THE CREATION OF VIRTUAL LUMINOUS ENCLAVES
THROUGH
3D IMAGING

Exegesis documentation and Appendices
With the Durable Record of the Project Materials
(DVD-ROM, The City Enclaves)

By
Samantha Deidre Bell
B.A. (Hons), Glasgow School of Art, 1999

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ABSTRACT

The broad aim of my PhD by Project is to make an academic, conceptual and aesthetic contribution in the current debate concerning the new technologies. In particular, I discuss my creative art practice using a 3D computer graphics application for image creation from the standpoint as an art practitioner with an established professional background in fine art photography.

This involves undertaking a very different kind of creative art production, one that requires the visual study of the city I have constructed in the virtual environment. The computer and associated technologies used to generate a collection of still images has resulted in a move from traditional photographic equipment and modus operandi of past studio endeavours. However, the camera, albeit in virtual form, is still the central tool for image production.

The implications of the shift in creative art production from analogue to digital; the change of location, from the physical world to the virtual environment; and prerequisite construction of the city, previously in existence; are some comparative situations explored in more depth throughout the Exegesis. I analyse the issues of embodiment and control in the 3D computer generated virtual environment in relation to image genesis.
CHAPTER ONE: Introduction

1.1 Overview

This creative practice-led research project examines the creative processes, and conceptual and aesthetic ideas in a body of artworks. I position myself as an art practitioner who applies the well-tried techniques of 3D computer graphics to realise imagery that is part of the tradition of depicting the city in the history of visual arts. Thus, the artworks produced for this PhD by Project belong in the city/urban landscape genre. Artists who make artworks of the night city inspired my own creative endeavour in this field. They include Stieglitz and his early night photography experiments in the 1890s that depicted wintry nocturnal street scenes in New York; and Brassai’s hauntingly beautiful photographs of ‘Paris By Night’, the same title as his first book published in 1933. Ilse Bing, a member of the fabled group of avant-garde artists in Paris in the 1920s, who made photographic studies of light and deep shadow in the night city, is another photographer that has influenced me. As well, Rut Blees Luxemburg’s photographs of London, Bill Henson’s images of Melbourne’s industrial zones that include the Altona refinery; and Naoya Hatakeyama who undertakes photographic studies of the rivers and shadows of Tokyo’s main urbanized environments, also informed my vision of the city. Other fine artists who have inspired my art practice include the painters Georgia O’Keeffe, Ralph Fasanella and Jeffrey Smart. Each of these artists set out to make images of urbanity that commented on humanity’s relationship with urbanity. They alerted me to the ways in which I could emphasize one aspect of urbanity over another through their skilful deployment of spatial and compositional strategies.

My own fascination with the city began when I lived on the streets in my early teens along with a group of other ‘street kids’ over a two-year period. Nightly I would witness the city transformed through light, from cold and unwelcoming in the day, to warm and inviting in the night. The lighting events that unfolded before me became deeply imprinted in my memory. Building surfaces coated by ambient light gaining a textural richness; alleyways dripping with light beads that converted the brickwork into
latticework; and asphalt peppered with light dapples that resembled a heavily patterned carpet. When I became an artist, these earlier memories of the beautiful faces of the City were what I decided I wanted to depict and I promote the utopian viewpoint rather than the dystopian viewpoint of the City in my artworks.

When I started my art education in the late 1980s, I found myself naturally gravitating back to the city streets to locate suitable subject matter. This resulted in my making artworks about the city that saw me experiment with different mediums. I would go on to visually depict all manner of things urban, doorways, shop fronts, windows, and buildings using the mediums of silkscreen, painting, light installation, and colour photography before coming to 3D computer graphics for this creative art practice project. This artistic exploration is fully covered in Chapter Five. Brassai rhapsodized about the "...luminous and somber shapes..." and the "...ageless, bodiless..." Paris where "...present and past, history and legend, intermingled".\(^1\) So to did I wax on lyrically in my sketchbook (refer to Appendix One), about the architectural edifices and the urban in between zones, what Auge\(^2\) refers to as non-places, that I was discovering nightly in the British cities.

The most significant artworks I have done about the city prior to this project, is the collection entitled ‘City Zones’, which is an ongoing project that currently comprises forty-six images taken in different cities throughout the United Kingdom. This endeavour involves going out into the physical world City in low light and at night as I find these exact temporal conditions produce a lighting ambience that when captured on colour negative film, result in still prints with strong colour casts and light/shadow contrasts. I love to witness the unfolding chiaroscuro light show that comes from the natural light and streetlights, traffic lights, shop window illuminations and neon signs. Each produces a light show that splashes the metropolitan surfaces in every imaginable colour. These luminous washes soften the grime ridden concreted hard-edged exteriors and create textural dimensions to otherwise usually bare walls. In addition, ambient lighting facilitates shadowy ‘dells’ where the scatterings of rubbish left by human passing

\(^1\) Robert Winkler, In the Dark: Photography for Night Owls  
www.pages.cthame.net/rwinkler/bio.htm provides a brief overview of Brassai’s career.  
can sink back to become unobtrusive presences. This type of lighting adds sculptural amplitude to an otherwise flat space. The night city lays out a veritable visual feast for consumption, and by comparison, the day city’s visual offerings are poor indeed. The sun blanches chunky blocks to a monotone sameness and at the same time, magnifies urban deprivation where nothing can hide in the stark light it casts. For me, there is no contest between the two, and my choice is always to photographically witness the city undergoing luminous transformations over the course of an evening. Therefore, for this PhD by Project I sought to achieve a similar aesthetic outcome as I had achieved in my colour photographs. By creating low light and ambient lighting in the different cities in the virtual environment that I went on to record, I have realised a collection of still prints with the visual look I set out to achieve from the inception of this creative art practice project.

