). The work of the likes of Australian architect Glenn Murcutt has been connected with the theory of critical regionalism. This is due to the way in which Murcutt responds so directly to the context in which he works, taking careful heed of climactic and topological conditions as well using particular traditional and cultural customs to guide his work (*Fig.* X).



Buildings become *part of* a larger contextual system and must be aware of their impact on that system as much as how the system affects the building. 'Critical Regionalism favours the realization of architecture as a tectonic fact rather than the reduction of the built environment to a series of ill-assorted scenographic episodes.' (Frampton 1992: 327)

Fig 22: Marika Alderton House in Eastern Arnh em Land, Australia, by Glenn Murcutt, 1991.

Fig 23: Design sketches for Marika Alderton House, showing the consideration for climate and other site specifics.

Phenomenologists believe there has been a loss of meaning in architecture through the process characterized by modern building methods and planning strategies. Through a dislocation from traditional ways of being in the world, we have lost sense of our world and of ourselves (Norberg-Schulz 1988: 11).

Criticism has been leveled at the ideas of phenomenology based on the fact that the theories are not supported by any concrete fact. It is chimerical in its very nature of emotional connection. Despite this difficulty and the self-referential quality in much of the writing, this approach to

architecture has been employed by contemporary architects such as Peter Zumthor and Steven Holl (*Fig.* X). While there may be contradictions between this and other ways of understanding architectural space, it is a necessary set of principles to be aware of for a holistic interpretation of the built environments we inhabit. (Leach 1997: 84)

I see phenomenological appreciation of space as being the undeniable compliment to the structural significance discussed earlier – they are opposite sides of the same coin. Architecture responds to the visual, aesthetic sensibilities we all have. But the ability to make us feel a certain way is equally within the realm of what architecture tries to achieve. The bodily experience of space is tied strongly to other psychological feelings of comfort and belonging. These have a very real effect on how we live and relate to others around us.

Modern life has been decried for the way in which it has disconnected man from both nature and more purposeful and meaningful lives. I think this may be true. The quiet, slow paced life one can experience in small, rural places certainly gives the sense of being more centered and balanced. Phenomenologists repeatedly return to the vision of pastoral or traditional societies, in touch with nature, who retain these qualities of connection and meaning. But where does this leave those bound to a rushed urban existence?

I would like to believe that there is still a place for the phenomenological imperatives discussed above. Through the awareness that it is the body that experiences space, not merely the eyes. This is often forgotten by architects who concern themselves with the abstract representation of buildings. Drawings do not convey the sound, smell, taste and texture of space. Photographs in a magazine do not tell you adequately how your body will feel in space.

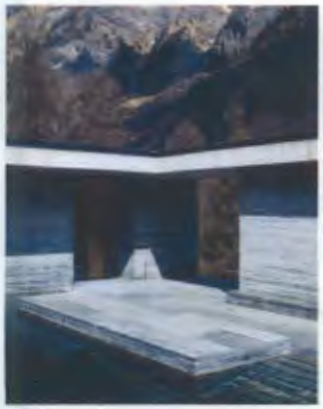


Fig 24: The Thermal Baths, Vals, Switzerland by Peter Zumthor, 1996.

Fig 25: Round Lake Hut, Rhinebeck, NY, USA by Steven Holl, 2001.

Phenomenologists believe that the connections and experiences one has in space constitute a sense of meaning in architecture and that architecture is inherent in the very idea of human existence. They use poetic language that attempts to convey their belief in these effects. I am not sure that bodily experience alone can constitute the presence of meaning, although the connections of these experiences and memories of the past begin to form associations of significance.

Importantly, I believe that these ideas, or this approach, should be taken up more consciously by architects. Architecture is for people and the experiences of people should be of greater concern than the material economy that is so often the driving imperative of contemporary architecture.

V. Mimesis and an Assimilation of Environment

> 'We shape our buildings, and afterward our buildings shape us.' – Winston Churchill, 1943 (Wikiquote 2010)

The theory of mimesis describes the way we as humans respond to our environments and project ourselves into the world. Further to the ideas of the phenomenologists, who argue for a fuller and more meaningful experience of place, mimesis explains how humans adapt themselves to become more like their environments and how they adapt their environments to become more like them. This process necessitates an understanding of one's environment, whether conscious or not. 'One may distinguish two moments of the mimetic faculty: interpretation and imitation.' (Gilloch in Leach 2002: 295) The discussion of this theory of mimesis is largely based on the writing of Neil Leach, who refers himself to the writing of Walter Benjamin and Theodor Ardorno.

> 'Architectural discourse has tended to focus on the objective nature of buildings – their style, method of construction, and so on. It has seldom addressed the question of how our perceptions of buildings might be mediated by our consciousness, and how these perceptions might therefore be freighted in all-to-subjective consideration.' – Neil Leach (Leach 200:67)

The desire to conform is part of our human nature. The feelings of comfort and security that we need are manifestations of the process of relating to our environment, which incorporates not only the physical context of our world, but also other people to whom we relate. It follows that this process of assimilation has specific implication for architecture, as the concerns of this field are involved with the relationships of people and the environments they inhabit. (Leach 2006: 3)

This ability to assimilate is predicated on an understanding of one's environment, on a number of levels, in particular the visual signs of communication and the experiential nature of one's surroundings. The reverse of this process is also true, with assimilation of one's environment leading to deeper understanding of one's environment. This process of *amplified feedback* underpins a situation of identification as well as an awareness of personal identity.

We are dominated by a need to return to the familiar. Places of familiarity are those that constitute our already assimilated world. When we find ourselves in a place or situation of unfamiliarity, we quickly adjust to our new environments in order to reclaim a level of comfort. This adjustment is both a changing of the environment to suit us and an adjustment within ourselves to relate better to our surroundings. (Leach 2006: 4)

This process is vividly captured by Proust in his *À la recherche du temps perdu*, when Marcel remembers his arrival for an extended holiday at the hotel at Balbec Plage, a small French resort town. Initially he is brought to a state of almost physical illness in his displeasure and lack of comfort in the bedroom provided for him. But after arranging his effects in the space (pictures placed on the side table and the like) and not too much time later; he finds himself quite at home and, within a few months, unenthusiastic to leave (Proust and Scott-Moncrieff 1924). This notion of *being at home* is at the heart of the concept of mimesis. While the place that one calls home can change, it is often not an easy process.

The physical characteristics of space are thus undoubtedly important when considering the relationship one has with one's environment. But so too are the ways in which we act out our relationships with our environment. Ritual acts or routine behaviours endower spaces with significance.

Mimetic assimilation presupposes processes of change. In human environments, urban and not, our engagement is subject to the incredibly dynamic nature of those environments. As our environments change, our perceptions of then shift and are overwritten as processes of assimilation take place through our engagement with them.

This temporal quality of our relationship to our surroundings is essential to an understanding of our perception of architecture and how we ascribe meaning to form and space. Different time scales bring about different changes. Cyclical time of circadian and seasonal change, as well the linear chronological time have impacts on our surroundings (Leach 1999: 44). It is not only our environments that change over time. The changes that take place within us over time have impact on our perception of our world. Through time the novel becomes familiar. Buildings that at first seem outrageous in their novelty, might lose their appeal with extended use. Technologies that seem fantastical and amazing become run-of-the-mill as we use them and get used to them. (Leach 2006: 7)

Architecture itself is a mimetic act. We project our desires for specific relationships with

environments through a process of design and, through building, manifest those spaces, to support the relationships we desire. Although, through acts of assimilation, we are able to adapt to the situation and surroundings in which we find ourselves, design has an integral function in assisting us in that assimilative procedure. (Leach 2006: 9)

Mimesis is a process of identification and belonging. Our need to express ourselves points to this need to assert our identity and overcome feelings of alienation. Architecture is not only a concrete way of expressing our identity (as are other modes of cultural production like art, music, dance and literature) but it has the added opportunity to form environments that support the further expression of personal identity (Leach 2006: 10). Further to this architecture is often used as place of experimentation, where ideas for new environments to support our lives are *projected* and tested.

The theory of *camouflage* developed by Neil Leach expands on this way of representing oneself in the world. Rather than a mode of disguise, camouflage suggests an appropriation of context as well as a projection on context. 'Camouflage constitutes a mode of symbolization. It operates as a form of connectivity.' (Leach 2006: 240) It resides in the dynamic spectrum between complete distinction of the self from the other; and association with the other. It is a way of understanding the defining and redefining of oneself along this spectrum. It is through these interactive processes of camouflage that the concept of mimesis is acted out in a way that can be understood to impact the operation of architecture.

> 'At various moments we may wish either to blend in or to stand out from the crowd. Camouflage therefore acts as a device for us to define the self against a given cultural setting through the medium of representation – either by becoming part of the setting, or by distinguishing ourselves from it.' – Neil Leach (Leach 2006: 244)

The theory of mimesis was developed by Walter Benjamin and later Theodor Ardorno who, in their writing, make reference to the Freudian psychoanalytic term that refers to a 'creative engagement with an object'. For Benjamin mimesis is a mode of identifying with the outside world. This identification is processed by the replication of the world in order to understand it and appropriate it.(Leach 1999: 37)

Through search for similarities in the world we are more able to understand our place in it and find meaning. This responds to the way in which Jencks suggests we understand architecture, by comparing or relating the formal qualities of a building or something else we already know. It

is these similarities and connections that (often unwittingly) become apparent through creative work and invest in it significance or meaning. (Leach 2002: 31)

Although Benjamin refers specifically to writing and linguistics, he points to the concept of mimesis in other creative acts, such as dance. A dancer is at once required to respond creatively (according to his or her intuition) to a variety of contextual cues: specific sequence of steps; musical rhythm and the actions of others involved in the dance. 'Mimesis is the constructive reinterpretation of an original, which becomes a creative act in itself' (Leach 2002: 31). Architectural production and the building of the city fits well into this concept, evident in the continued concern with *re*-imagining and *re*-interpreting urban space.

Mimesis is an ability that is necessary in the engagement and understanding of creative representations, especially narratives. The capacity to empathise with characters or imagine oneself in the position of the character of a narrative is what gives theatre, film, literature, photography and art the ability to carry meaning so powerfully. (Leach 2002: 36)

In the realm of architectural representation in particular, this ability to read oneself into abstract representation is vital. Often it is only by imagining oneself in the spaces represented in architectural drawings and photographs that one can have an idea of what that environment might in fact be like (Leach 2002: 36). Similarly, it is this same ability to imagine oneself in the place of another that allows an architect to imagine how people might use the spaces he or she designs. 'The action of mimesis is dependent upon a state of mind. One has to be receptive, and alert to the possibilities of the creative imagination.' (Leach 200236) Further Leach suggests: 'Within the realm of architecture we might describe as mimesis the way that architects develop their design abilities, absorbing and sedimenting external forms as part of a language of design'. (Leach 1999: 41)

Clearly this suggests that the importance of a practice based in the careful study and critical application of historical precedent, along with other design informants, is necessary. Stark contrast lies between this position, advocated by the likes of Venturi in *Complexity and Contradiction in Architecture* and the modernist approach of Walter Gropius and others who actively denied the importance of history.

This theory of mimesis is thus a powerful tool in understanding the ways in which we find meaning in our world and in architecture. It refers to and incorporates ideas relating to meaning through visual or aesthetic means as well as in the experiential terms of phenomenology. At

the same time it concerns a deeper understanding of meaning and identity through the strong reference to the relational aspect of mimesis and how the projection of one's identity and the dynamic relationship between oneself and one's surroundings lead to a continual shift in significance of one's position in and perception of space.

Lastly the theory suggests more explicitly how an understanding of the mimetic tendencies of man can be useful in the practice of architecture, through the assimilation and reinterpretation of contexts into new concepts of space.

VI. Post structuralism and Readings of Difference

> 'A text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, contestation, but there is one place where this multiplicity is focused and that place is the reader, and not as was hitherto said, the author.' - Roland Barthes (Barthes and Heath 1988; 1977: 148)

The semiotics of the structuralist approach suggests a singular, one dimensional reading of the city through the connections of signifier and signified and the *decoding* of this connection. Rather than a discrediting of this structuralist process, post-structuralism is seen as an evolution, an internal development(Winters 2007: 78), that began to build on these ideas in thinking about how semiotic principles might allow for a pluralist view to interpretation.

This argument suggests that anyone's understanding, perception or interpretation of architecture and urban space is valid, and at the same time, that the city can only be fully comprehended through multiple methodologies of reading. Readings should also not be fixed, but have transient, temporal qualities at allow for change. Through a varied set of readings of the city, rather than more studies of the *functional systems*, we will come to a clearer understanding of the complexity of meaning of the city. (Barthes 1999: 171)

A salient concept of post-structuralism is the multiplicity of meanings of cultural products. In his seminal piece, *The Death of the Author*, Roland Barthes uses a discussion of literary production to describe how the disassociation of author from text can liberate meaning. When something is produced to carry meaning, rather than to merely perform a function (both of which architecture is expected to do, although here I will discuss the symbolic nature of architectural production), there is, at the point of utterance, a disconnection between the author and the text (architect and architecture).

Barthes tells us that the idea of authorship is a relatively recent social construct (dating back to around the Middle Ages). Since then, the cult of the Author has led to a process of interrogation of text through a knowledge or understanding of the author apart from the text (through a historic or biographic uncovering of the author himself). This has happened with the view that the 'true' meaning of the text can be uncovered through this knowledge of the Author. Barthes rejects this practice, believing that it leads to a narrowing of the potential

understanding to be gained from the text itself: 'To give a text an author is to impose a limit on that text, to furnish it with a final signified, to close the writing.' (Barthes and Heath 1988; 1977: 147)

Rather than the production process, the process of writing (or design), being one of conception where the text is 'born' of the authors mind, the 'becoming' of the text should be mirrored by a similar process of becoming for the author. In this way a text is less an operation of recording and more a performative process. This is a crucial point in the process of attaching significance to architecture both for the architect and for the user. It supposes that the process of design is the essence for the architect, rather than the product, which is disassociated at the moment of completion. For the user, the design concept (whether based on a narrative process or any other generative mechanism) is not immediately conceivable in the perception or experience of the built edifice, nor should it necessarily be so. A building has the potential to be a receptacle for multiple meanings that are unrelated to a knowledge of either the architect or the design concept by which the building arrived at its manifestation. The design narrative need not be known or understood for the architecture to be appreciated or enjoyed.

A text has a multiplicity of conflicting meanings, each the interpretation from a different point of view. This, rather than a singular meaning that is secret and requires deciphering. 'The text's unity lies not in its origin, but in its destination.' (Barthes and Heath 1988; 1977: 147)

Referring back to the earlier example of the Ché Guevara t-shirt, a post-structuralist reading would allow for the fact that the iconic image of Ché Guevara's face has come to represent many new and disparate meanings in post-modern society (some of them completely unrelated to the personage of Guevara), and that one 'true' signified cannot be ascertained. Further, that it is this multiplicity of meanings that imbues this symbol with a richness that in itself is meaningful. (Wikipedia 2010)

The theory of Sergei Eisenstein, a Russian filmmaker and theorist working during the first half of the 20th century, shares Barthes's point of view about the reader's role in arriving at an idea of meaning or significance. Eisenstein, however, takes a slightly less emphatic stance, in his discussion of *montage* as a film technique (*fig. 26*). Montage is a way in which a number of disparate elements (shots from different angles or of completely different subject matter, spliced together) are presented in juxtaposition to one another, to which the reader (viewer) must bring their own frame of reference (or emotional standpoint) to bear in an interpretation of the work (text, film, architecture) (Eisenstein and Leyda 1942: 288).

This concept suggests that cultural production becomes more of a dialogue or even a partnership between author and reader, leading to meaning or significance in the work. There is value in thinking about architecture in this way, as it suggests that there is an underlying structure of constituent elements that is constructed by the architect with the intention of their having some attached meaning. But that the components can and would be perceived in a variety of different ways and combinations by people using and experiencing the resultant architecture.

The French thinker, Jacques Derrida is responsible for much of the theory of post structuralism. His line of reasoning has become known as Deconstruction and was of great influence in architecture during the 1980s. The French term *différance*, introduced by Derrida, alluded to both difference (to be different from) and deference (to defer), and explained the post-structuralist approach to the search for meaning (Winters 2007: 76).

Meanings are always shifting and in need of support by other meanings that themselves need to be supported - *'There is no fixed meaning'*. Meaning is *associative* or *paradigmatic*, in other words contextual and prone to *slippage* (Winters 2007: 77). Truth, the traditional talisman of philosophy, was not the necessary ambition of the post-structuralist occupation. This led to the thought that the work of post-structuralist theory could itself be seen as an aesthetic object and thus blurred the distinction between philosophy and literature. This leads to the assumption that 'the practice of an art contains its theory, not as truth, but as a filter through which the work can be seen.' (Winters 2007: 79)

The architects Bernard Tschumi and Peter Eisenman in particular worked closely with Derrida in the formulation of both his philosophy and the way in which deconstruction could be employed in architecture. This influence was felt particularly in the way architects began trying

Fig 26: A screen shot from Eisenstein's 1925 film *Battleship Potemkin*. The 'Odessa Steps' scene is a good example of his use of the montage technique.

to undermine the traditional notions and hierarchies that underpin the practice of architecture and made work that held a high degree of ambiguity (Winters 2007: 80). The competition project for Parc de la Villette in Paris, by Bernard Tschumi, is seen as one the clearest example of an architecture of deconstruction, in that it was conceived to destabalise one's views of what architecture is meant to signify, through a lack of historic reference and any clear meaning. (Winters 2007: 79)

'Traditional oppositions between structure and decoration, abstraction and figuration, figure and ground, form and function could be dissolved. Architecture could begin an exploration of the 'between' within these categories.' Peter Eisenman (Ballantyne 2002: 156)

The complexity reached in the contorted lines of this thinking and argument may have resulted in its intension of destabalising the way that architecture operates, but to my mind this happened in the same self-conscious manner that this approach tried to challenge in the practice of architecture. While the theory of post-structuralism led to this very particular branch of architectural practice, I feel there is still merit in this area of thought that sits beyond this particular deconstructivist approach to design.