The later modernist movement, in particular the architecture produced from this movement has been influential on the type of urban edifices that I select to photograph in the physical world and represent in the virtual environment. There is a rejection tradition in order to create new ways of making – art, object or building. The underlying idea is to move towards a spiritualist phase of development and to make this happen requires not the depiction of the literal but the subliminal aspects of the object, whatever that might be. The key area I am drawn to in the Modernist movement is the architecture itself rather than a specific architect. In particular, the generic modernist edifice in the penultimate form of the skyscraper is what I most admire. Why so, because this type of architecture rejects the classical style that pervaded the city pre-50s, and is a visual celebration of the purely geometric form. This is the ultimate utilitarian structure, the basic vertical, free of fussy embellishments that coat earlier its predecessors.

I have gone on to make artworks about the vertical in all manner of forms, from the pillars that support the motorway to unornamented buildings such as the thousand-window office block since I first began photographing the City in the early 1990s. I find that the modern architecture from the 1960s onwards particularly appealing, and wherever I have found it in the physical world I have noticed how the utter sterility of
surface embellishments makes it the perfect canvas when illuminated with external light sources. The blank surfaces have the potential to reflect back all manner of textural emblems and so the modernist building is the ultimate blank canvas waiting to be imprinted upon. It just takes the right combination of splatters, scratches and streaks of light dotting the flat concreted modernist surface to turn the building into a Jackson Pollack or Cy Twombly painting.

For this creative art practice project, I began by constructing the modernist structure, the basic vertical, and proceeded from there. What has resulted in the different cities in the virtual environment, which begin life as a collection of simple forms, are an amalgamation of modernist and other architectural styled buildings. Nevertheless, the modernist building dominates the city in the virtual environment and can be found generously interspersed between the more embellished edifices. The artworks produced for this PhD by Project are visual testimony of my passion for architecture that is thoroughly modern.

1.2 Paths of Inquiry

This project follows three paths of inquiry. Firstly, there is a creative record in the form of a body of artworks for viewing in the neutral space of an art gallery. Secondly, there is the written component in the form of an exegesis, in which is undertaken critical commentary to place the creative component in relevant theoretical and cultural contexts. Thirdly, there is the supporting documentation in the form of sketchbooks to trace art-related routes and further reflect on the creative process.

1.2.1 The Creative Record

The creative record is in the form of a body of artworks for output as still prints. These artworks serve four particular purposes: Firstly, they are material testimony of what can be accomplished through computer-mediated means of art production, with the potential to fabricate real and fantasy scenarios. Secondly, they are the visual articulation of an aesthetic unique to 3D computer graphics, with the potential towards
hyperrealistic and overtly artificial-looking imagery. Thirdly, they are portraiture that focus on the night city, with the potential for a reconnection with the subject matter of the city that “…has been accumulating at an accelerating pace, multiplying into a near infinitude of images...” ³ Fourthly, they are pictorial representations of my concepts that increase arts-related knowledge that have the potential to contribute to the field of fine arts through exhibition.

1.2.2 The Exegesis

The exegesis facilitates through analytical and critical commentary an understanding of the critical and reflexive nature of this project's creative art practice. This commentary, which Frayling that Coyne and Snodgrass refer to as “…the dual knowledge thesis...”⁴ initiates the following action:

Research where the end product is an artefact - where the thinking is, so to speak, embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication.⁵

There is an explanation of practice-based methodologies and the creative process, the evaluation of institutional theoretical critiques pertaining to the experience of embodied being, and examination of material and temporal factors that pertain to issues of control in the virtual environment.

1.2.3 The Documentation

The project documentation is in the form of a pdf document comprised of a selection of pages taken from the two sketchbooks that I used to record the various stages of art production undertaken in this PhD by Project. Which also elaborates on those artistic and theoretical influences that inspired my own creative and research endeavours. As

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well, there are illustrative examples of ongoing visual and technical experimentation undertaken towards the construction of the city in the virtual environment.

1.3 The Creative Art Practice Project Aims

This project initiates the shift in medium platform from analogue/traditional film photography to digital/3D computer graphics for conceptual realisation in, and through, art practice that triggers new aesthetic possibilities in the contemporary art context. Through the creative art practice, I seek to become conversant in a new medium platform that avails me the opportunity to experiment with technological means of art production and image capture. This involves using the 3D software application Maya and its virtual environment, where I undertake modelling, shading and texturing, lighting and camera set up/operation, and rendering tasks to create a number of cities. Once the city is complete I go ahead and record its different zones, and the resultant artwork is a visual physicality of my concepts. Through the research endeavour, I reference ideas by those scholars who have contributed to the phenomenology debate that include Frank Biocca, Richard Coyne, Elizabeth Grosz, Maurice Merleau-Ponty and Ingrid Richardson and Carly Harper. As regards new media, P. Fencott, Lev Manovich, Margaret Morse, Lars Qvortrup provided specific and broad overviews about the new technologies. In addition, to be able to make an informed decision about which theoretical model is suitable for situating my own research. The project aim is not to reinterpret, but rather yield, adapt or integrate, existing theories to create a basis from which I am able to proceed.

1.4 The Challenges and Intentions of the Creative Practice-led Research Project

My initial challenge lay in learning the 3D software application Maya. After the preliminary training, I was able to construct some prototype urban spaces. Novak describes the prolific world building that happens on the Cartesian grid plane as "...a
recursive spawning of inner worlds into external manifestations...". Certainly, once I had achieved my first success in 'world building', I went on with great enthusiasm to produce many more, some of which were abandoned along the way, and some that I used to record images shortlisted for the final exhibition.

Another challenge in this project relates to pictorial content, and I seek to produce visual dialogues not of the metropolitan cliché but rather the opposite, what I refer to as the 'in between zone' in urban spaces. The intention is to provoke my potential audience to reconsider this subject matter at the exhibition of these artworks. Boyer offers her opinion as to why people are more inclined to 'switch off' than 'switch on' to new imagery about the city:

The widespread failure to understand the evocative power of images of all types as a result of the dulling of visual sensibilities too accustomed to looking at cities through the distancing device of the (...) screen, or too saturated with the flood of prefabricated scenes presented on any ramble through the metropolis.

As far as the research undertaking is concerned, the next challenge lay in becoming conversant with key theoretical frameworks. My research content is based on the phenomenological premise that knowledge of the world is only possible through lived body experience. However, to accept this proposition I examined other theoretical stances, being the positivism and dualism worldviews of the body. This also involved an analysis of broad range of ideas from the disciplinary areas of new media, philosophy, computer graphics, and photography that pertain to art practice and aesthetics, embodiment issues, and human-computer interaction. Thereafter, the challenge lay in adapting and integrating other theorists' ideas to sharpen the position of my research project. This involved the examination of a number of embodiment issues: sensory and perceptual experience, presence, virtual reality systems and their effect on depth of presence, and a prior 'fear experience' in the physical world now absent in the virtual

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environment and exactly how this impacts on my art practice. In addition, the project is concerned with the examination of a number of control issues that arose because of the transfer of my art practice from an uncontrolled setting, i.e. the physical world, to a controlled setting, i.e. the virtual environment.

1.5 The Creative Art Practice-led Research Project Testimony

The creative art practice research has initiated philosophical engagement in new media theory to locate the appropriate language and translation of 3D computer graphics concepts, and secondly engagement in embodiment theory that reflects back the bodily experience that is unfolding for me as I make art in the virtual environment. This art processing elicits a number of questions that have orientated this project, and they are:

- Has the shift from the physical world to the virtual environment changed the way the subject matter of the city is located, the content and the aesthetic style?
- What are the embodiment issues in the virtual environment?
- What are the control issues in the virtual environment?
- How does the absence of fear in the virtual environment affect art practice?
CHAPTER TWO: Creative Concept and Connections

2.1 Overview

In this chapter, I present a brief overview of my creative concept in relation to genre, cultural context and aesthetics. In addition, I present two case studies of artists who have been instrumental in shaping my artistic vision.

2.1.1 A Brief Review of General Influences that Inform My Creative Art Practice Project

My research into urban, spatial and utopian theories led me to the book 'Intelligent Environments'\(^8\) edited by Peter Droege. In Droege's introduction entitled 'Tomorrow's Metropolis' he speaks about the earliest cities and humanity's desire to reinvent the mythical 'Tower of Babel', albeit the modern equivalent, through technological means. In the same book, Marcos Novak writes about “…the creation of environments that are not intelligent in themselves, but that serve the enhancement of our own intelligences…”\(^9\) in an essay entitled 'Cognitive Cities': These two accounts go on to inform my own thinking about urbanity in general and environments realised through technology. I am able to go on to formulate a set of questions that I set out to answer in this PhD by Project. I ask myself: Why do I want to make art about the city to the exclusion of all other subject matter. What are my underlying motivations for wanting to create the city in the virtual environment? What does the city mean/represent to me? Is it representative of another city I have previously frequented? Is it representative of the ideal homeland that Scott McQuire talks about in his essay 'The Uncanny Home', wherein he points out “…the desire for technological means to reclaim the homeland…”\(^10\) Is it representative of my imaginative realm? Novak considers the current world building phenomena in the virtual environment is but another way in

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\(^8\) Peter Droege (ed), Intelligent Environments Elsevier Science B.V., North Holland (1997)


\(^10\) Scott McQuire, The Uncanny Home or Living On-Live with Others in Droege, ibid., p. 688 in Intelligent Environments
which the individual expresses selfhood, noting the human drive to create “...inner environments into which to place echoes of external pattern...”. As I see it my desire to construct the city from the ground up is about creating outer environments into which to place echoes of my internal patterns.

In my sketchbook, I describe the origins of my fascination with the city:

I am like Dick Whittington who ran away to London to seek a fortune. I have the same hope as he did that by going to the ‘big smoke’ I will be able to leave my past behind. The undertaking of that first journey at the age of fifteen involved me hitching across three state borders, over 5,000 kilometres, which culminated in my spending the next two years living on the streets of all the major capital cities in Australia. It was in this period that my idealism of the city first blossomed. Alongside of other street kids, each of us escaping from abusive circumstances, I found the city streets offered me a safer haven than the foster home I had been living in. I loved the glitz and glamour, buzz and movement, the sights and sounds of a dynamic metropolis. I would wander the streets looking at the reflective qualities of the office blocks, the looming presence of the skyscrapers and the snaking light studded highways interweaving between with the kind of wonder that only a small town girl can possess. The legacy of this experience has left me with an abiding passion for all things urban.