Post-structuralism advocates looking and understanding the city (and the world around us) through new and different eyes. Through multiple and varying readings, greater understanding may be gleaned that could inform fresh ways of designing. An approach that doesn't fall back on accepted hierarchies and traditional modes of practice, but rather searches for or allows difference and expression of identity.

Further, it suggests an architecture that changes and allows for interpretation and reinterpretation by the people that use it - architecture that is not alienating, but invites participation; architecture that is not merely the walls and roof of the physical edifice, but also the events that take place within the space.

Fig 27: House VI in Cornwall, Connecticut, USA by Peter Eien man, 1975. A seminal decontructivist design.

Fig 28: A folie at Parc de la Villette in Paris, by Bernard Tschumi, 1984

VII. Conclusion: *The Frame*

> 'Architecture resembles a large contemporary city, in which no overriding system predominates over all the others, but, on the contrary the inherent tensions and differences lead to alternatives and sometimes new modes of action.' Bernard Tschumi (Tschumi 2004: 15)

Architecture is a practical art and, it is assumed, must perform a valid function through its molding of space, through the manipulation of material form. As one can see from the discussion, the question of aesthetics and meaning or significance in architecture holds equal relevance. Each of the different sections of theory discussed differs markedly from the others (and in cases try to discredit others), I feel that each way of understanding space has great merit. As I have already mentioned, these theories are each substantial branches of thinking that are not done justice by the cursory explanations given here. No doubt there are also other approaches to understanding meaning in architecture that have not even been mentioned here. However, these are the issues with which I position myself at this point and suffice it to say that this position will, no doubt, shift constantly.

At the beginning of this process, this investigation into a concern of theory in architecture, I was interested in the perceptions of architecture by people (as I stated at the beginning of this document). I began thinking about the very different ways that people perceive there surroundings and how the buildings designed by architects are reacted to in such different ways.

I thought about the ways in which a person's culture, gender, age, education, faith, race (among many other categories of human nature and character) influence the way we see and consequently engage in our world. The influences of time and event and how these change the way we view and respond to the happenings of our world. In describing the meaning of architecture I was concerned with how each of these could be important.

I called this concept of relativist perception *the frame*. For me this term evoked the idea that one's frame of reference, which itself is always in a state of flux, was responsible for how we respond to architecture.

The frame conjured up, for me, the image of a hand frame, that simple device that we use when we want to show that we are focusing on a particular subject. When we want to limit our field of view be eliminating surrounding detail, as one would do when looking through the viewfinder of a camera. In a way this framed perspective becomes an analogy for the influences of one's life that focuses one's perspective of the world – you know there is something beyond what you can see, but a shift of focus is required to see it. This shift of focus comes through new knowledge, new experience and the passing of time. I thought that if I could begin to focus on the way that other people perceived architectural form and space, I could perhaps begin to design in a more responsive way.

As I started reading the theory of meaning in architecture, I quickly found that there was a lot of thought and writing about what I had been pondering. I found that there were very specific fields of thought that dealt with many of my questions and musings about the difference of experience in and of architecture.

Each of the sections I have discussed had application to my own, quite intuitive ideas about perceptions and meaning in architecture. Each had a special resonance. As I learnt about them I began to apply the different theories in the way I observed the world around me, to illuminating and often surprising effect.

So, which approach is the most applicable? Obviously, as has been seen, some of them have been advocated as specific and isolated approaches to architecture, but I do not think that any of them operate in isolation. As I have mentioned, I see structuralism and phenomenology as two sides of the same coin. Mimesis builds on this relationship by suggesting that people project and assimilate themselves through their response to signs and experience of space. This is particularly relevant to understanding how personal identity truly impacts the significance we find in the world around us and particularly in our urban environment. The difference allowed by the ideas of post-structuralism compliments the assimilative processes of mimesis and describe, in much better terms, the ideas I had of *the frame*.

So mine is a theory of perception which I hope will lead me to a greater awareness in my design work. Rather than trying to understand the perceptions of other people by trying to understand all the people that might use my building (which would be an impossible task), I have focused on some of the processes of perception that can be used to support a more conscious design methodology and if nothing else, has widened considerably the angle of my own *frame* of perception.

Where does this leave me relative to my design thesis? I still stand firmly at square one, but with the knowledge that I will be able to respond more consciously to the context of my design. At the same time I can begin to have some idea of how people who use and experience the resultant building might perceive it. Rather than the theory with which I have concerned myself through this process becoming obsolete beyond this design, it will continue to have value (through its changes and shifts in understanding) for my further architectural work.

My design thesis project becomes the first opportunity to test this particular approach to design. Through the process of reading, there have been many instances of reference to architectural space in the medium of film. Film, through the unique quality of its visual engagement, really allows us to perceive space in a different and very compelling way. As with literature, descriptions and depictions of space support the narratives being conveyed, while also telling their very own powerful story, which is not bound to the reality of the spaces to which we are usually subjected in our everyday existence.

For me this topic of film has become a way in which perceptions of space can be engaged in a very real and direct way. I would like for my architecture to create in the people who use it, a greater awareness of the city that they live in and how they relate to it. By juxtaposing the two dimensional space depicted in film with the real inhabitable three dimensional space of the building and its urban context, it might be possible to inform more conscious perception and awareness of the urban context of the city in people that engage with the building.

Initially, I had imagined that this could be achieved through a building that was engaged with the production of film and that if my building was successful in its objective of creating greater awareness in the people who use it, that this might be translated into the films being produced. This in itself, while seeming like a fine objective, also seemed (after some thought) to be quite tenuous. Rather, I have decided to make a building that engaged people with the space actually depicted in film.

A cinema where people gather to share an imaginary, projected space and expression of a reality; and engage with a building that allows them to find a new and unexpected understanding of the urban environment around them.

VIII. References Cited

Ballantyne, Andrew. 2002. *What is architecture?* London: Routledge.

Barthes, Roland. 1999. Semiology and the Urban. In *Rethinking Architecture: A Reader in Cultural Theory*, edited by Neil Leach. Cambridge, Mass.: MIT Press.

Barthes, Roland, and Heath, Stephen. 1988; 1977. The Death of the Author. In *Image, Music, Text.* New York: Hill and Wang.

Eco, Umberto. 1999. Function and Sign: The Semiotics of Architecture. In *Rethinking Architecture: A Reader in Cultural Theory*, edited by Neil Leach. Cambridge, Mass.: MIT Press.

Eisenstein, Sergei, and Leyda, Jay. 1942. *The film sense.* New York: Harcourt, Brace & World.

Frampton, Kenneth. 1992. *Modern architecture : a critical history.*3 , rev a enl ed. London: Thames and Hudson.

Heidegger, Martin. 1999. Building, Dwelling, Thinking. In *Rethinking Architecture: A Reader in Cultural Theory*, edited by Neil Leach. Cambridge, Mass.: MIT Press.

Jencks, Charles, and Baird, George. 1969. *Meaning in architecture.* London: Barrie & Rockliff, the Cresset P.

Jencks, Charles, and Jencks, Charles. 2002. *The new paradigm in architecture : the language of post-modern architecture.*7th ed. New Haven: Yale University Press.

Le Corbusier. 1989. *Towards a new architecture.* Oxford: Architectural Press.

Leach, Neil. 1999. Vitruvius Crucifixus: Architecture, Mimesis and the Death Instinct. *Architectural Association Files* 38, 37.

Leach, Neil. 2006. *Camouflage.* Cambridge, Mass.: MIT Press.

Leach, Neil. 2002. *The hieroglyphics of space : reading and experiencing the modern metropolis.* London: Routledge.

Leach, Neil. 1999. *The anaesthetics of architecture.* Cambridge, Mass.: MIT Press.

Leach, Neil. 1997. *Rethinking architecture : a reader in cultural theory.* London: Routledge.

Norberg-Schulz, Christian. 1988. *Architecture : meaning and place.* New York, N.Y: Rizzoli.

Pallasmaa, Juhani. 1996a. The Geometry of Feeling: A look at Phenomenology in Architecture. In *Theorizing a new agenda for architecture : an anthology of architectural theory, 1965-1995.* New York: Princeton Architectural Press.

Pallasmaa, Juhani. 1996b. *The eyes of the skin : architecture and the senses.* London: Academy Editions.

Proust, Marcel, and Scott-Moncrieff, Charles K. 1924. *Within a budding grove.* Vol. pt. 2. New York: Seltzer.

St. John Wilson, Colin. 1995. *The Other Tradition of Modern Architecture: The Uncompleted Project.* Academy Editions.

Tschumi, Bernard. 2004. *Event-cities 3 : concept vs. context vs. content.* Massechusetts, USA: MIT Press.

Venturi, Robert, and Scott Brown, Denise. 2004. *Architecture as signs and systems : for a mannerist time.* Cambridge, Mass.: Belknap Press of Harvard University Press.

Venturi, Robert, Scott Brown, Denise, and Izenour, Steven. 1972. *Learning from Las Vegas.* Cambridge, Mass: MIT Press.

Wikipedia. http://en.wikipedia.org/wiki/Che_Guevara_in_popular_culture. 2010 [cited 11 May 2010 2010].

Wikiquote. http://en.wikiquote.org/wiki/Winston_Churchill. [cited 11 May 2010 2010].

Wiktionary. http://en.wiktionary.org/wiki/metonymy. 2010 [cited 11 May 2010 2010].

Winters, Edward. 2007. *Aesthetics and architecture.* London: Continuum.

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CONCEPT

Theoretical Concern to Design Concept

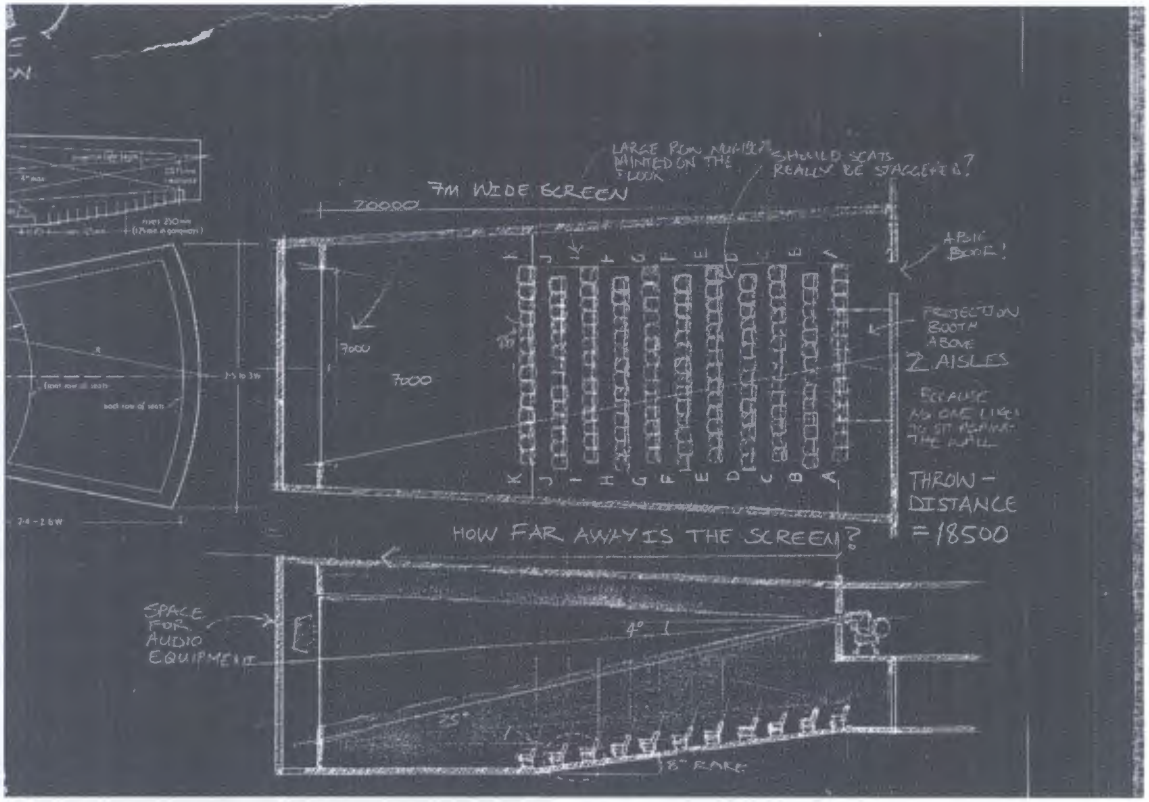
The question arising from the theoretical concern is how to make a building that is spatialised and materialized (designed) in such a way that it invites the users of the building (and the urban space it occupies) to have a new, constantly shifting and more profound perception, experience and appreciation of both the particular building and the city.

While I believe that all architecture should deal with this concern for perception of space, the design project that I have undertaken attempts to deal with these issues in a more direct manner and with more emphasis.

The project I propose is based on the programme of cinema and other film related activities. Film has the ability to focus the attention of an audience towards the perception of a very particular series of experiences (experienced vicariously) which are projected onto a screen and absorbed passively through only the visual and auditory senses. There is still a very spatial dimension to the experience of film, even though it is rendered in only two dimensions (not including time or duration that is often manipulated to dramatic effect). Space in film is employed and directed in very specific and quite dramatic ways, and the manner in which cinema compels one to focus, results in a perception of space in film that is often quite profound.

The experience of architecture and urban space, experienced in three dimensions and real time, transcends the ability of film to express spatial qualities because of its unquestionable reality. However, the juxtaposition and even the blurring of these two modes of spatial expression, filmic space and the real space of the city, would, begin to heighten one's perception of space (most importantly in the real urban realm).

Rather than burying a cinema in the depths of a suburban shopping mall, spaces for film should be directly related to the vibrant context of the city where they can become places for engagement and expression. The space that then links cinema to its urban context (the building containing the cinema theatres) becomes an instrument for the mediation between filmic space and urban space – the cinema becomes an instrument of perception.

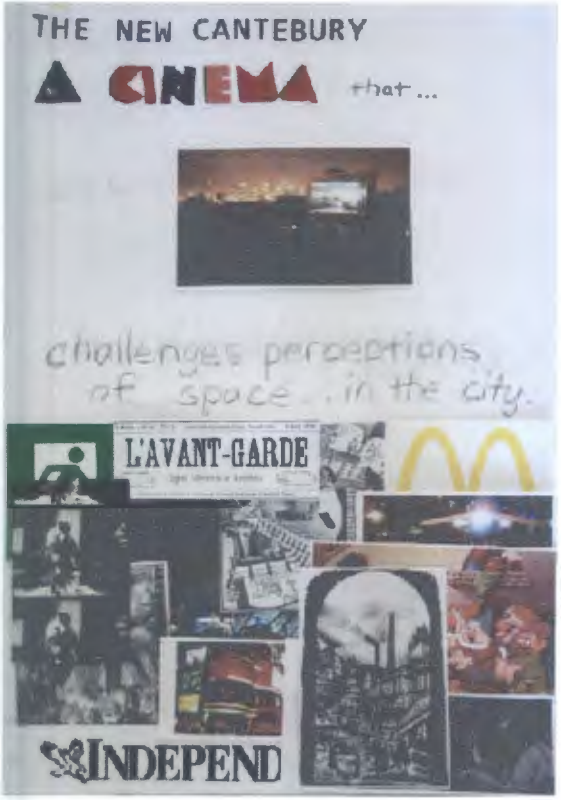


Design Strategy:

-ECDI Framework Strategy - Working with these development issues
-Mixed Use Building - Questions of viability
-Heritage
-Looking at Mixed Use/Independent Cinema Precident:
  -The Bioscope/Main Street Life, Johannesburg
  -Phoenix Square, Leicester, UK

Revised Programme:

-Independent Cinema
-Film/Cinema Production Studio
-Training/Industry Collaboration
-Archive
-Other Film Related Activities
-Development Scale



Revised Site:

-East City...
-Harrington Square Infill Site
-Issues to Consider:
  -Urban Public Open Space (Harrington Square)
  -Heritage of Surrounding Buildings
  -East City Design Innitiative
  -Scale of Site (more compact than previous proposals)

Design Concepts:

-Perceptions/Ways of Looking
-Element of Vision:

light	views	reflection
focus	image	projection
filters	hidden/revealed	
apertures	looking/seeing	

-Technologies of Vision:
  analogue
  digital
-Building Surface and Layering

From the very beginning Herzog & de Meuron have thought that one of the purposes of architecture is to heighten our perception of the world. Buildings may become 'frames' or 'filters' focussing views onto country or city. The experience of different realities, whether artificial, artistic, natural, industrial or other, may be intensified through the controlled use of materials, reflections, geometry and lines of sight. The buildings sometimes act as incisions or magnets activating the surrounding field.

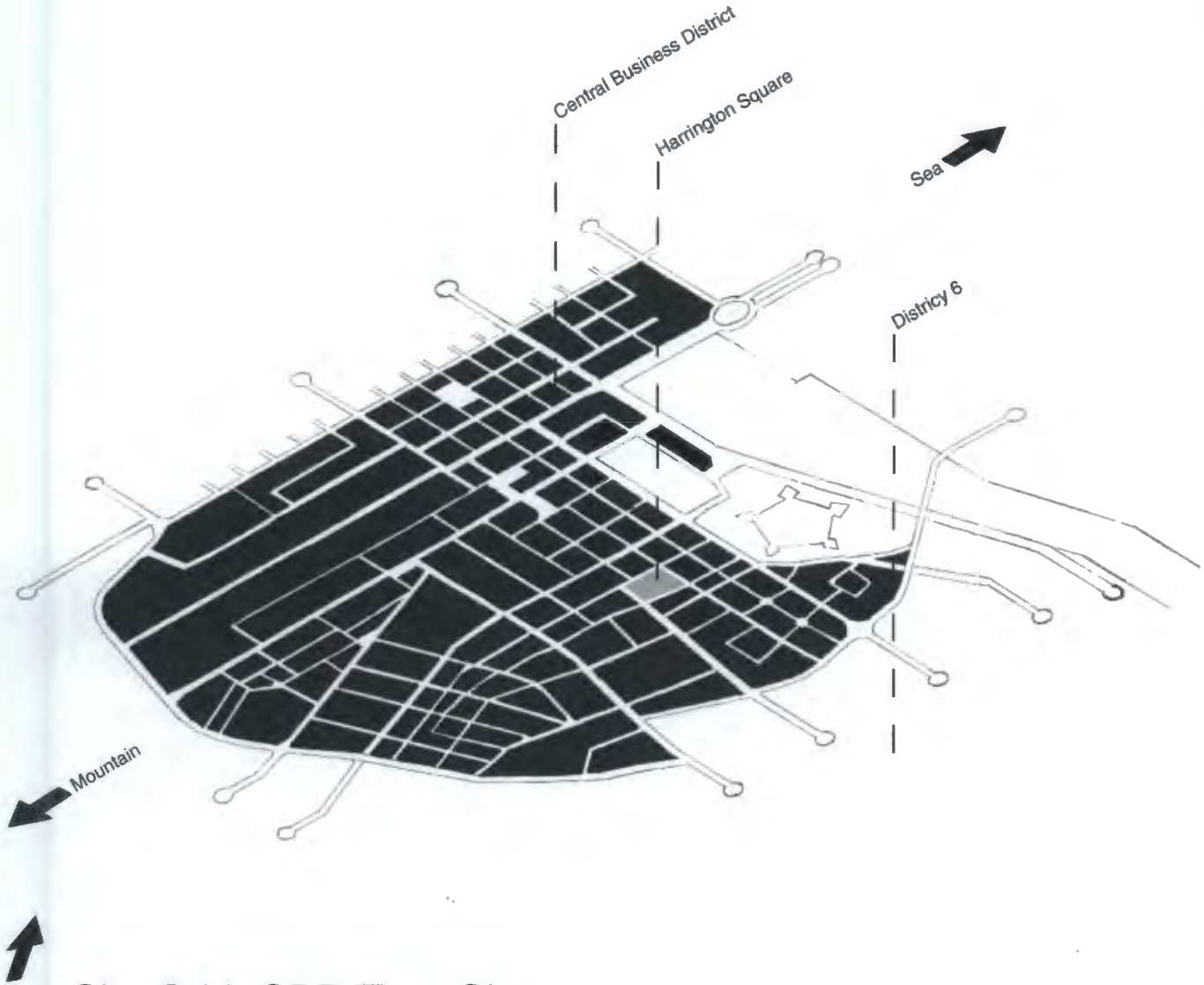
CONTEXT

Urban and Programme Informants

Cape Town is becoming an established centre for the international film industry, while at the same time homegrown South African film is gaining increasing recognition and acclaim. A centre dedicated to various aspects of the film industry, aggregating film related activities in the city is, therefore, a valid and necessary development that will allow for the more efficient operation and increased acceptance and stature of the industry in the city. By placing a cinema in a prominent urban place, it would be possible to create an event around the practice of 'attending the cinema' and elevate film (especially South African film) to the level of an important mode of cultural production such as theatre, music and dance.

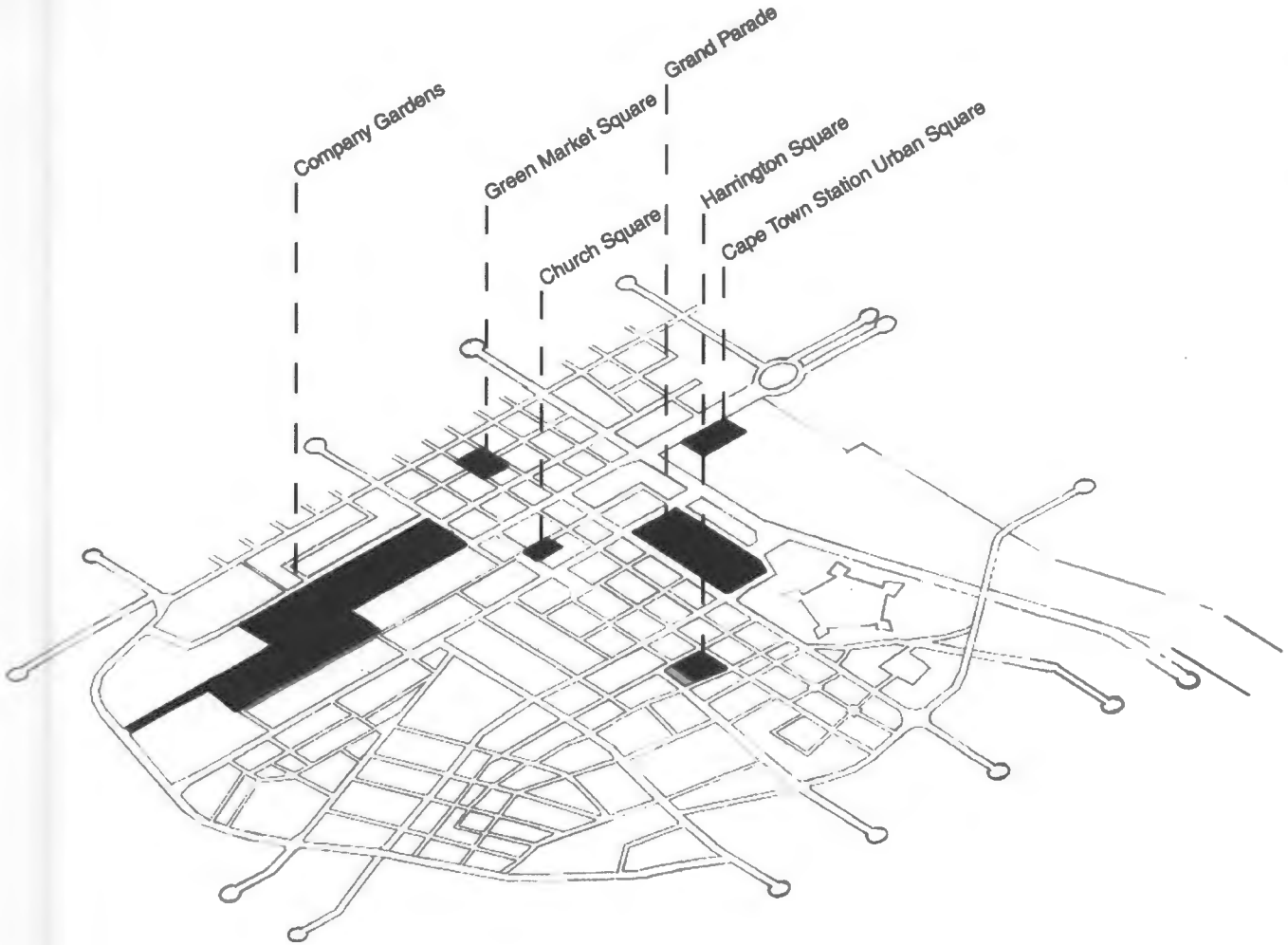
The East City Design Initiative is a development initiative established in the Cape Town east city as an area of the city dedicated to creative industries, of which there are already a significant number. The film industry is already well represented in this area and this development would strengthen and aid its functioning. In addition, the cinema and related public square would become a point of focus and public gathering for the precinct.

Harrington Square is a well located site as it allows the design to respond to many of the contextual and urban issues, as well as programmatic requirements. It is centrally located in the East City Precinct and has good access by foot, public transport and private motor vehicle. In close proximity to the square are a number of significant cultural and entertainment facilities (District 6 Museum, Fugard Theatre, Diaz Tavern, Castle Hotel). The east city lies on the outskirts of District 6 and with the redevelopment of that area, the public square will form a prominent linking element between District 6 and the Cape Town CBD beyond Buitenkant Street. The addition of a cinema and a more vibrant public square would enhance a part of the city that has potential and should become more integrated with other parts of the city.

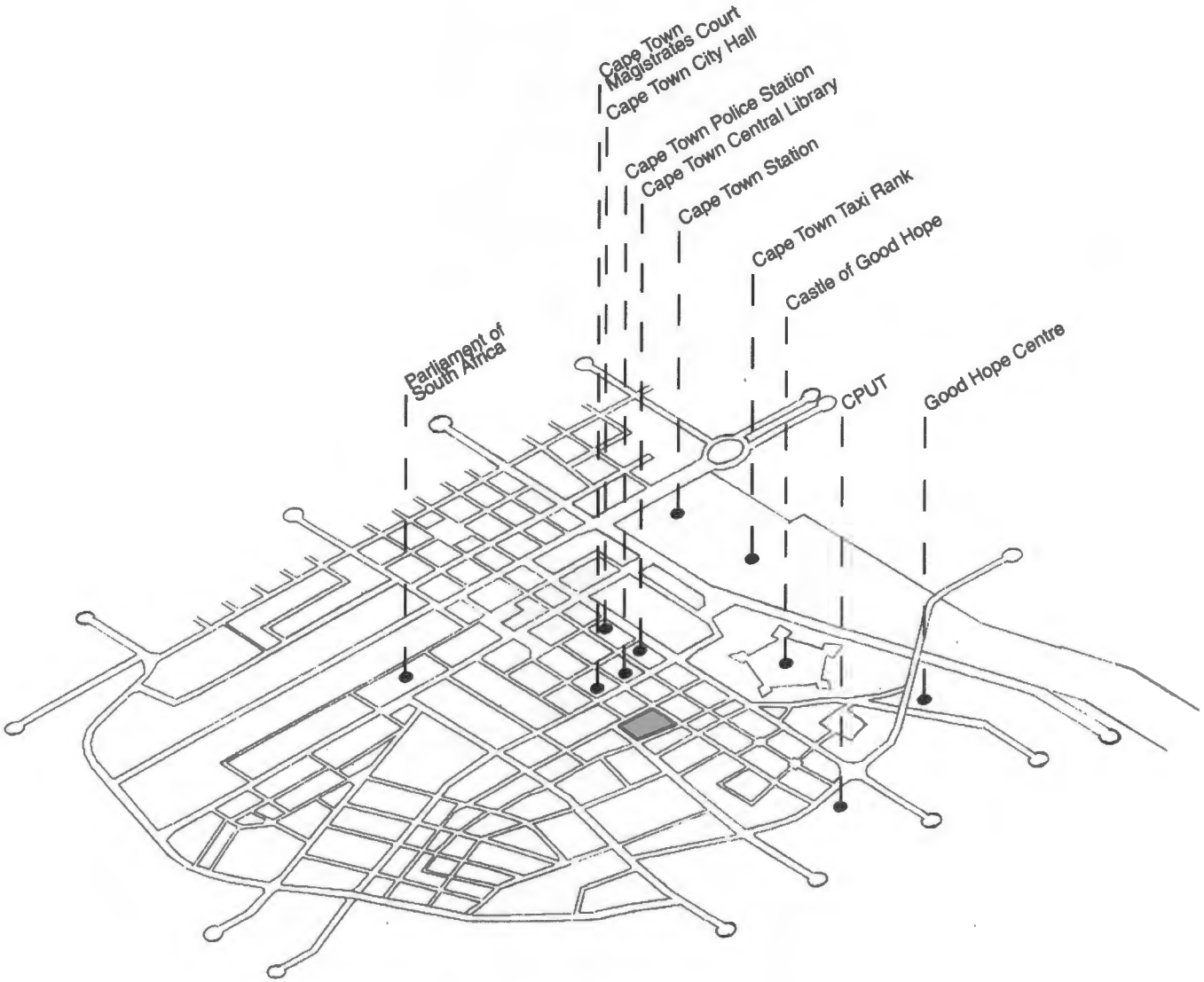


City Grid: CBD/East City

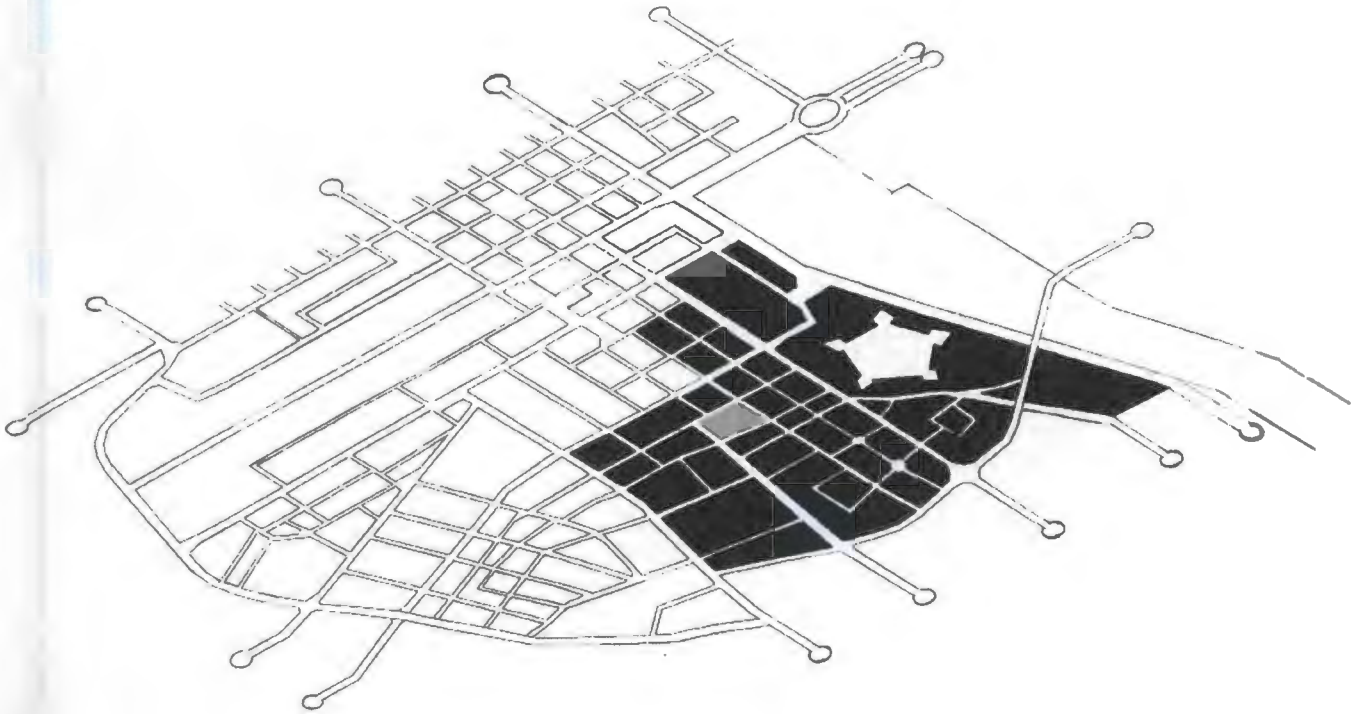
Major Transport Routes



Major Public Open Spacee



Important Landmarks



Extent of the East City Design Initiative Precinct

Buitenkant Street
Caledon Street
Harrington Square
Project Site
Harrington Street
Constitution Street
Canterbury Road
Primrose Street


Woodhead

CONTENT

Programme Requirements

While the focus of the Building is directed to the cinema that is public and relates directly to the public realm of the urban context, further film related activities are incorporated into the building. These occupy spaces which are stacked vertically, but are integrated with each other and the cinema below (both spacially and visually), allowing for a range of experiences involving the juxtaposition of film and urban spatial perceptions.

Cinema: Large scale screenings of film accommodated by two 120 seat theatres, specifically catering for independent film and film created in South Africa. This particular arrangement of cinema space would fit in with the requirements for hosting film festivals in Cape Town.

Workshop/Seminar Spaces: Spaces geared towards hosting activities related to the films shown in the cinema. These would include seminars; lectures and other workshop type activities aimed at the film education on a number of levels, often related to the various film festivals.

Film Library/Archive: A space for the collection, storage and ad hoc viewing of film (in both digital format and analogue formats). Screening chambers of various sizes and set up for different film formats would allow for private screenings of the collected films, open to the public for reference and educational purposes.