2.2 The Genre

The images I have composed of the city belong to the ‘urban/city landscape’ genre and result from a series of recordings made in the three-dimensional reality inside a computer using a virtual camera. Lev Manovich observes that, “…3-D computer graphics can also be thought of as digital – or synthetic – photography...”. Susan Bright notes in her book ‘Art Photography Now’ how artwork that depicts the city is an integral part of one of the classic photographic genres, the others being portraiture, landscape, narrative, object and document. Bright comments on how fine art photographers undertake conceptual explorations that lead to visual renditions of urbanity which pertain to: the street life and the street people; urban isolation and

11 Novak, op.cit. p.396
deprivation; urban private and public spaces; and urban architecture. In effect, as Clarke points out in his book ‘The Photograph’, the artist working in this genre visually explores “…the variety and multiplicity of urban life and experiences…” 14

My photographic practice in the physical world was part of the city genre within the urban architecture sub-genre. Clarke stated that, “The skyscraper became a symbol of the modern, literally an icon of a new kind of city and visual experience”. I sought to photograph the quintessential emblem of modernism, alongside of other contemporary urban edifices. This also included those architectural zones that lie on the fringes of the city, where what moves through the space is of the transitory type, in the form of people and traffic en route to the more desirable destination. Bright states of artists working with the city that they are drawn to it:

(Because it) ... is a temporary space – it belongs to no one and each generation adds another layer. Cities are mutable and changeable sites constantly in flux and transition. The desire to freeze them, if even for a moment is hard to resist. 15

I constructed the city in the virtual environment that would allow me to continue my focus on the urban space and its associated architectural structures. Thus, my art practice remains within the urban/city landscape genre.

2.3 The Concept

From a conceptual perspective, I use the city as visual metaphor to explore states of transformation and illumination. Light transforms architectural surfaces and forms and engages the imagination of the viewer. Certain structures function as light traps where light becomes an almost material feature of the overall space. In order to experiment with form and light I constructed the city in the virtual environment, because I believed it would offer more aesthetic palettes and outcomes. I hoped to play with light on the structures and surfaces. I felt this would provide me with a way of creating and

15 Bright, op.cit., p. 193
controlling light traps. Light itself can be used as a tool to bring structures into the foreground. Light can cause a myriad of transformations to the shape, contours and fabric of a structure. Light can embellish an otherwise flat surface and add extra dimensions. In the different cities I have constructed in the virtual environment I have sought to create images that seduce the eyes to linger on the subtler aspects of the urbanscape which are now evident through luminosity. Each city (Carbon City, Peripheral City, Shotcopper City, Spooked Ice City, and Voltage City) has its own personality that is created with colour, texture and light to produce differing atmospheric looks.

**Carbon City** comprises white, green and blue hues, interspersed with black matte and mirror surfaces. This is the winter city, with an icy looking exterior hinting at life behind the windowed surfacing. Bracewell describes this type of City, in his reference to “…the moral labyrinths of Raymond Chandler’s endlessly repeating streets and buildings…”, as “…a hall of mirrors to reflect the duplicity or nobility of human nature…”. Carbon City is a conglomerate of skyscrapers that on closer inspection show themselves to contain reflections of buildings that exist at street level. Lissitzky’s description aptly encapsulates the atmospheric content I sought to create: “...a Gothic church, founded by the first sea pirates, against a background of skyscraper banks, the churches of the latest land pirates.”

**Peripheral City** is composed of slate grey and charcoal, reddish brown and chocolate, old gold and yellow, dark olive and grass green block-coloured surfaces. This is the autumn city, with a multitude of warm looking exteriors that can be likened to scenery flats still in the throes of shedding old skins and gaining new ones. The unusual perspectives used by Fasanella inspired me. John Berger, in his commentary on Ralph Fasanella’s paintings of New York, describes the perspective used by this artist as inconsistent. “It constantly adapts itself to the next sight in view; rather than being a

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standing static perspective, it is a walking one”. 18  *Peripheral City* also has a walking perspective and references Fasanella’s work.

*Shotcopper City* is composed of rust-coloured and burnished metallic and matte surfaces. This is the summer city at night, red hot and sultry. Here the past, present and future urbanscapes meld together into a cohesive whole. This city is my visual representation of what Clarke describes as the typical generic urbanscape, that which stylistically embodies across the centuries architecture. In *Shotcopper City*, I have sought to emulate the photographer Atget who is “…not so concerned with sights as sites. He seeks places which have, despite the paucity of figures in his images, a deep and abiding human presence”. 19 The appearance of this City is one of utmost stillness, a set of moments in abeyance waiting to be released by something or other that will imbue the streets and buildings with life. Lissitzky describes the experience of such a city from an architect’s perspective: “…eye to eye with the architecture itself, they both move around each other; and this transforms vital, pulsating life into a museum”. 20 There is to be found in the numerous shadow and light dells of *Shotcopper City*, what I deem to be the classic Minor White ‘Equivalent moment’ (discussed in detail later in this chapter), which when captured photographically result in the image that is not only a visual celebration of the literal form, but also its ‘spirit’.

*Spooked Ice City* is made up of glass surfaces, some of which are opaque while others are transparent. The hues range from amber through to gold and olive green. This is the spring city, which is in constant flux, moving between light and dark; and airy and close. I visually explore this city as a set of interiors and these spaces are impersonal. They include the office-building lobby and abandoned warehouse space. According to Bloemink, in her notes for the ‘Constructed Realities’ exhibition, 21 “…many of the current photographers construct tableaux through montage and other technological means”. 22 I make specific reference to James Casebere and Craig Kalpakjian whose works were in this exhibition. Both of these artists make photographic images of interiors that they

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19 Clarke, *op.cit*, p. 90
20 Lissitzky, *op.cit*, p. 226
21 Barbara J. Bloemink, Review of Constructed Realities Exhibition, April 5 – May 25, 2002
22 Bloemink, ibid., p. 1
constructed from the ground up just as I do in this city. Kalpakijan uses technology to create his tableau images. Casebere constructs his realities through traditional model making methodologies and lately computer graphics. In parallel fashion, though not in terms of reproducing an exact replica of reality as these two artists do, I too desire to come to know the city from the inside to the outside. I find the photographer Atget’s conceptual agenda most closely parallels my own approach that Clark outlines: “It is a psychological not a physical mapping of Paris that he seeks, as if the buildings have a living presence in their own right”.23 Certainly, my relationship with Spooked Ice City differs somewhat from the other cities because I concentrate my efforts on exploring its interior spaces in the desire to locate visual depictions that speak of psychological states of being.

Voltage City is comprised of highly polished glass surfaces that mirror back the original. This is the all seasons city in the dead of night that exists on the fringes made up of those industrial zones where pure form presides over embellished form. Here is the city is pared down to its most basic. Where Bracewell notes of Luxemburg’s portraiture of London that “…we are looking at a city which appears to have been abandoned by its citizens…”,24 in the case of Voltage City, we are looking at a city where the opposite is visually apparent, no mass desertion by the citizens because it is clear no persons could live in these structures. Therefore, here is a face of urbanity less well known that resides in a dark void, somewhat reminiscent of the outer space docking station. In other words, Voltage City is a metaphor for a non-place. Suspended in space with no significant means of support on a ground-plane that is no more than a reflection of itself, as a result here is a City that parallels Luxemburg's London, “…brutal in its indifference to humanity and opaque in its architectural form…”.25

In order of actual construction of the city in the virtual environment, I started with Shotcopper City (see Figure 2), then Spooked Ice City, followed by Peripheral City, after this Carbon City, and lastly Voltage City. As my art production over the duration of the creative art practice project progressed, a gradual design simplification in the overall

23 Clark, op.cit, p. 91
24 Bracewell, op.cit, p. 9
25 Bracewell, op.cit, p. 11
architectural structures that made up the next new city began to emerge. By *Voltage City*, the architectural edifices constructed therein been stripped down to the most basic form, that of the rectangle (see Figure 1). Collectively, these forms are reminiscent of the shipping containers and storage units common to the dockland and warehouse areas found in every metropolis.

The common thread that runs through all of the aforementioned cities, whether baroque in style therefore rich in detail, or minimalist in style therefore pared down in detail, is that they each becomes a homage to the vertical as a pure line and as a linear object. What I pursue in the virtual environment in terms of subject matter, the vertical, is the same as what I have pursued in my photographic practice in the physical world. That centre stages in my colour photographs of the city, amongst other things, the square pillared supports under the bridge to the rectangular office buildings. As well, I bear photographic witness of how the vertical structure can act as a ‘light trap’, which introduces my other obsession – light. I become fascinated by how light affects the form and surface of the vertical. Thus, in the pursuit of the vertical I am led to light, which results in my interrogation of each of these elements in pictorial terms.

*Shotcopper City, Spooked Ice City, Peripheral City, Carbon City* and *Voltage City* evoke visual associations to the filmic aesthetics found in such films as ‘*Metropolis*’, ‘*Bladerunner*’, ‘*Brazil*’, and ‘*Dark City*’. The essential aesthetic that I have pursued

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relentlessly through my artworks of the city in the virtual environment is a departure from the hyperrealism so prevalent and revered in the commercial arena most known for the employment of 3D computer graphics i.e. gaming and special effects in film. My essential motivation, artistically, has been to engage with this medium in such conceptual, theoretical and visual ways as to invoke a fresh visual engagement with the subject matter of the city. What does result is imagery that depicts a hybrid of real and imagined urban objects that aesthetically have achieved what I desired.

2.4 Compositional Considerations

Compositionally, the images of the city that I make show it at the elevated level or at the street level, because I want provide the audience with both the bird’s eye and human eye viewpoints. As Clarke notes of Stieglitz and Riis’s works depicting the city, Stieglitz provides “…broad expanses of urban space where the eye is free to roam at will, either upward or indiscriminately…”, a combination of the bird’s eye and human eye viewpoints. Whereas Riis is strictly interested in the human eye viewpoint as he “…limited himself to the alley and the court”.27 I work between these two extreme viewpoints, and what I refer to as the ‘at a distance’ viewpoint, which enables the audience to come to know the city as a collection of forms, and the ‘at close quarters’ viewpoint, which allows the audience to come to know the city as a collection of details. Furthermore, those photographers of the panoramic viewpoint of the city in the nineteenth century that include Louis Daguerre, Charles Chevalier, Muybridge and Talbot, alongside of Eugène Atget, Brassai, and Nègre who by contrast work at the street level, have all influenced my own viewpoint choices in this creative art practice project.

My images produced in this PhD by Project can be divided into three compositional categories: the populated, the less populated and the combination that is an amalgamation of the populated and the less populated composition. Respectively, the populated composition consists of architectural edifices juxtaposed on top of each other in such a manner that each cluster’s three dimensionality is flattened to resemble the

27 Clarke, op.cit, p. 82
theatre scenic flat. The less populated composition is made up of a few buildings that either edge up to the frame or hover in the expanse of space within the frame. The combination composition contains even distributions of buildings and empty spaces within the frame.

These composition types are designed to provide the viewer with a number of entrance points into the image, and how many entrances there are, is dependent on how many urban structures populate the pictorial surface. Clarke makes this observation about how the viewer might well engage with the heavily populated urban image: “The eye has no point of rest, unless it turns away, for it is left with the charge of looking, endlessly; in order to know something that cannot be known”.

Hence, to use the analogy of a wall, the populated composition presents itself to the viewing eye as a wall that is intact; the less populated composition presents itself to the viewing eye as a wall that is still relatively intact but has some chinks in it where pockets of space can be glimpsed; and the combination composition presents itself to the viewing eye as a wall honeycombed in chinks that reveal in equal measure also the space beyond the structure.