Production Studios: Three film production studio suites. The first two geared towards serving production companies that require space and facilities for post production of films being made in the city. The last would be used for educational purposes and would be used by students to both learn about the film industry and to have facilities available to produce amateur film productions.

Office Space: Three different office spaces. The first office is for the company that organizes and operates the film festivals that happen annually or biannually in Cape Town, such as the Encounters Documentary Film Festival and the Out in Africa Film Festival. The second office is for the Cape Town Film Commission – the body that controls how and where film is made in the city. The last set of offices would be available for short term use by production companies making one-off films in the city. The users of these smaller office spaces would overlap with the use of the production suites also accommodated in the building.

Cafeteria: A cafeteria as well as a coffee/cocktail bar would serve both patrons of the cinema and users of the other building facilities.

Schedule of Accommodation

Schedule of Accomodation	Schedule of Accommodation	101016		
Major Programme Item	Programme Detail	Unit Floor Area (sqm)	Number of Units	Total Floor Area (sqm)
1. Cinema				
	Theatres	290	2	580
	Ticket Counter	10	1	10
	Concession Stand	10	1	10
	Office (management/administration)	15	1	15
	Storage	20	1	20
	WC	25	2	50
	Cinema Lobby	60	1	60
	Coffee/ Cocktail Bar	60	1	60
			Total	805
2. Workshop/ Seminar Space				
	Seminar Room 1	35	1	35
	Seminar Room 2	25	1	25
	Exhibition Space	40	1	40
			Total	100
3. Film Library/ Archive				
	Archive Storage	70	1	70
	Archive Administration Office	15	1	15
	Open Screening Space	30	1	30
	Private Screening Room 1	25	1	25
	Private Screening Room 2	10	1	10
	Private Screening Room 3	4	5	20
			Total	170
4. Production Studio 1 (Industry) (x2)	Digital Editing Studio 1	12	1	12
	Digital Editing Studio 2	8	1	8
	Operation Office	8	1	8
	Analogue Editing Studio	20	1	20
				48
			Total	96
5. Production Studio 2 (Industry)				
	Hotseat' Digital Editing Studio	70	1	70
	Small Editing Room	8	2	16
	Auxilary Space	20	1	20
			Total	106
6. Production Studio 3 (Educational)				
	Hotseat' Digital Editing Studio	80	1	80
	Small Editing Room	8	2	16
	Auxilary Space	20	1	20
			Total	116

7. Comunal Production Facilities				
	Analogue Editing Studio	20	1	20
	Sound Recording Studio	30	1	30
	Dark Room	20	1	20
	Film Recording Studio	60	1	60
			Total	130
8. Office 1 (Film Festival)				
	Open Plan Office Space	120	1	120
	Auxilary Offices/Rooms	8	5	40
			Total	160
9. Office 2 (Cape Town Film Commision)				
	Open Plan Office Space	150	1	150
	Auxilary Offices/Rooms	8	5	40
			Total	190
10. Office 1 (Short Term Production Company Space) (x2)				
	Open Plan Office Space	70	1	70
	Auxilary Offices/Rooms	8	3	24
				94
			Total	188
11. Comunal Office Facilities				
	Kitchen	15	1	15
	Board/Meeting Room	30	1	30
	Screening Room	25	1	25
	Lounge	20	1	20
	WC	20	2	40
			Total	130
12. Cafeteria				
	Seating/ Table Area	80	1	80
	Service Counter	10	1	10
	Kitchen	25	1	25
	Lounge	15	1	15
	Storage	15	1	15
			Total	145
13. Services				
	Building Reception Lobby	30	1	30
	Janitor's Office	10	1	10
	Locker Room	20	1	20
	Storage	15	1	15
	WC	20	2	40
			Total	115
14. Circulation				
	Approximately 15% of Total			368
			Total Space Requirement	2819


TECHNOLOGY

MEDIA FACADES

An investigation into the technology of digital communication surfaces

Ross Mc Donald | MCDROS004 | Semester I 2010

[Technology Paper submitted in partial fulfillment of the degree Master of Architecture (Professional)]

Contents

I. Introduction

My overriding concern is with how people perceive architecture and the meaning that we find in the architectural form and space that surrounds us in our daily lives. The corollary of this is: How does architecture express or display a particular message?

The exterior surfaces of buildings hold the potential, and indeed have the responsibility, to transmit much of the visual information that buildings express, whether this is directly related to the particular content or function of the building or any other message.

In contemporary architectural practice, there is a growing prevalence for the use of digital technology in buildings, as well as a focus on the integration of media into our urban environments. One permutation of this is the integration of digital imagery and displays onto the surfaces of buildings. These displays are most often placed on the exterior façade, where they might have a greater audience and where they do have a significant impact on the urban context.

What I wish to discuss in this essay is the particular way in which this form of digital technology has the potential to either augment or detract from the architecture and urban environments into which it is integrated.

The discussion will begin with a brief background explaining how architecture has, through history, been involved with expressing a message through the exterior surface of its façade (based largely on the writings of David Leatherbarrow and Mohsen Mostafavi, in their book, *Surface Architecture*) and how this translates into the use of media facades in the contemporary milieu. Secondly, the types of media facades and the content that is displayed will then be elaborated upon. Following which, a discussion of the work by two architectural firms, Realities:united and ag4 will be used to explain the different applications of digital technologies that are used to express a message. Finally I will conclude by making comment on the continuing potential of the use of media display technology in architecture, as well as some of the challenges with which the use of this technology present architects.

Instead of being a document containing a lot of technical information and design specification data, this is a discussion about the effect that a particular type of technology has on the way that people perceive architecture and consequently how architects need to think about designing,

using this technology. A continuing underlying concern that runs through this discussion is the way in which the application of technology enhances the perception of architectural form and space and the experience of architecture. The investigation was born from an initial position of skepticism about the validity of the implementation of media displays in architecture. This skepticism is balanced by a curiosity about these technologies that, through their increasing prevalence, are having a significant impact on the urban environment. Consequently, this is not a polemical argument advocating the use of digital display technology in every architectural design but rather it is a study of the potential for architecture to benefit from the integration of media display.

II. Surface Message

> 'We say: design from the inside out and from the outside in. And possible contradictions between inside and outside can produce aesthetic tension that is positive. There are interior functions and exterior context to be accommodated... the outside should not be just the result of the inside. And the outside requirements are especially significant in urban architecture.' – Robert Venturi (Proto 2009: 74)

There has been a long standing tradition of the façade (literally the *face*) of a building being regarded as the chief representational element of a building (Leatherbarrow and Mostafavi 2002). It is the surface that presents itself in the context a building inhabits and communicates most strongly the messages a building tries to convey. Vision, our most vital sense for the perception of objects in our surroundings responds acutely to the signals of the formal qualities of building surfaces.

Since the Renaissance there has been a separation of the façade from the structure of the building. The surface was not required to perform the tasks of load-bearing, and this is evidence to the importance placed in the function of signification delegated to the building exterior (Leatherbarrow and Mostafavi 2002). This function of representation of buildings (performed by the façade) led to built edifices assuming moral purposes 'thought to have reformative qualities capable of reshaping society' in the 19th century (Leatherbarrow and Mostafavi 2002). While this is no longer thought to be true, the importance of façade remains relevant.

The architecture of orthodox Modernism relinquished control of the façade through its importance placed in the functional capacity of the volume (Leatherbarrow and Mostafavi 2002). There was a great concern with the possibilities of a modern industrialized society and assembly-line mass production. This led to the use of prefabricated elements as cladding that is attached or hung from a primary framework (Leatherbarrow and Mostafavi 2002). The 'free façade' advocated by Le Corbusier in his *five points* is a strong reference to this, as are the developments made to curtain walls systems by Mies van der Rohe. The generic repetitive nature of facades that resulted from a rational industrialised approach to manufacture and supply of prefabricated panels led to the minimal, restricted pallet of façade expression characterized by architecture of the mid part of the 20th century.

Prefabricated building elements (including but not limited to façade panels) continue to be widely used in the design and construction of contemporary architecture due to the economic efficiency that these modes of production offer. However, due to modern fabrication methods allowing mass customization (rather than mass production of similar elements) through digitally controlled processes, there is the possibility for an almost limitless variety in material elements, allowing again for the possibility of expressive buildings displaying heterogeneous surfaces.

Post Modernism brought about the shift back to buildings that communicate meaning beyond their function. Robert Venturi's *Complexity and Contradiction in Architecture* as well as *Learning from Las Vegas* (written along with Denise Scott Brown and Steven Izenour) both advocated the use of contextually and historically relevant technologies as a means of representation and decoration. While this was, in intellectual terms, a reaction to the stark lack of decoration of the Modernist era (influenced by Adolf Loos's assertion that 'decoration is a crime'), it also responded to the 'American commercial vernacular' that they uncovered in their 1972 study of the Las Vegas strip. Here they found simple buildings with billboard like facades that were 'in effect detached… and overloaded with commercial signs'.*(fig.01-03)*(Proto 2009: 71)

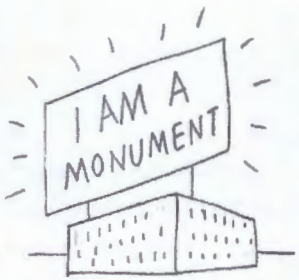


Fig 01: 'American Com mercial Vernacular'

Fig 02: A Venturi sketch describing how the fa cade of a building could be separated in order to emphasise it function to communicate.

Fig 03: The Las Vegas Strip, 1970s

III. Media Facades for an Information Age

In an age characterized by information, media and digital technology, it is these that inform the way buildings are beginning to communicate. In a manner that can be described as *mimetic*, buildings are taking on the qualities that typify the way that people relate to each other and the world around them. Venturi and Scott Brown point to this evolution of building communication and the flexibility this new technology offers: 'We're very involved with the imagery of LED. To change a message inscribed in stone is difficult, if not impossible. But to change an electronic image is easy' (Proto 2009: 71). With this flexibility come new challenges and questions that architects must face. While it is quick and easy to change the message displayed by a building using LED screens, this message is no longer controlled by the architect. (Proto 2009: 71)

The expression of a message on the face of a built structure, through a medium more literal than the sculptural form of that structure, is not a new concept. Since the time of the Egyptian Old Kingdom (*fig.4*)(Venturi and Scott Brown 2004), and even before that in the rock art in cave dwellings of pre-historic groups(Wikipedia 2010b), people have incorporated carved bas relief or painted inscriptions to the surfaces of built structures. (*fig.05*)

The temples of ancient Greece were painted in bright colours(wikipedia 2010), while in Africa the dwellings of particular tribes such as the Ndebele have long been painted in bright patterns

Fig 04: Egyptian Temple, with carved heiroglyphic message on collumns.

Fig 05: Pre historic San rock art on cave wall in Southern Africa

Fig 06: The Colourfully painted decoration of Ndebele huts.

that are repainted and change with the passing seasons (*fig.06*)(Wikipedia 2010a). Moving forward to modern times, the use of electronic technology to communicate information was first employed by means of rudimentary 'zipper displays' in New York City's Times Square in 1928 (*fig.07*) and since then buildings have been able to communicate 'in data flows as well as via bricks and mortar'(Hall 2009: 1). Digital facades swap pixels for daubs of paint (or the stone tesserae of Roman mosaics (*fig.08*)) in the expression of a graphic message. The difference

lies in the speed at which the message can change - from the seasonal (or slower) change of the painted Ndebele huts, to the almost instant flow of video imagery (Croci 2010: 137). 'The concept of media facades is nothing new, but the application of digital technology has brought it back to the centre of attention.' (Croci 2010: 137)

With developments in digital and information technology in the 20th century, there has been a rapid increase in the sophistication of electronic signage used as media facades, from the simple neon lights of 1960's Las Vegas, to the intelligent LED screens that are able to display high resolution images and video footage.

When discussing the environment created by the integration of media displays, it is important to bear in mind the potentially negative consequences. There is a danger inherent in the extensive application of large, bright and fast moving imagery in human environments. There is the potential for the over-stimulation of the visual sense leading to a state of disorientation and feelings of overwhelming (Leach 1999: 34). While this has always been a quality of the modern metropolis, the brilliance of digital signage has an exacerbating effect. In addition, this situation is counterproductive to the objective of media display, as it results in a state of blasé unreceptiveness in people, as a defense against the barrage of information stimulation. This overloading leads to the inability to in fact meaningfully absorb the information being transmitted (Leach 1999: 34). Urban centers such as Times Square have this distinct characteristic. *(fig.09)*

Fig 07: Colourful, pixel like tesserae of a 6th cent. Byzantine mosaic.

Fig 08: The first 'zipper' in Times Square, 1928, made from 14,800 individual lamps.

IV. Types of Media Facades

Three general types of electronically augmented facades have emerged, in terms of how electronic displays are incorporated into (onto) building exteriors (Schoch 20066: 11):

*Add-on Displays
*Media Facades
*Media technologies fully integrated as a main element in building design

Add-on displays are characterized as large scale LCD screens retrofitted to the facades of buildings and used largely as advertising displays. This is typified by the displays in centres such as Times Square, New York and Piccadilly Circus, London, as well as many other cities, particularly in the East. In this case, buildings become secondary to the display of bright light and information.

Media Facades are similar to add-on displays, in the content that they communicate and the technologies they employ. However, what sets them apart from the first category is their integration as part of the original design of the building or the conscious way in which they engage with the architecture which supports them. While this strategy begins to look at ways of digital display and architecture working in a symbiotic manner, there is a tendency for architectural qualities to still suffer. Buildings such as the T-Mobile headquarters in Bonn, Germany (*fig.10*), have used media screens that have a certain level of transparency, allowing a greater equality between display and other architectural elements.

Fig 09: Modern Day Times Square

Fig 10: The front facade of theT Mobile Head quartars, Bonn, with a transparent display screen.

Fig 11: The A Singapore office building that inte grates commercial LED screen with full facade media installation.

More recently, there has been an attempt to question the role of electronic display in architectural design. While the other modes of display can be used to communicate messages unconnected to the architectural object that supports them, this type of display is specifically designed to draw awareness to the architecture itself. In other words the architecture itself is enhanced through the integration of electronic media. (*fig.11*)

Means of display other than digital screen technology has also been used with buildings as a support. These include the use of lights within the windows of building facades being used as very low resolution digital displays with each window becoming a pixel. Examples of this include the Blikenlights project by the Chaos Computer Club, a European hacker organization, in the House of Teachers Building in Berlin, Germany, where the façade was used to depict a giant beating heart, among other things. (*fig.12*) (Hall 2009: 1)

Projection has also been a method of turning surfaces of the built environment into supports for the communication of a message. From the projection of film on blank walls, to using the skyline of entire cities as a continuous, yet fragmented, screen, projection is highly suited to short term installations that do not necessarily need the surfaces of buildings to be altered. In an installation called *Skyarena* in 2006 (*fig.13*), the skyline of Frankfurt in Germany was altered when high rise buildings across the city were used as giant projection screens, some of which displayed continuous content between them (Schoch 2006: 613).

Fig 12: The Blinken lights project at the House of Teachers Building in Berlin, 2001.

Fig 13: The Skyarena skyline projection in Frankfurt, 2006.

V. What is the Message? Content for Media Facades

With the focus of media facades on the communication of a message, the content that is displayed has a significant bearing on both the format and the scale of the display device and subsequently its relationship with the architecture that supports it. Content categories include (Dalsgaard and Fritsch 2008: 3):

*Advertising: The use of both static and dynamic displays is used to convey messages related to commercial products. Essentially these are electronic billboards that either show a single message, or have messages that change continually (*fig.13*).

*News: Electronic displays that present more detailed information than just branding messages, are used to convey news items and information such as commercial data. (*fig.14*)

*Art: Installations using digital technology (projections, digital screens and other media) to communicate, at a large scale, a message of artistic content. Most often these are short term displays. (*fig.15*)

*Interactive: Media displays whose content is altered by or in some way engages an audience in an active way, rather than as merely passive reception. While these types of displays can involve aspects of commercial, news or artistic content, it is the nature of active engagement on the part of the observer that sets interactive display apart from the rest. Interactive media displays have begun to be used as a way of fostering public participation and social interaction in an urban context. This type of installation begins to engage not only our visual sense, but challenges perceptions of our bodies in space and affects our experiential reading of space. Interactive systems like these require much higher levels of design and integration to the buildings that

Fig 14: Electonic com mercial signage in Pica dilly Circus, London.

Fig 15: Digital com mercial data and news displays at the NAS DAQ building in New York City.

Fig 16: SPOTS media installation at 10 Pots dammer Platz, Berlin, 2005.

Fig 17: Interactive projected community innitiative in Aarhus, Denmark.

support them, than displays that are passively observed. (*fig.16*)(Dalsgaard and Fritsch 2008: 3) The level of complexity of content that is to be displayed has a strong bearing on architectural and spatial considerations. Knowing the spatial contexts of the display and the viewer are essential. How is the display going to be viewed? From what point of view will the observer receive the full effect of the display? What is the scale of the display?

The levels of detail and information density are generally in constant relation to the scale of the display. Smaller screens tend to have more detailed displays communicating complex information, while larger displays tend to be more abstract. (*fig.17*)(Schoch 2006: 611)

Further to this are other considerations such as the times of day when the display should be observable, as the light based systems of display have difficulty in bright sunshine and require more powerful lighting components to overcome this.

Fig 18: Different levels of resolution (pixel den sity), showing difference in image clarity.

Fig 19: Viewing dis tances from the display screen are relative to the resolution.

höchste Auflösung
minimaler Betrachtungsabstand
Highest resolution
Minimum viewing distance

mittlere Auflösung
mittlerer Betrachtungsabstand
Medium resolution
Medium viewing distance

niedrigste Auflösung
maximaler Betrachtungsabstand
Lowest resolution
Maximum viewing distance

VI. Realities:united

Realities:united is a German architectural firm that has, over the past decade, been at the forefront of research into the architectural possibilities for integration of digital media in architecture. In recognizing the potential that digital media can have in the augmentation of experience of architecture, they have tried in their work, to focus on how architecture can use media technologies to communicate an architectural message. Instead of being at the service of commercial advertising, their aim is to transcend the notion of the digital façade as an electronic billboard, *a la* Times Square. This methodology is more about transforming the aesthetic experience of form and space through dynamic lighting that engages with its context in a more integrated way. 'Lighting is dynamically applied in order to enhance the three dimensional experience of architecture rather than flatten it.' (Croci 2010: 136)

In collaboration with various architects and artists on projects ranging from small installations (Contemporary Architecture, NYC (*fig.18*)) to larger retrofitted media façade installations (10 Potsdamer Platz, Berlin (*fig.19*)) and fully integrated architectural media facades (Graz Kunsthaus, Austria (*fig.20*)), Realities:united have tried continually to redefine the relationship between space, form and digital media. In the context of a media saturated society, they believe it is still necessary to define the disciplinary essence of media integrated architecture (Croci 2010: 136).

Much of the work that Realities:united has produced until now has challenged the generally accepted mode of working with media screens. They work with technology in such a way that subverts the underlying message that digital technology generally sends – that of being ultra-modern (Croci 2010: 137). This has two main objectives. Firstly that the novelty of the technology

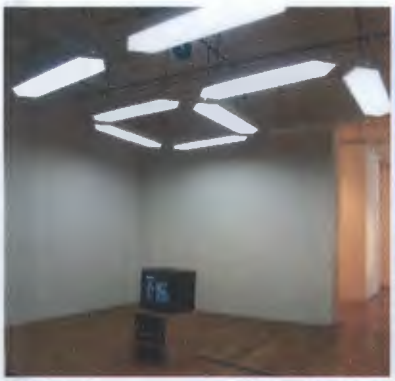


Fig 20: Contemporary Architecture, installation at the Artistsspace Gal lery, New York, 2007.

Fig 21: SPOTS media installation at 10 Pots dammer Platz, Berlin, 2005.

Fig 22: BIX media facade integrated into the design for the Kun sthaus, Graz, Austria, 2003.

does not detract from the perception of the architecture as a whole. Secondly, to challenge the question of rapid obsolescence of modern digital technology that is difficult to equate with the requirements of architectural objects that, by their nature, are required to be more permanent. Not only does this lead to questions of maintenance costs, but it is also counterproductive in the objective of a building's perceived 'modern-ness'. In successive projects, Realities:united have moved towards the use of more abstract lighting installations as an expression of media (rather than the video screens commonly associated with media façade technology) that has both a more integral place in the overall architecture as well as having a lifespan more relevant to the building and is no connected to the cutting edge of digital technology development (Croci 2010137,138).

> 'Audiovisual media, global communications and information networks and computer interfaces constitute a synthetic fabric that coats the appearance of the everyday world... we must begin to develop truly interactive patterns for design, semantic exchange and actual utilization.' (Bullivant 2005: 83)

Fig 23: The front facade and entrance to the Graz Kunsthaus.

VII. BIX Graz Kunsthaus

One of the first major projects that Realities:united was involved with was the 2003 design for the Kunsthaus in Graz, Austria. The architects, Peter Cook and Colin Fournier of Spacelab, worked in collaboration with Realities:united to develop the artistic and technological concepts for the design of a media façade that would engage the building with a larger audience. For Realities:united it was an opportunity to really experiment and develop methods for the dynamic communication by architecture.

The concept for the media façade, called BIX (big pixels) (Bullivant 200583), incorporates 930 40Watt fluorescent ring lights into an irregular matrix that covers the amorphous main façade of the building (*fig.20*). Each fluorescent light is individually adjustable and represents a single pixel in an extremely low resolution, monochromatic screen. While the 'screen' is able to change at a rate of up to twenty video frames per second, the low resolution limits the content that can realistically be displayed (Bullivant 2005: 84).

The symbiotic relationship between the media installation and the architecture radically defines the character of the building, evident not only in the design process that integrated this use of media from the outset, but also in the content displayed, which is a direct (albeit quite abstract) communication of the process of the building. The combination of the screen's scale and the attraction of a bright shifting light source, leads the Kunsthaus to have an impact on a much larger context in the city, displaying messages that can be read by people otherwise not involved with the building. In fact, up close the viewer is not able to perceive the overall image, seeing only the abstract patterns of fluorescent lights (Bullivant 2005: 84).

Fig 24: The bubble like volume of the Kunst haus that sits in the older Murvorstadt part of Graz.

Fig 25: The gallery bubble is integrated into a more conventional rectalinear building volume that sits on the corner of the site.

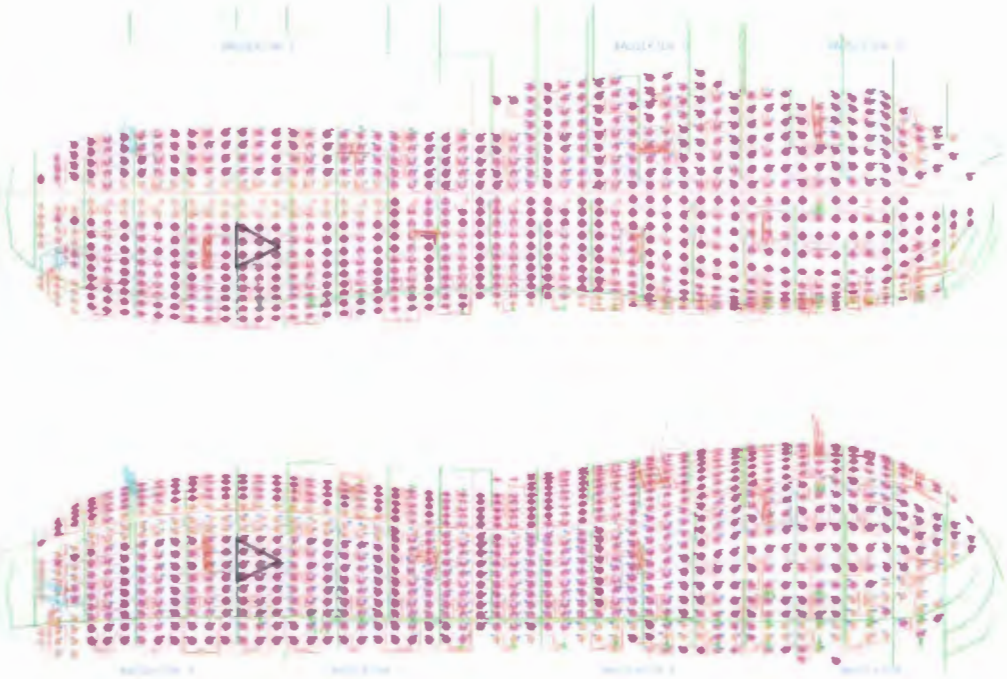
Fig 26: Detail of the shiny, curvaceous vol ume, with its embedded neon lamps.

The technology used here, based on the reinterpretation of easily sourced and relatively inexpensive lighting elements, rather than high end LED display vehicles, has meant that the media façade is not required to display content of a commercial advertising nature in order to pay for the screen itself (Bullivant 2005:84). This solution has allowed for a display that covers the whole main façade of the Kunsthaus, something that would be inhibitively expensive using state of the art digital display technology(Realities:united 2003). At the same time the limits imposed by the low resolution solution has demanded a much higher level of creativity in developing content for the screen – content that is designed with the unusual specifications of this particular screen, the architecture and the surrounding context in mind. Architecture and media are more integrated, leading to stronger perception of form and space, while also complimenting the communicative capacity of the building's programme itself, that of displaying art. In this way, the image that 'seems to emanate from within the building' contributes to the dynamic and engaging nature of the building's meaning, rather than being merely an aesthetic device that is observed in a passive manner (Bullivant 2005:85).

While it was originally envisaged that the designers at Realities:united would have curatorial input into the content displayed, this function has been retained by the operators of the building itself . This potential for ongoing input to the message architecture can express has interesting and exciting implications in the field of architecture. The relationship between architect and architecture has the possibility to be extended over time, the process of design never being complete or fully resolved (Chaszar 2005120). Architecture can in this way become more of a performative process, likened to that of choreography, where a building becomes less like a sculpture and more like an 'acting body', that has the ability to vary its position relationships in space (Croci 20101:39). Rather than being a transparent building that allows for the communication of the interior processes, the expression of the BIX display allows for a new

Fig 27, 28: Detail showing the attachment of the neon ring lamps to the skin of the facade, which is then covered with a translucent plexi glass skin.

Fig 29: The installation of 930 neon ring lamps onto the facade, during construction.



type of transparency, based on the communication of information in a dynamic manner that has the ability to be continually reinterpreted (Realities:united 2003)(Realities:united 2010).

The success of this particular project is largely as a result of the integration between the elements of the building's envelope and the elements that constitute the media screen. The fluorescent lights are integrated into the skin of the building, between the weatherproof inner shell and a transparent outer casing. The biomorphous form of the building, leading to a 'screen' that has an convex shape rather than merely flat, together with the almost random positioning of the lights, has led to the blurring of perceptions of building façade and media display. When the

Fig 30,31: Construction and design diagrammes showing the arrange ment of the neon lamps onto the concave sur face of the building.

Fig 32: A design concept render of the Kunsthaus, showing how the facade would work.

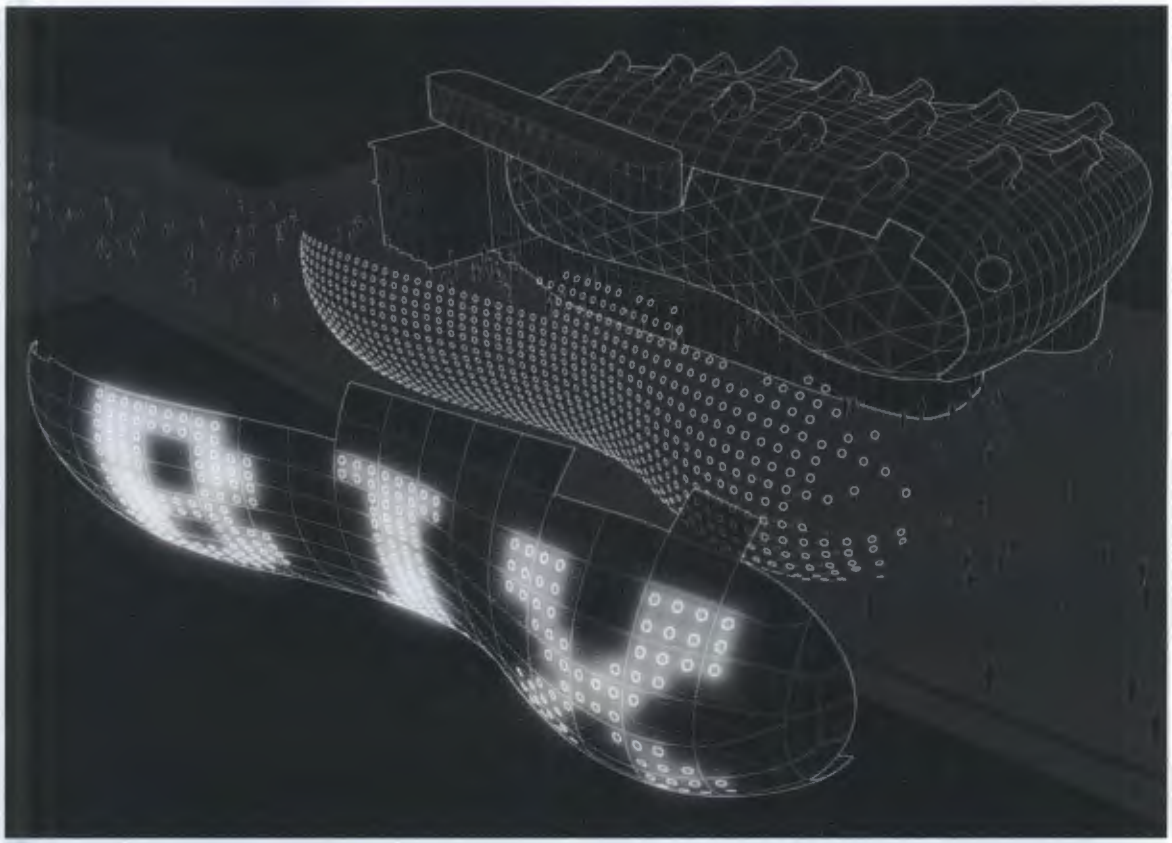
display is inactive, the lighting components are almost invisible. The building's form remains unchanged and unencumbered by the display components (Realities:united 2003). This is in clear contrast to the way in which many media facades are conceptualized and integrated into buildings as 'clip-on' elements (Chaszar 2005:122).

'[The Building] develops methods for dynamic communication between building and surroundings, between content and outside perception.' (Bullivant 2005:84) The idea of perception of architecture and media at the heart of this building's design, with its custom media display system, is evident in the initial theme of *perception* to which well established international artists were invited to contribute display content for BIX, when the Kunsthaus was first opened.

The BIX system developed for this project included both the technical installation of the screen into the skin of the façade, as well as the system that allows for the development and display of content on the BIX screen of the Kunsthaus. The BIX Simulator is a freely available (downloadable from the internet) program that allows anyone to design and test graphic and video content, using a virtual model of the Kunsthaus in its Graz context (*fig.20*). Fully navigable, one can easily see how the content developed might be perceived from different perspectives relative to the building's main façade. It is possible, theoretically, to then have this developed content displayed on the building façade in real time.

Fig 33 : A design detail render showing the installation of an indi vidual neon lamp.

Fig 34, 35: A full scale mock up of part of the Kunsthaus facade used to test the installation of the various construction components.



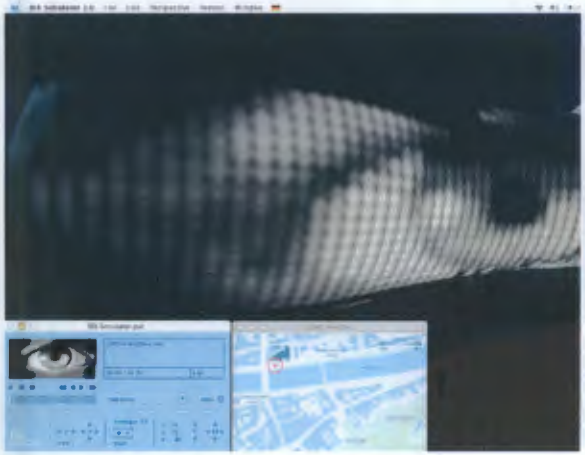


Fig 36 : A design drawing showing a exploded view of the skin and media components of the main facade.

Fig 37, 38: Screen shots from the BIX Simulator, a program used to develop and test content for the BIX screen before it is displayed on the building.

'The Kunsthaus' fusion of architecture and design software, and media technology, defines a new standard in architecture – an approach that is likely to be a guiding strength of many future urban building schemes.' (Bullivant 2005:85)

Fig 39: Each neon ring lamp is a pixel in a very low resolution digital screen.

VIII. A.AMP

In a more recent project, Realities:united have dealt more directly with the interaction between commercial media and architecture. The A.AMP project, which stands for Architectecture Advertising Amplifier, integrates both conventional high resolution LED display and full façade digital installation into the design of the building, *amplifying* the possibilities for interaction between media, building and urban context (Realities:united 2010).