2.5 Lighting Considerations

The lighting conditions shown in the images comprise of a variety of light types including spot, ambient, and distant lighting that allow the eyes to focus on either specific elements in the scene or the overall scene itself. Equally, the choices I have made in terms of colour and texture filters placed on the light type define the atmospheric mood. The two main lighting states that I use in the city are the futuristic science fiction lighting set up, which comprises of minimal shadow play that emphasizes any metallic and hard edged surface. Or period gothic lighting set up, which comprises of maximum shadow play that emphasizes only those lighted areas. The latter lighting state is the predominate one I have employed in the city in the virtual environment, in order to outcome in a set of still prints that emulate my earlier collection of colour photographs that depict the physical world city in low and night light.

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28 Clarke, op. cit, p. 97
2.6 The Artists Selected for the Case Study

I have selected the artists Minor White and James Turrell, as each have expanded my general arts knowledge and significantly benefited my art practice through their individual literary and image-making efforts. In the case of Minor White, his writings on art photography were what first caught my attention. This encouraged me to not only acquire technical expertise in a chosen medium, but to also undertake theoretical investigation into the conceptualisation process undertaken by the artist who sets out to produce ‘expressive-creative’ works. Many years later, James Turrell’s artworks would captivate me in similar manner, and propel my own visual investigation of those same factors he explores - light, space and time - which I have undertaken in both my photographic practice in the physical world, and in the 3D computer-generated virtual environment for this PhD by Project. Another reason I have chosen White and Turrell is that they both centralise conceptual agendas that are concerned with the viewer experience. In essence, each artist believes the viewer has a crucial part to play in the overall creative experience. Effectively, these artists create artworks that do not have any obvious entrance, per se, to encourage the viewer to be responsible for their own way in. From which the artist hopes the viewer will then be able to construct their own understanding of exactly what it is they are seeing and what it means to them. In my opinion, White and Turrell are masters at producing artworks that create the right visual conditions for the viewer to undergo a sensorial as well as a perceptual lived-body experience. Their artworks function as thresholds to worlds, both literal and metaphysical, that encourage the viewer to explore the sublime aspects of reality. I too seek to engage the viewer in a similar way through my still prints of the virtual city.

2.6.1 Artist Case Study: Minor White

The American born photographer Minor White photographed the landscape, the architectural edifice, the object and the human body throughout his professional career, which lasted over five decades until his death in 1976 (see Figures 3 to 5). He went on

to achieve recognition as one of America’s most accomplished creative photographers, and gained a reputation as a first-rate editor, writer and innovative teacher.

In his role as editor, White co-founded and edited the influential magazine ‘Aperture’ from 1952 until 1975. In the same period, he also edited ‘Image’, the publication owned by George Eastman House, where he was also a curator for four years from 1953. In his role as writer, White wrote countless articles, from the literary critique on fine art photography and conceptual development to the practical tutorial on photographic procedures. In his role as educator, White passed on his wealth of practical photographic experience and theoretical knowledge to new generations of photographers he taught over some years at the Rochester Institute of Technology until 1964, and in the last ten years of his life at the Massachusetts Institute of Technology.

My introduction to Minor White’s photographs happened in my art foundation year in 1994, which coincided with my using a camera for the first time and being trained in black and white darkroom procedures. At the time, my creative endeavour involved photographing all manner of inanimate objects I came across whilst walking throughout the city. Therefore, I found White’s depictions of the mundane objects of everyday life particularly appealing (see Figures 6 to 8) because of my own interest in the same subject matter. My attention on White was also directed towards his literary contributions, both his tutorials on photographic techniques and how to conduct oneself at a professional level as a fine art photographer.
I decided to adopt White’s baseline canon of professional practice, which directed the photographic artist to pursue the following principles. As a starting point, to consider human suggestibility in a thoughtful and honourable manner, in terms of the power of the image and the impact it could have upon the viewer. Thereafter, to never sublimate a particular visual urge, however shocking or provocative the result might turn out to be. Finally, to accept that once the photograph is put out in the public arena artistic ownership of the image ceases, thus absolving the artist of any responsibility for the viewer’s experience.

More specifically, White’s article entitled ‘Equivalence: The Perennial Trend’ also became my quintessential reading. This writing contained ideas that would direct my own artistic agenda to concentrate on the conceptual over the technical aspects of photography. This is an account of how to approach photography as a medium of expression-creation. White credits Alfred Stieglitz as the instigator of “…the concept and discipline of Equivalence [that] in practice is simply the backbone and core of photography as a medium of expression-creation”. As Clarke does in his book ‘The Photograph’, which acknowledges Stieglitz’s promotion of the idea that “…the

31 White, ibid, p. 17
photograph is the *equivalent* not of the literal subject, but of the spirit behind it...”³³ that White takes up and continues to promote throughout his own career. Later Gantz, in his paper ‘*The Transmissions of Minor White*’ that discusses how the Equivalent photograph “...captures a sentimental or emotionally symbolic idea using formal and structural elements that are often intertwined with subtle cultural touchstones...”, ³⁴ pays tribute to White’s own contribution to the topic, as the artist did to Stieglitz in the early 1960s. Three and half decades after Stieglitz produced his first series of Equivalent photographs, White, alongside Aaron Siskind and Harry Callahan at the Institute of Design in Chicago and the former California School of Fine Arts in San Francisco respectively, are all determined to keep this idea in the spotlight, and these three photographers achieved this by teaching a new generation of photographers about what constituted the Equivalence experience. Therefore, with the same commitment that Stieglitz demonstrated to the concept of the Equivalent, so did White, by producing truly sublime photographs that captured the poetic and spiritual experience using ready-made, found objects from nature and the fabricated world.