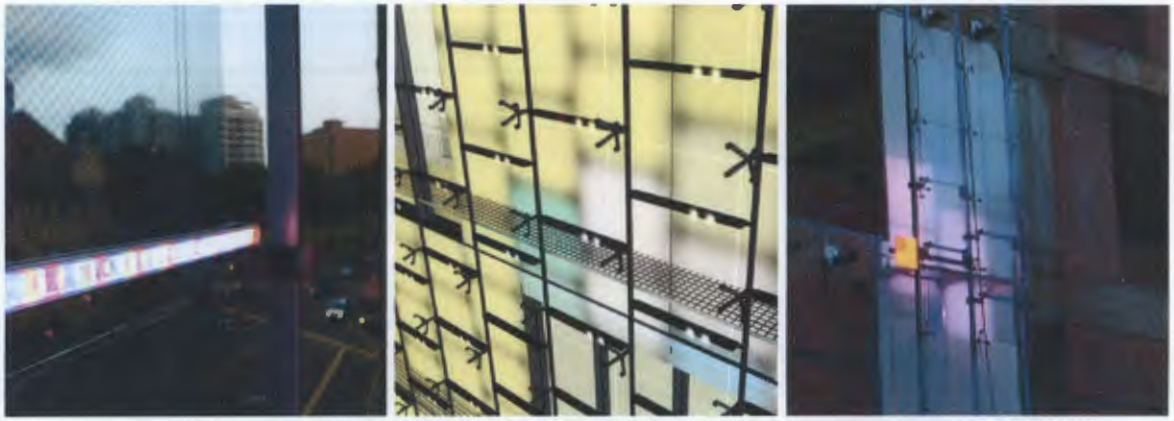
During the day, the conventional office building, designed by WOHA Architects (in collaboration with Realities:united) operates as any other building with a full glass façade and a clip-on electronic billboard that displays commercial advertising. At night however, as office workers leave the building, the whole main façade becomes activated as a dynamic lighting display. The façade becomes a large scale matrix that uses 500 LED projectors to create the effect. Software is used to analyse the images being displayed on the high resolution commercial LED screen and translates it into an abstract, low resolution 'colour echo' amplified across the entire façade (Realities:united 2010). Although the nature of the façade display is very abstract, in the context of the commercial imagery there is a clear reading of the relationship between the two modes of display. The building façade complements and augments the advertising message, and finds a scale of media display that is more relevant to that of the building in its urban context.
Through this process, there is a clear intention to integrate the digital imagery with the material

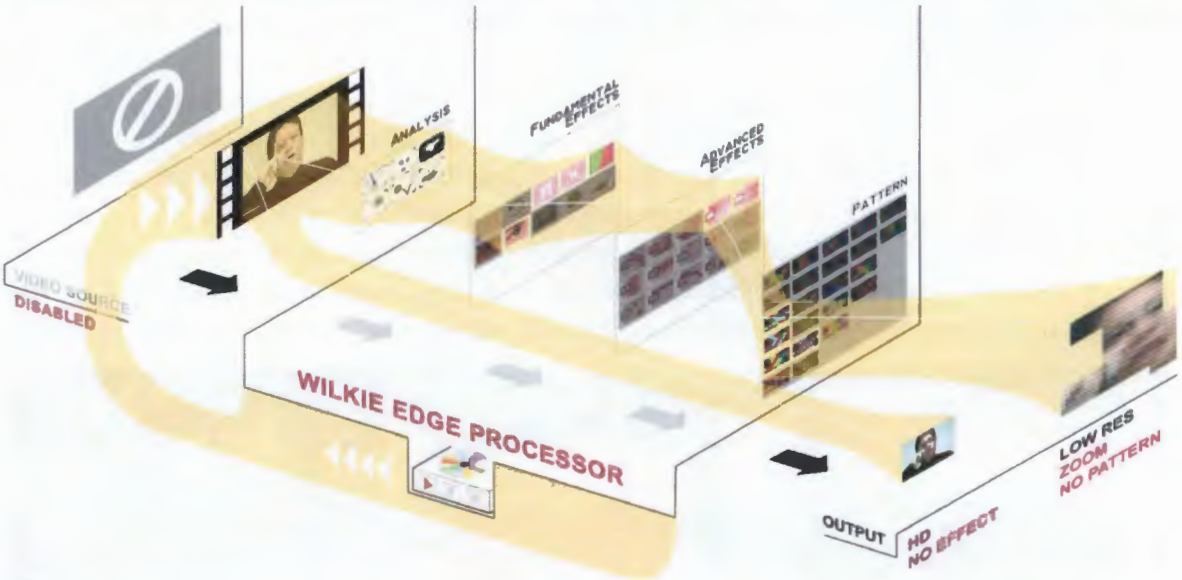
Fig 40: The A.AMP facade of a Singapore office building

Fig 41: A conventional high resolution LED screen is attached to the corner of the build ing facade.

Fig 42: Abstract colours are projected onto the opaque window blinds inside the second skin of the facade.

elements of the architecture. The projection of the façade display uses motorized blinds as the support, which close as office workers leave the building. Where the blinds remain open, the static office lights of the interior form gaps in the façade display. This leads to a dialogue between the message of the façade and the operation of the building.





'[In] this way the dynamic exchange between material and media becomes a persistent plot: sometimes a struggle, sometimes a dance. That way the building is not covered and hidden by the installation but the architecture itself is transformed to become a carrier of digital information.' (Realities:united 2010)

Fig 43: Detail of a LED projector that projects light back at the inner facade skin.

Fig 44: A design render showing the LED pro jectors attached to the facade, projecting back on the inner facade.

Fig 45: A full scale in situ mock up of the facade and projector elements.

Fig 46: A diagramme showing the digital pro cess used to derive an absract projection from the high resolution LED screen images.

IX. ag4 and Standardised Systems for Media Facades

Where Realities:united are involved in the development of bespoke media systems for specific projects catering largely to a more creative, artistic design objective, the field of media architecture has many options of standardized systems that allow for the integration of media display in architecture. ag4, another German company that combines the practices of architecture and media design, specializes in the design implementation and installation of transparent media facades, using LED technology. (ag4 / GmbH 2010)

These systems, like Ilumesh® and Mediamesh®, are designed to work in partnership with the architecture to which they are applied. While they can be integrated into the initial design for a building, the systems have the advantage of having the ability of being retrofitted to existing buildings. The transparent nature of these screens, allows them to simultaneously display digital imagery, while also allowing the characteristics of the architecture to be perceived. This is advantageous, in that the screen does not limit other elements of the architectural façade. (ag4/ GmbH 2010: 3)

In essence, these façade systems constitute a stainless steel mesh. The horizontal rods, called lamellae, have arrays of LEDs encased within them. Red, Green, Blue and White LEDs are grouped, and constitute image pixels, the number and density of which determine the resolution of the screen. As stated before, the resolution of the screen has a direct effect on the optimal viewer distance – the lower the resolution, the further from the screen it is necessary to be in order to clearly see the image being displayed. The LEDs in each Lamella are connected

Fig 47: Light Emmitting Diode (LED) cluster.

Fig 48: Detail of LED clusters embedded in horizontal lammelae.

Fig 49: Illumesh, LED clusters projecting back onto a stainless steel mesh.

by interwoven electric cables to control box known as a *slave* that is, itself, controlled by a centralized computer system. This allows the individual LED pixels to be synthesised into an image displayed and perceivable on the screen (ag4/GmbH 20105).

The flagship example of a translucent media screen designed and installed by ag4 is the screen for the T-Mobile Headquarters building in Bonn, Germany. Vertical structural elements were attached to the existing façade, which then supported the stainless steel mesh. The 300m² façade incorporates 250 000 LEDs embedded in its horizontal lamellae. While the installation of this system has allowed for the increased communication potential of the building, the original transparent architecture is still perceptible and hasn't been adversely affected (ag4/GmbH 2010).

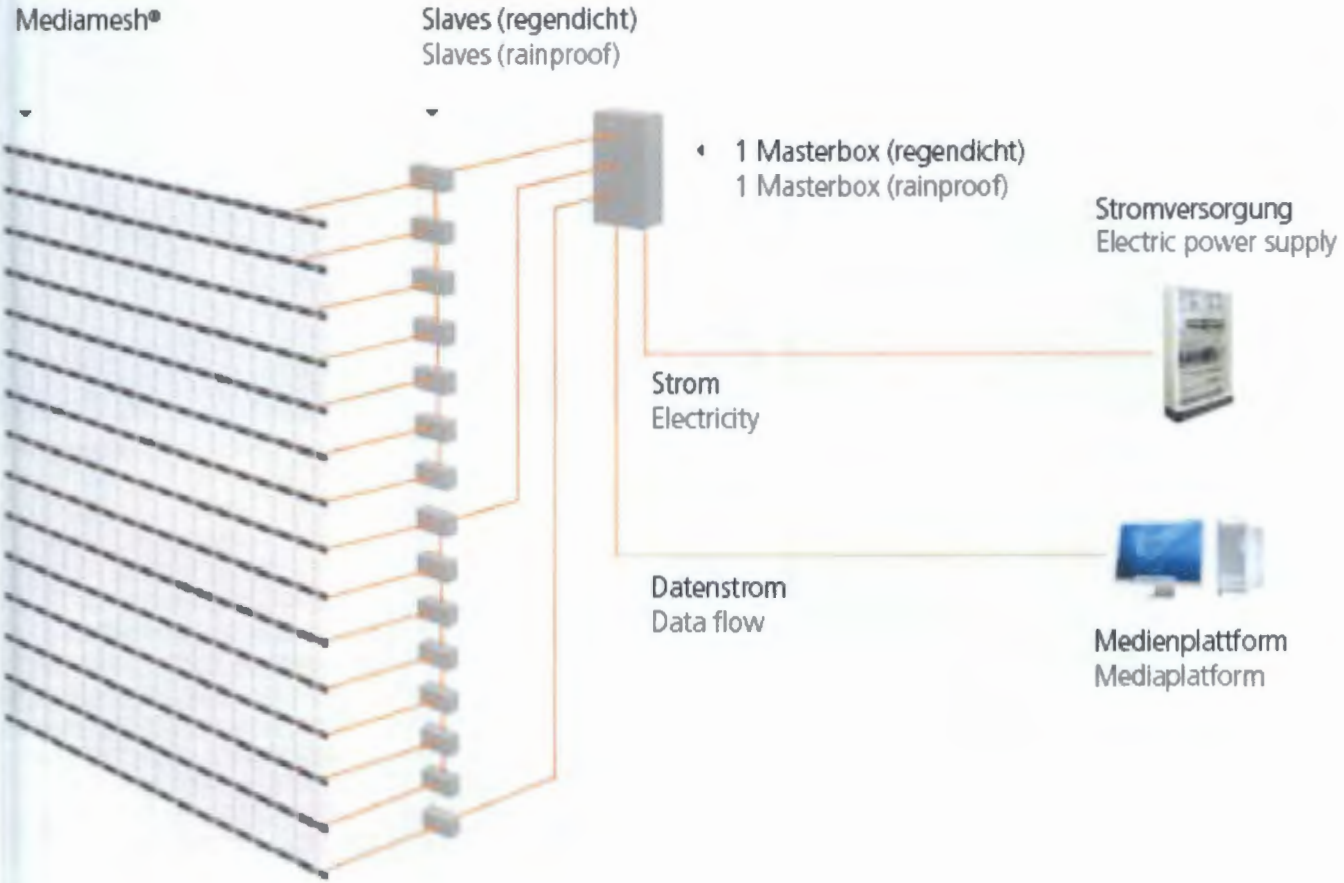
Fig 50: Detail of LED embedded lamellae, vertically connected us ing steel brackets.

Fig 51: The T Mobile Headquartars Buidling in Bonn, Germany.

Fig 52: Detail of LED cluster in horizontal lammelae

Fig 53: Detail of LED clusters projecting back onto a stainless steel illumesh.

Fig 54: Detail of slaves that control the LED clusters of each lam mela.



These systems have much potential in their application as commercial advertising displays. They have advantage over conventional LED screens by having a minimal materiality that doesn't interfere much with the architecture that supports it. Instead of the architecture being the frame on which the screen is attached, this technology has the potential to be more fully integrated into the architecture itself. There is a great flexibility in the type of content that this type of screen can support, due to the possibility of relatively high resolutions. While this can be a benefit to clients requiring the ability of communicating commercial messages, the fact that the message of the media façade can be disassociated from the architectural intention of the building has the potential, as we have seen, to limit the way in which the addition of media technology really augments the meanings and perceptions of the architecture and its urban context.

Fig 55: Digramme showing the compo nents and digital pro cess that controls the image displayed by the LED mesh screen.

'The disciplines of architecture and urban design are about to be challenged by aesthetical, technological and social issues, when designing with informed surface.'

Fig 56 61: Details of the transparent nature of the media display screen of the T Mobile building.

X. Conclusion

At present there has been little engagement with these issues of how to design media facades such that they are a fully integrated part of the built environment and surface of our cities. Architects need to begin to merge their traditional understanding of space with contemporary media technology in a way that deals with media as a 'material'. It has been suggested that by looking at the way in which the architecture of the Baroque period dealt with the integration of space and rendered surfaces, architects might find a more integrated approach to dealing with information laden architectural surfaces (Schoch 2006: 578). Painting and architecture of the Baroque becomes digital display and architecture of the present day.

The electronically augmented urban environment envisaged in the 1982 film Bladerunner is fast leaving the realm of science fiction imagination and entering the real world. Already buildings and cities have become giant frameless screens for the display of visual content and this will

continue at an accelerating rate; particularly as the digital technology supporting such application is further developed and becomes cheaper. While at present media facades are largely employed in the display of advertising, there is the potential for these technologies to be used in more creative way for more productive purposes that enhance the urban environment rather than catering to a capitalist market society.

Fig 62: A screen shot from the 1982 film, *Bladerunner*, showing a science fiction image of a medis screen, which has subsequently become a reality.

Architects, with their concern for the spatial realities of our urban environments and engagement with the continually evolving technologies that affect these environments are in a position (and in fact have a great responsibility) to employ media technologies in a critical and meaningful way, such that they truly enhance both individual buildings and urban environments at large.

XI. References Cited

ag4 / GmbH. "Http://www.Mediafacade.Com/." (accessed 05/14, 2010).

ag4/GmbH. . *Media Facades: Ag4 Industry Brochure*. www.mediafacades.com/ag4, 2010.

Bullivant, L. "BIX Matrix Realities: United, Kunsthaus Graz, Austria." *Architectural Design* 75, no. 1 (2005): 82-85.

Chaszar, A. "Blurring the Lines Case Studies of Current CAD/CAM Techniques-BIX." *Architectural Design* 75, no. 2 (2005): 118-122.

Croci, V. "Dynamic Light: The Media Facades of Realities: United." *Architectural Design* 80, no. 1 (2010): 136-139.

Dalsgaard, P. and J. Fritsch. "Media Façades Beyond Interaction."2008.

Hall, Peter. "Living Skins: Architecture as Interface." *Http://www.Adobe.com/designcenter/thinktank/livingskins/Living_Skins.Pdf* (2009).

Leach, Neil. *The Anaesthetics of Architecture*. Cambridge, Mass.: MIT Press, 1999.

Leatherbarrow, David and Mohsen Mostafavi. *Surface Architecture*. Cambridge, Mass.: MIT Press, 2002.

Proto, F. "That Old Thing Called Flexibility: An Interview with Robert Venturi and Denise Scott Brown." *Architectural Design* 79, no. 1 (2009): 70-75.

BIX Video Documentation. Directed by Realities:united. http://www.realities-united.de/#PROJECT,69,2,V30: 2003.

———. "Http://www.Realities-United.De/." (accessed 05/14, 2010).

Schoch, O. "My Building is my Display: Omnipresent graphical output as hybrid communicators" ,2006; accessed at *http://www.caad.arch.ethz.ch*

———. "Challenges of Media Integrated Architecture: Catagorizing the Illusionary Real Architecture", 2006; accessed at *http://www.schoch-architecture.com*,

Venturi, Robert and Denise Scott Brown. *Architecture as Signs and Systems : For a Mannerist Time*. The William E. Massey, Sr. Lectures in the History of American Civilization. Cambridge, Mass.: Belknap Press of Harvard University Press, 2004.

Wikipedia. "Http://en.Wikipedia.org/wiki/Greek_Temples." Wikipedia. (accessed 14 May, 2010).

Wikipedia. "Http://en.Wikipedia.org/wiki/Ndebele_house_painting." Wikipedia. (accessed 14 May, 2010).

———. "Http://en.Wikipedia.org/wiki/Rock_art." (accessed 14 May, 2010).

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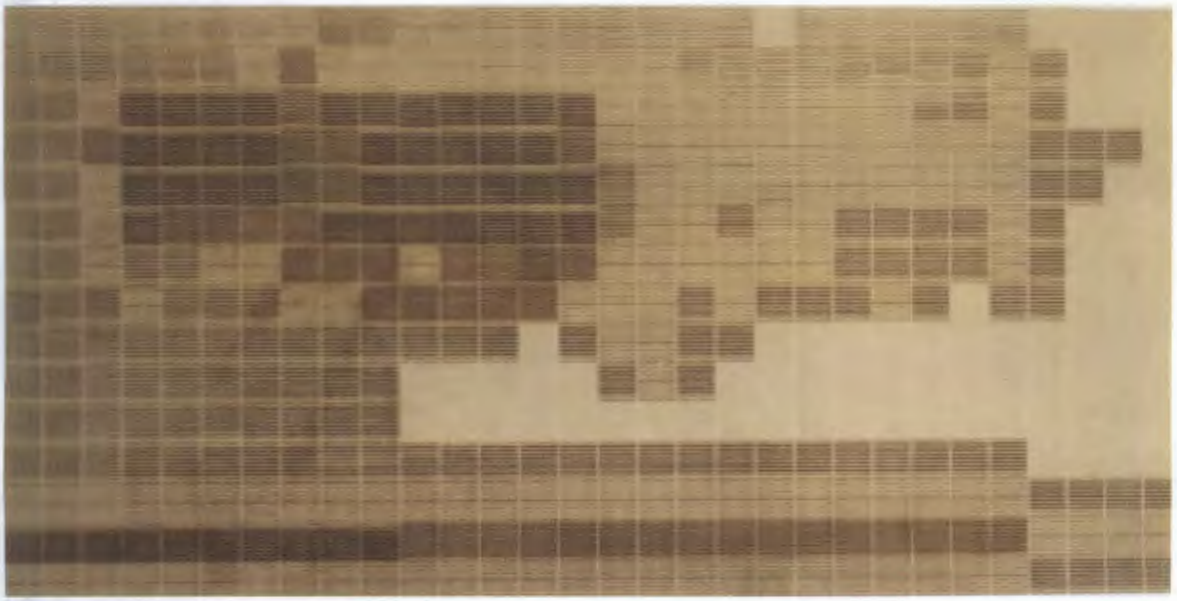
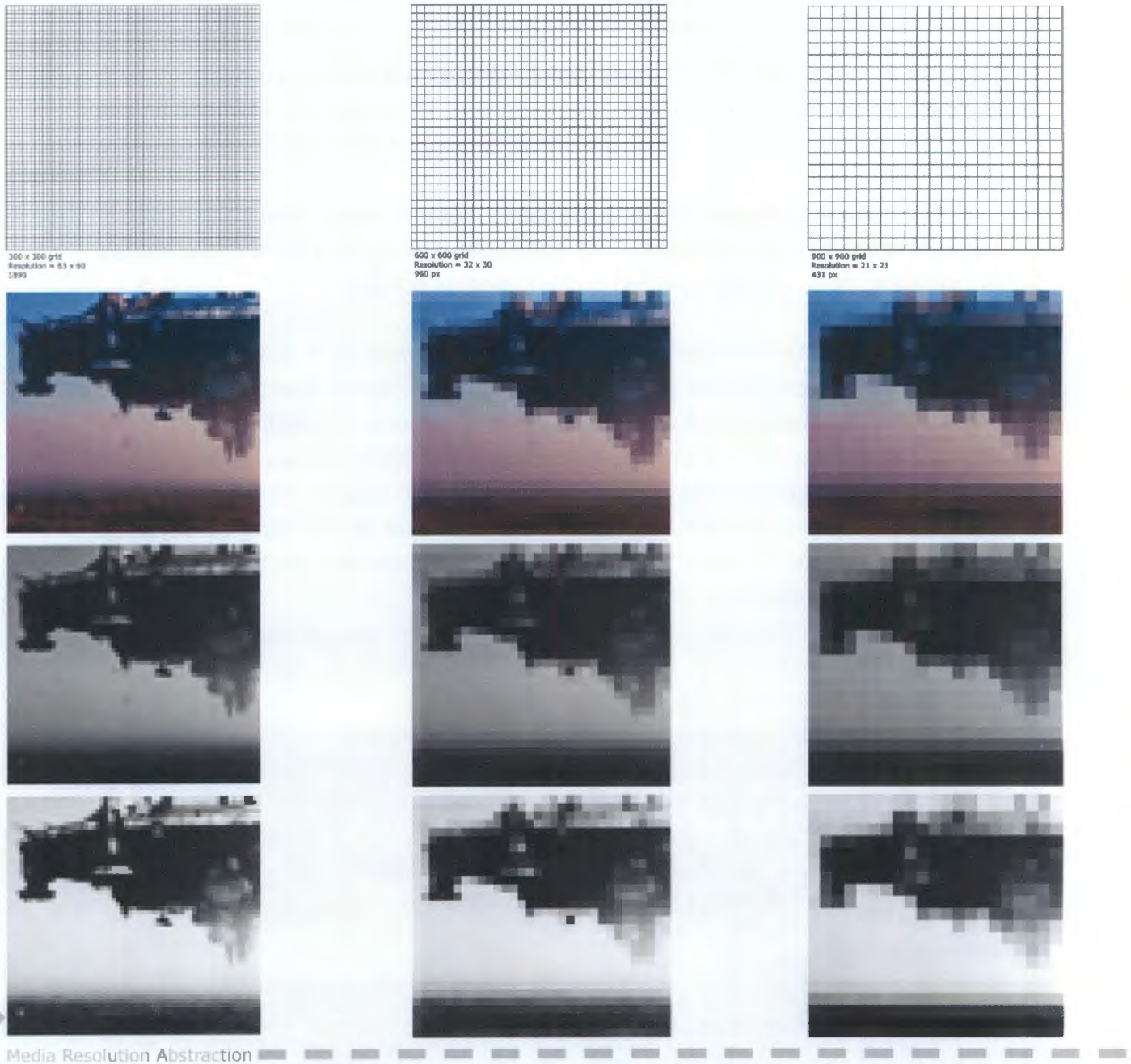
Design Strategy for Media Integration

As the programme for this design deals directly with visual media in the form of film, using media as an architectural device is appropriate. The projection of image on the interior of the building is balanced by the visual display on the exterior.

The use of a changing façade supports the ideas that the design intends to express, regarding perception of architectural form and urban space. As the façade changes subtly, so does one's perception of the building and its context.

The particular context of the building, in the east city (which is at present a nondescript and uninviting part of the city, especially at night), would benefit from the attraction a changing display and vibrantly lit up urban space. In addition, the façade would have the ability to convert into a large scale cinema screen, changing the whole of the urban square into a large outdoor cinema in the city. This would assist in achieving one of the principal aims of the project – that of changing perceptions about how parts of the urban environment should function through the medium of film and the mode of cinema.

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1890
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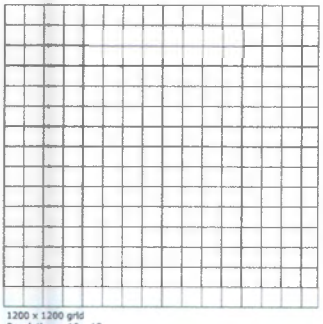
Media Colour Abstraction
Media Resolution Abstraction



1200 x 1200 grid
Resolution = 16 x 15
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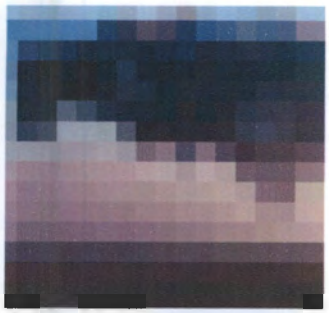
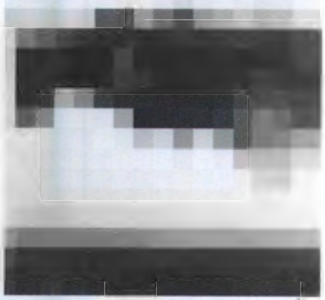
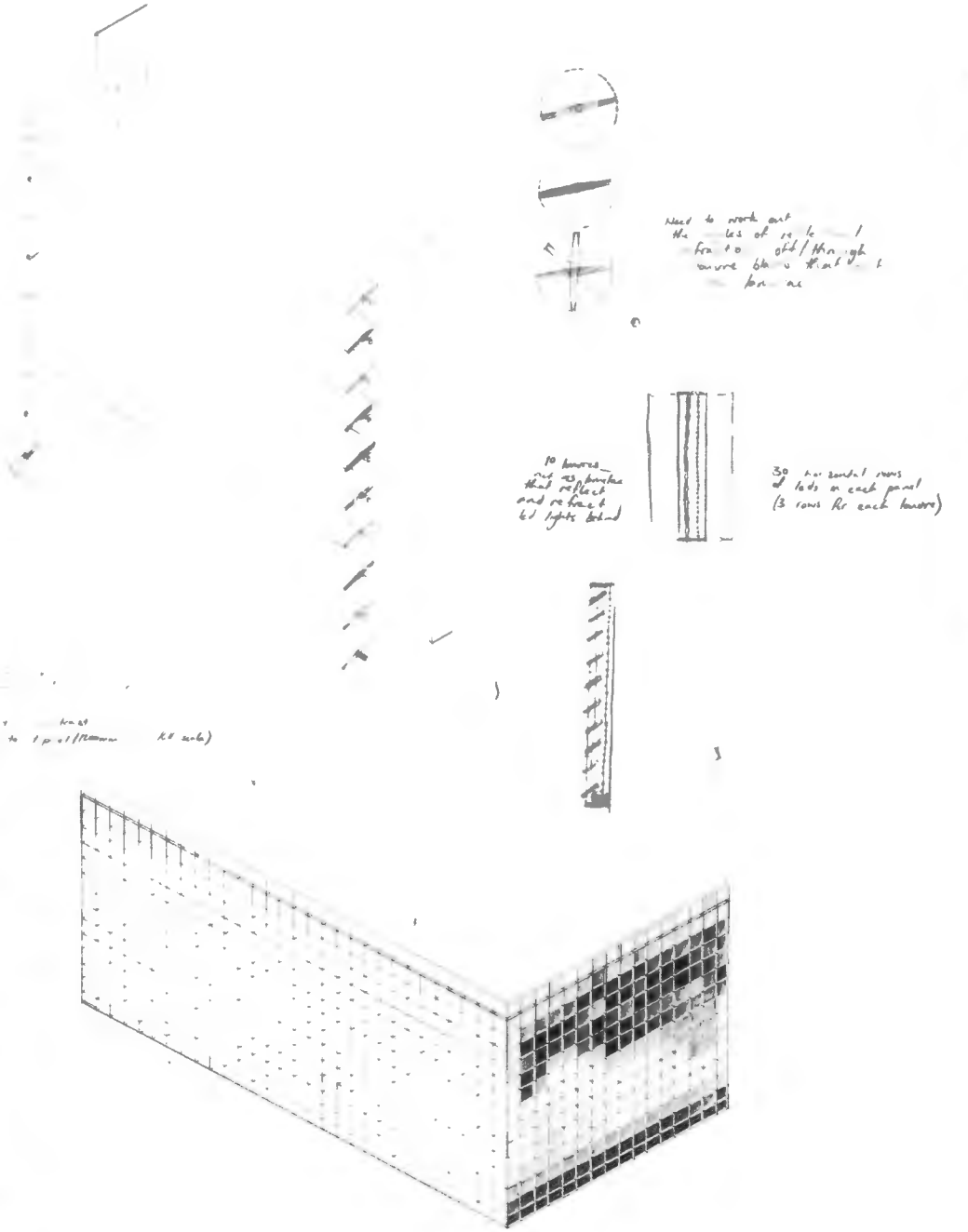
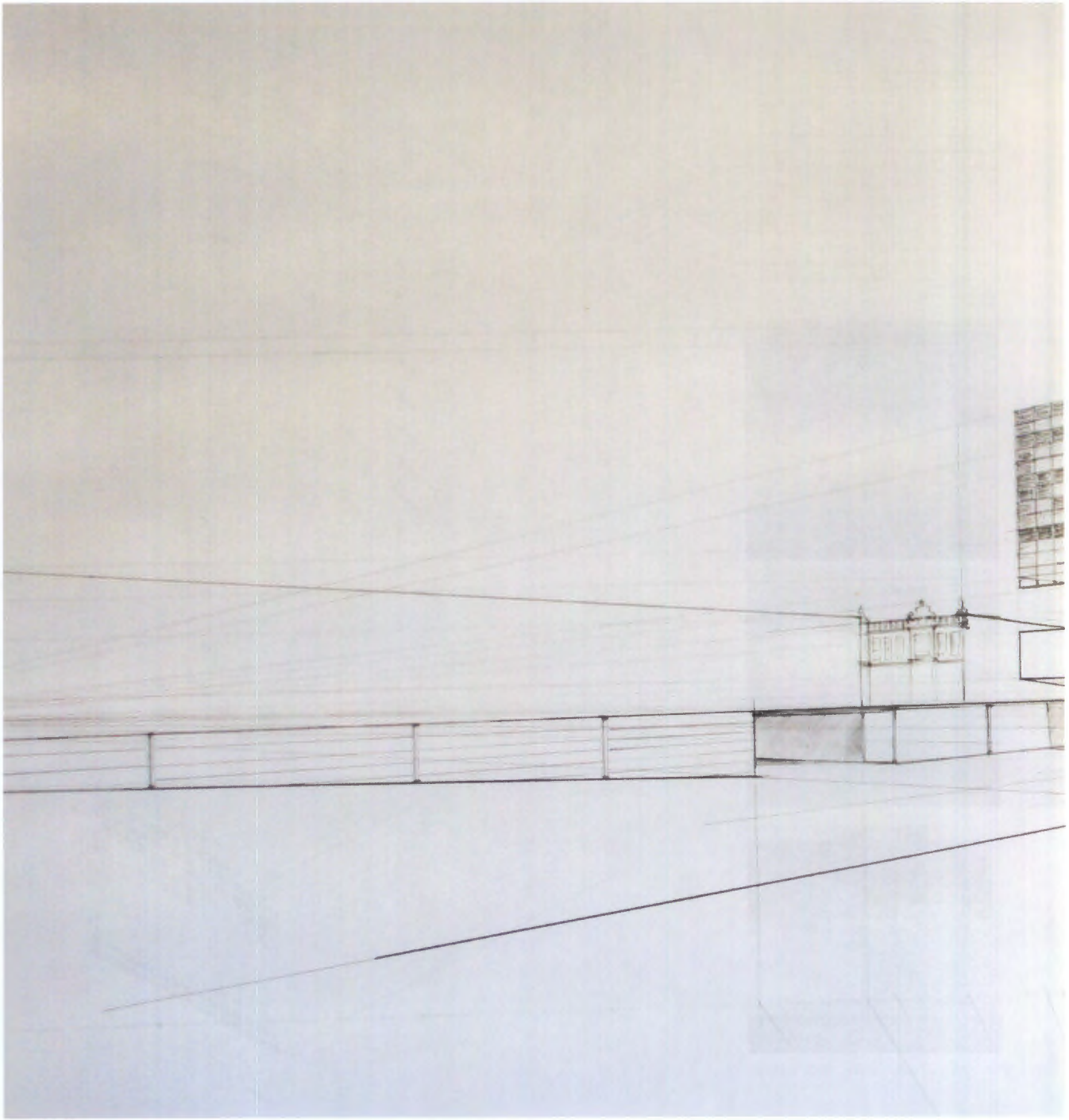






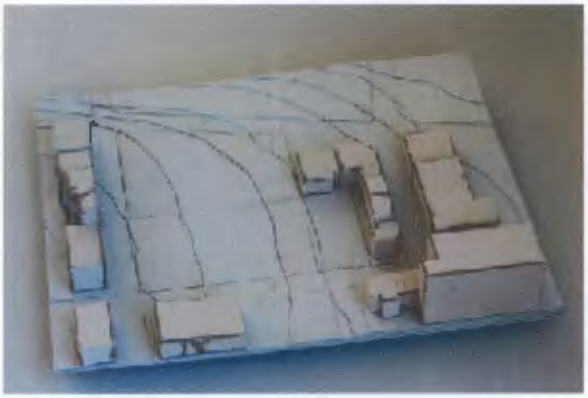


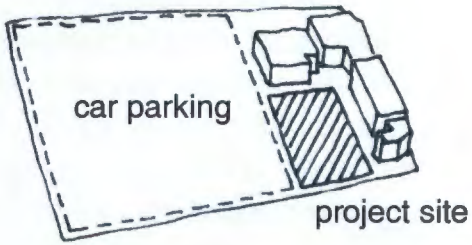

DEVELOPMENT

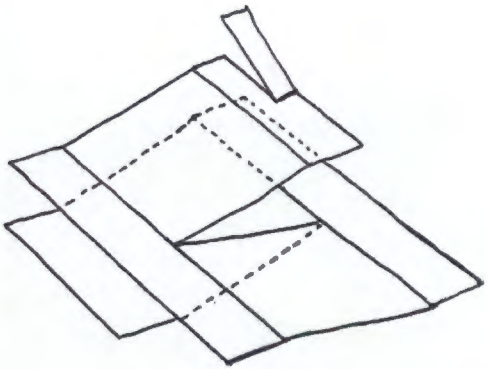
Design Development

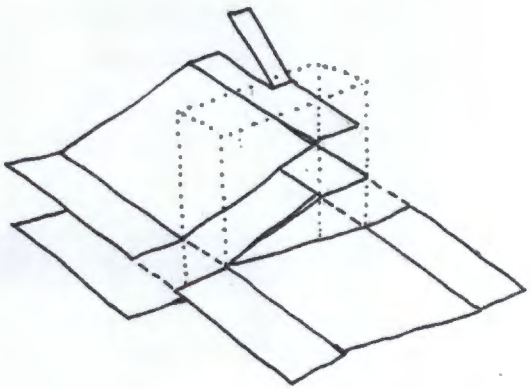
The initial design process that I followed responds to the contextual and programmatic informants already discussed, in a way that also tries to express my concern with how we perceive different types of buildings and urban spaces. This development can be understood as a series of key design moments that lead one to the next. Always, I try to find a a balance between the performance of the building (according to programmatic and structural requirements), its connection to the urban realm and the experience of the spatial qualities that people will have of it.

Below is a representation of this process through a set models and diagrammes.




car parking
project site





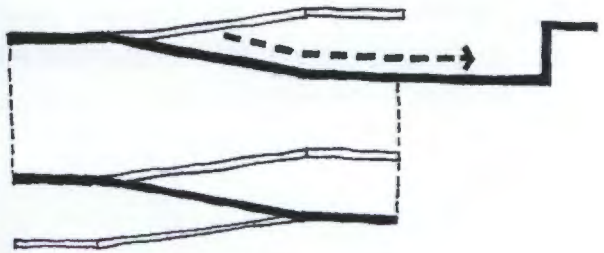
In response to contextual requirements of the east city, I began the process of design by considering the site I had chosen with its immediate context of Harrington Square. While it has not always been so, the square currently serves as a car park for people working in the area. It is an essential element of this project to develop Harrington Square into a meaningful and properly used public space.