How White sets out to educate other artists about the Equivalency experience is by firstly providing his interpretation of the term Equivalence at the graphic, psychological and perceptual levels. Graphically, it “...pertains to the photograph itself, the visible foundations of any potential visual experience with the photograph itself...”. ³⁵ Psychologically, it relates to the viewer’s psychological responses “…as he looks at a photograph that arouses in him a special sense of correspondence to something that he knows about himself...”. ³⁶ Perceptually, it refers to “…the inner experience a person has while he is remembering his mental image after the photograph in question is not in sight. ... (i.e.) can recall some image, after the seeing of which, he has never been quite the same...”. ³⁷ Thus, one or all of the following equivalency experiences at a graphic level may occur for the viewer: symbolic, metaphoric or remembrance, White is able to argue:

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³³ Clarke, ibid., p. 170
³⁶ White, *Equivalence: The Perennial Trend* in *PSA Journal*, op.cit., p. 18
³⁷ White, *Equivalence: The Perennial Trend* in *PSA Journal*, op.cit., p. 18
When any photograph functions for a given person as an Equivalent we can say that at that moment and for that person the photograph acts as a symbol or plays the role of a metaphor for something that is beyond the subject photographed.\(^{38}\)

Furthermore, White discusses the significance of the Equivalent as a mirror reflection of the inner self, a point that Otsuki reiterated in his paper entitled *Mirror of Pathos*,\(^ {39}\) an overview of White’s professional and personal life. Otsuki observes, “When we are trying to find out what they mean (i.e. White’s Equivalent photographs), or what else they might mean, we are also discovering ourselves”.\(^ {40}\) The fundamental purpose of this type of mirror becomes clear to the viewer once she or he is able to supplant the artist’s vision with their own vision; hence, what is reflected back is self-image rather than maker-image. White states that because “…the contemporary viewer of photographs nearly always responds subconsciously to the design embedded in photographs…”,\(^ {41}\) the conscious ego of the viewer can be interrupted long enough for the unconscious ego to dominate with the right visual conditions in place to help this process along. White sets out to achieve this by producing an Equivalent that removes as much of himself from the picture as possible in order to “…yield up an image with specific suggestive powers that can direct the viewer into a specific and known feeling, state, or place within himself”.\(^ {42}\)

In the book *The History of Photography* Newhall identifies White’s “…goal (as) to make photographs that extend beyond the subject. Surface appearance, although of secondary importance, is essential, but the image must be transformed into a new event, to be discovered by the viewer”.\(^ {43}\) White’s ability to transform the ordinary into the extraordinary to make as Newhall says, ‘a new event’, can be seen in Figures 9 and 10, where he takes a simple reflection on water and converts it into something otherworldly. No longer is this merely a pond or puddle of water on a road, but rather a gateway into another reality and what is discovered entirely depends on the viewer’s

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38 White, *Equivalence: The Perennial Trend* in *PSA Journal*, op. cit., p. 18
40 Otsuki, ibid., p. 4
42 Gantz, op. cit., p. 1
imaginative disposition. White is able “...to get from the tangible to the intangible...”\textsuperscript{44} by photographically freeing the fixed object on a number of levels. He takes the surface, the underlying texture, and the form, which he unites photographically by not emphasizing one element over another. The composition in totality now alludes to the spirit of the place rather than the literal place, which in turn will lead the viewer on sighting the image to then go on and have their own Equivalency experience.

Certainly, when I undertake to photograph the city I consciously, as White puts it, “...use the forms and shapes of objects in front of the camera for their expressive-evocative qualities”.\textsuperscript{45} I seek to produce the Equivalent in the form of the colour photograph or digitally realised still print that embodies the right sort of visual elements, those which will encourage the viewer to penetrate the surface, i.e. my vision and discover their own vision. This can happen when there is something in the image that resonates sufficiently enough to trigger recognition in the viewer. Hence, White's writing about the Equivalent has been important in directing my own artistic agenda, which though it is not entirely centred on the pursuit of the Equivalent, per se; nevertheless has played a significant part in my fine art photographic practice. My agenda is conceptually driven and about visually presenting the nondescript urban entity in such a way that it assumes a higher register of meaning. In other words, the object transcends its literal function and gains a magical quality. White's enthusiastic commentary about where the path of expression-creation takes an artist, such as towards spiritual awakening, touched a deep-felt chord of empathy within me, in the same way as his photographs do.

\textsuperscript{44} Gantz, \textit{op.cit}, p. 5
\textsuperscript{45} White, \textit{Equivalence: The Perennial Trend} in \textit{PSA Journal}, \textit{op.cit}, p. 18
Furthermore, I admire White for taking on the Art World in the 1960s by remonstrating against the prevalent attitude that determined photography was more about craft than art. At the time, White writes about the handful of photographers “…who deliberately try to start from their own known feeling states to make photographs which will arouse or reach similar feeling states in others…”.

White’s challenge to the establishment’s way of thinking, at least in the Art World, about photography was instrumental in paving the way for future fine art photographers to be more readily accepted as serious artists, alongside painters and sculptors who had always had the support of the Art World. White’s championing of photography as an art form is an early portent of change to the status of the fine art photographer as Wells points out in her book “Photography: A Critical Introduction”.

Photography [produced by] the artist, [is now] viewed as transcending ‘mere recording’ of events, offering a unique perspective on or insight into people, places, objects, relationships, circumstances.

White dedicated his working life to the pursuit of artistic excellence, artistic integrity and spiritual meaning. I attempt to do the same in my own art practice. Figures 11 to 13 ably demonstrate White’s technical abilities and artistic eye to locate the poetics in the door, the ornament and the edifice. He said of his own work that when the viewer confronts “…the ambiguous rendering of a subject (...) what we invent is out of the stuff and substance of ourselves (...) we turn the photograph into a mirror of some part of ourselves…”.