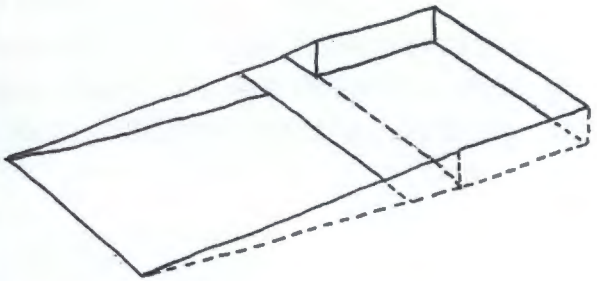
The conversion of Harrington Square into a vibrant public space for the East City would require careful thought as to what should be done with cars on the site. Below grade parking would seem the best response to this, by allowing both for more parking than is currently available (thus bringing more people onto the site) and freeing the ground plane to accommodate other activities.

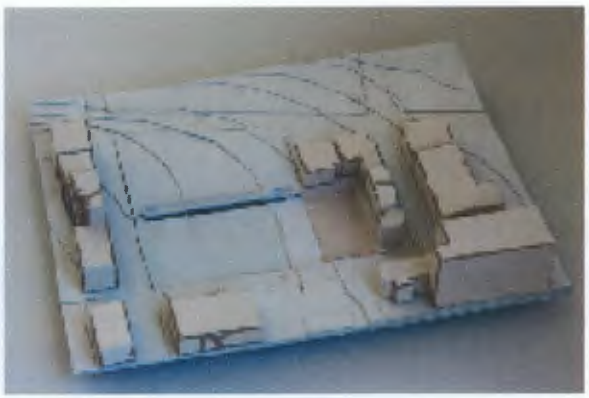
By arranging the parking as a series of sloped planes, spiraling downwards around the square, a number of spatial possibilities present themselves:

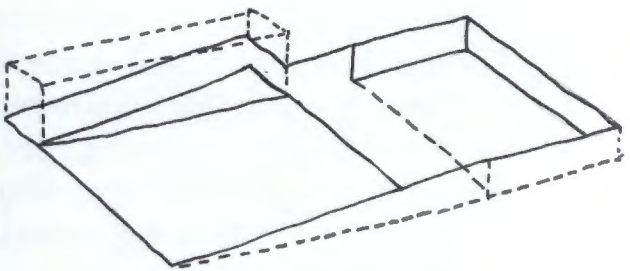
i. A central linear core can be opened and used for pedestrian circulation as well as for bringing air and light to lower levels.

ii. This core and series of spiraling planes bisects the square with the ground levels following the ramping slope of the parking levels below. On the east side, the ground plane remains at the natural level, while on the west side, the slope is inverted and drops below natural ground level, setting up a level change across what is a relatively flat site.



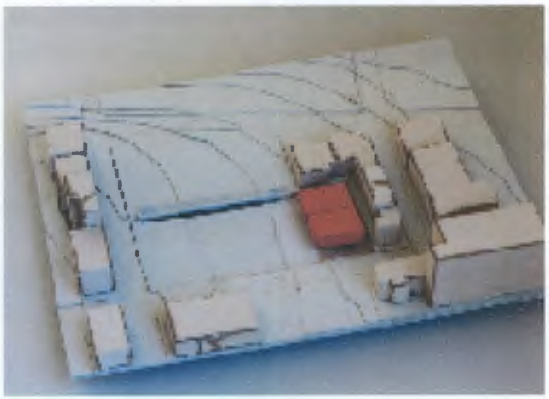


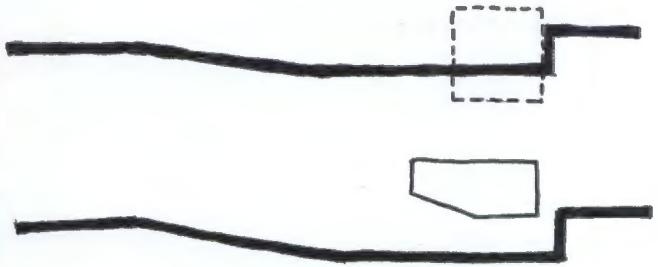


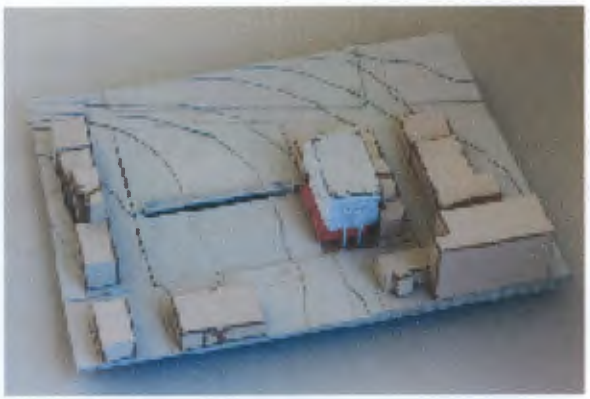


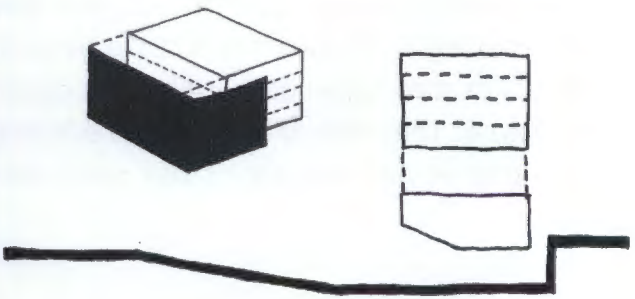
iii. This 3m level change is continued through onto the site for the building on the edge of the square, setting up a strong connection between the public space of the urban square and the building.

At first, the central pedestrian circulation core was covered by the higher level ground slab/parking level roof, leaving a subtle wedge shaped crack as the opening between the parking levels and the outside ground plane. Later, this core became expressed as a 4m wide open cavity that was covered by its own lightweight steel and glass structure. This element emphasises further the bisection of the square and creates two smaller and less connected open spaces.





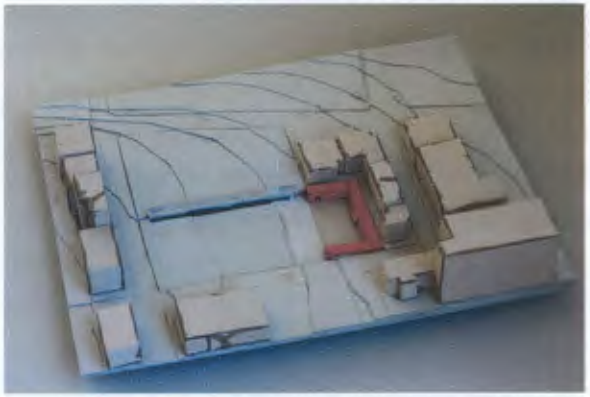


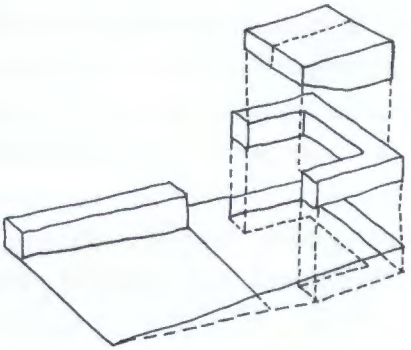


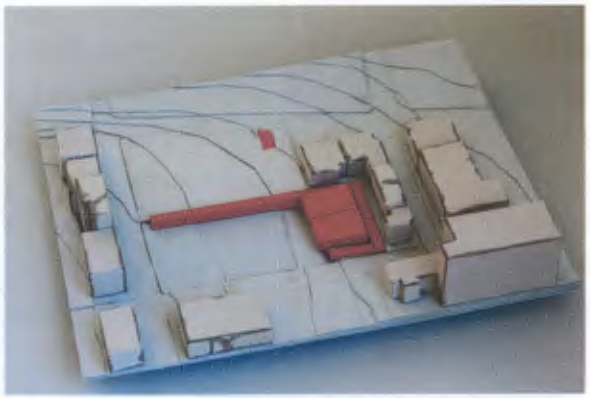
With the relationships between the urban public space and the design site set up, I began to look at how the cinema would begin to relate to the public space. While initially I tested burying the cinema 'boxes' towards the back of the site, this was an unworkable solution, due to the large volumes being accommodated on the small, tight site (only 36m x 22m). Instead, I chose to raise them up and continue the flow of public space right into the centre of the site. While the formal expression of the cinema boxes could find reference in the modernist language of Melnikov and Sterling, the strong geometries respond more to the spatial limitations of the site and the solid impenetrable nature of a cinema theatre.

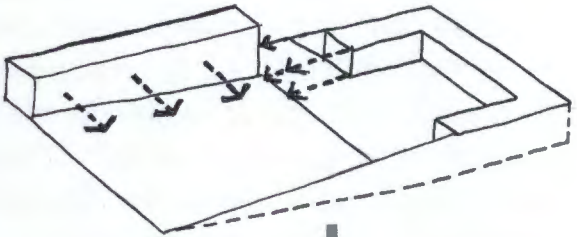
The second component of the project for this site is the building containing office and studio space. This was originally conceptualised as a standard, generic office building, raised up above the cinema. This was done to allow the roof of the cinema to be left as an open, outdoor, yet covered space that could be occupied in a slightly more private manner than the public square itself. This office building was expressed as a glass enclosed box that allowed for the maximum bulk of the site to be reached, in response to the economic aspects of building in the city.
In addition, I began to think about the layers of surface of this building, in terms of both climatic response and the incorporation of media into the design of the project .

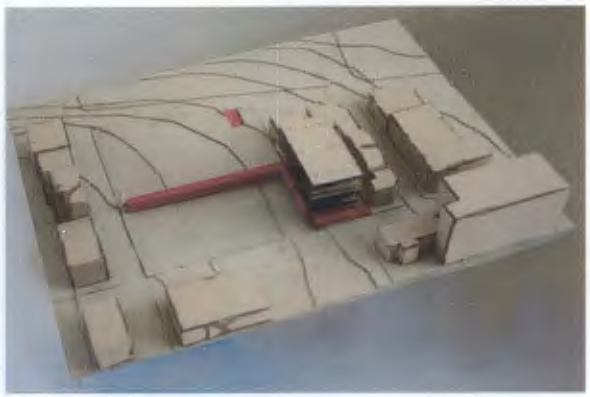
Various ideas about the structure of the office/studio building were tested, taking into account that the bulding could have no structural members that penetrated the cinema volumes and that the supporting structure must therefore go down to ground around the edges of the site.

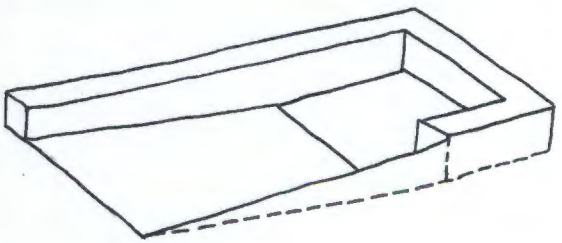






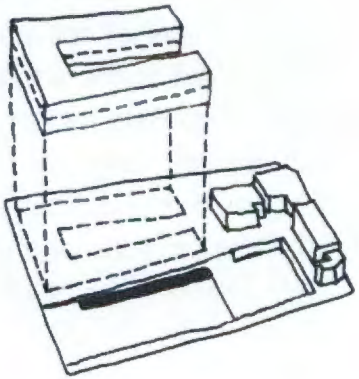


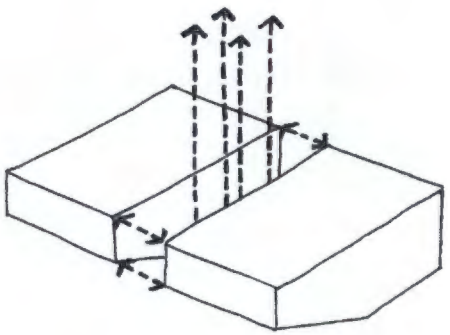


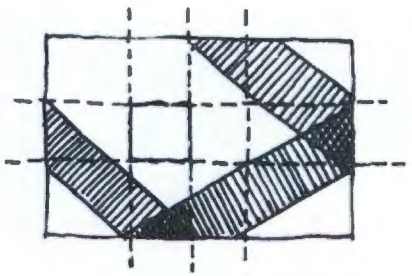


With the raising of the cinema boxes to allow the flow of public space into the site and into the building, all the programme elements related to the public and to the cinema are pushed to the perimeter of the site. This leaves open the space below the cinema volume. The roof of the this perimeter building has a level that relates to the Harrington Street edge of the site, allowing for other opportunities for access and development on the site. This element directly supports the urban proposal of my project, but does not form part of the thesis design itself.

The perimeter building on the site and the covering building of the parking circulation core become a single continuous element that further ties the public square into the public (cinema) part of the building.



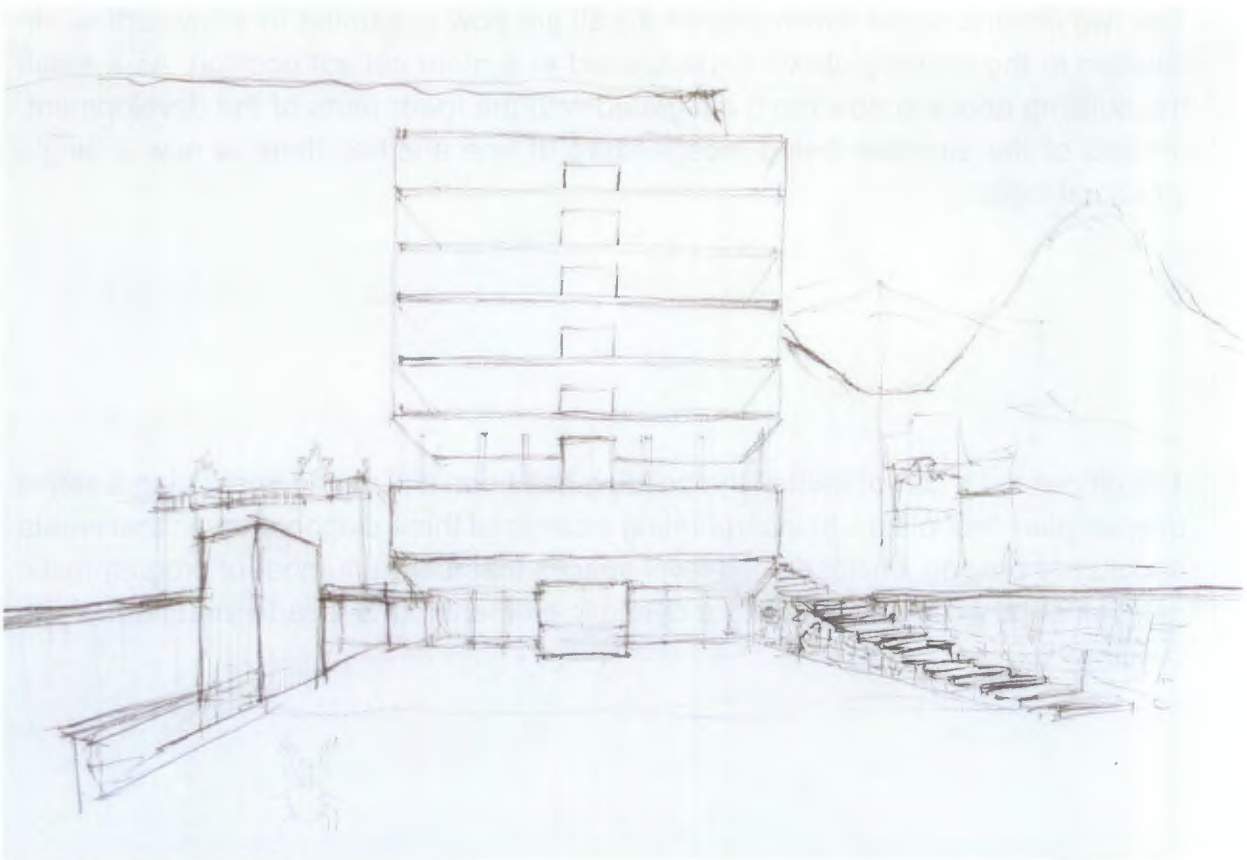




The separation of the two halves of the square led to a new concept for its development. Instead of both halves being left open, the east half is now developed as housing. By adding this component, there would be an increase in the number of people around the site daily, extending the life of the site and the variet y of activities for which the square might be used. Spatially, the development would form a strong edge to the public square adjacent to the cinema, containing the space and concentrating the activity in a smaller area.

The two cinema boxes which shared a wall are now separated to allow vertical circulation to the building above to be located in a more central position. As a result the building above is now more integrated with the lower parts of the development. Instead of the structure being independent of one another, there is now a single structural logic.

The office/studio component of the building has been developed from being a series of open plan floor plates, to incorporating a series of three diagonal boxes that create structurally bracing, enclosed half-level spaces that fulfill a number of programmatic requirements, while also bringing a dynamic element to the facade treatment of the building.



While it has been important up to now to follow this process and design a building and urban space that deals with all the contextual and programmatic concerns, I feel that the conceptual argument is not being expressed as clearly as it should be. It is now important to push my theoretical ideas in the further, more detailed resolution of the design, making sure that these are clear in all the aspects of the final product.