Figure 11
Snow on Garage Door 1960

Figure 12
Christmas Ornament 1958

Figure 13
Golden Gate Bridge 1960

46 White, Equivalence: The Perennial Trend in PSA Journal, op.cit, p. 19
48 White, A Living Remembrance, op.cit, p. 5
White's images were what initially drew me to make a deeper investigation of this artist, and thereafter his evolvement of the 'Theory of Equivalency' that Stieglitz had initially developed. White stated in the final paragraph of the article on Equivalency, which went towards changing my own perception of what art photography was all about, that "...photographers everywhere are given a way of learning to use the camera in relation to the mind, heart, visceral and spirit of human beings".49 This motivated my own hunt in the city for subject matter that had 'spirit'. Another artist that followed White's example, being Imogen Cunningham, has Clarke praise her ability to also "...produce astonishing images from the barest of domestic scenes...".50 I too, want to make astonishing photographs of the mundane object/edifice that I find in the urban landscape to create a sense of wonder in my viewing audience. Therefore, this development of the 'visual eye' that White talked about, I strive to achieve in order produce profound photographs. Those ranks of photographers who rallied around Stieglitz that included Paul Strand, Edward Steichen, Ansel Adams, and Edward Weston, all went on to achieve considerable Equivalent moments throughout their artistic careers. In his writing, Clarke goes on to unite this group with the group in which Minor White was aligned that included Brett Weston, and John Paul Edwards, stating that they "...share a common philosophy and language which, for all their stylistic differences, bind them together within a common aesthetic...".51

White's writing about photography from a philosophical perspective encouraged me to engage with the discipline at a theoretical level, when previously I had mostly focused my efforts on the learning of photographic techniques and image recording/output. Hence, White's 'Theory of the Equivalency' would act as the primary catalyst that led me to consider other theorists writing about photography such as Roland Barthes, Jean Baudrillard, Geoffrey Batchen, Beaumont Newhall, Susan Sontag and Liz Wells.52 This

49 White, A Living Remembrance, op.cit, p. 21
50 Clarke, op.cit, p. 174
51 Clarke, op.cit, p. 174
was a turning point in my art education because the knowledge I gleaned from these theorists helped me understand that the discipline of photography could involve so much more than mastering a set of techniques and operations. I became committed to evolving the conceptual side of my art practice and happily abandoned any attempt at carving out a career in commercial photography. This has resulted in my using the photographic skills I have acquired to produce the more considered art photograph.

2.6.2 Artist Case Study: James Turrell

In the early 1960s, the artist James Turrell began his art career by producing a series of artworks that employ the medium of light. At the time, he also began an association with the Los Angeles Light and Space artist collective, which included Adrian Piper, Michael Asher and Joseph Kosuth. All of these artists were “...interested in the very possibility of constructing experiences that were illusory, beautiful, even sublime...”, using light, he noted to Francesco Bonami in an interview three decades later. Turrell recounted in another interview with Vicki Lindner in the same decade, how the group pursuit of aesthetics was not his primary reason for employing light. Rather that he used light “...to affect the medium of direct perception...”, and aesthetic outcome was a secondary concern.

2.6.2.1 Projection Pieces

Over a two-year period in 1966 and 1967, Turrell experimented with the malleable qualities of light, which resulted in the series entitled ‘Projection Pieces’ (Figures 14 to 16). In a preview of Turrell’s career, Jan Butterfield noted of these light works in her book ‘The Art of Light’, how they provoked “...viewer’s psychological and perceptual need to pull known form up into three-dimensional solidity”.

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reviewed the same pieces, and noted how Turrell only needed to use “…the sparsest formal means to perpetuate the consciousness of perception…” that a solid object exists. Turrell’s underlying objective in setting up the Projection Pieces’ event is to confound the viewer’s vision sense sufficiently enough for them to become aware of their own seeing.

In the manner of a set designer in theatre, Turrell dressed his stage with a singular prop that was lit to allude to a presence not actually there. With this done, he considered that his input as an artist was complete and that the viewer’s own vision sensibility would now assume control. Grosz identifies the role the vision sense plays in lived body interaction with the world: “Vision is in the privileged position in terms of the access it yields to what are believed to be the raw elements, the data necessary for the production of knowledge”. Therefore, to truly appreciate a Turrell light work as the artist intends, and because vision is a condition of embodiment, requires the individual to be physically present in the same space as the light work. When these embodiment conditions are met, the artist expects the viewer to undergo a vision sensibility state that results in the two-fold perceptual experience, firstly, seeing something not actually present and secondly, becoming aware of one’s own seeing. As Turrell explained in an interview with Lindner, when this phenomena happens “… his art becomes about your

57 Elizabeth Grosz, Volatile Bodies: Towards a Corporeal Feminism Indiana University Press, Bloomington, Indiana (1994) p. 97
seeing, not mine ...”. Furthermore, Turrell stated the body is “...a sensing space [that] catches, or senses, light...”. Thus, he positioned embodiment as the necessary condition if the viewer hopes to fully participate and understand the intention of his artworks. In a fuller explanation to Lindner about how he could make his viewing audience understand better what he was attempting to do, Turrell referred back to one of the world’s better-known paintings to drive home the point that manipulation of perception is his chief motivation:

Monet’s Haystack [is] really a record of someone else’s seeing - the haystack is not as important as the light on it. Rather than stand you in front of a painting of a haystack, I’d just stand you in front of the haystack so that you wouldn’t miss what there was to see, then I’d remove the object of perception, the haystack. There’d be no confusions about what you’d be looking at: You’d be looking at your seeing. This is direct experience, as opposed to interpreted experience.

Those Turrell’s experimentations that make light the focus of viewer attention, as opposed to the space itself, involve the neutral proscenium setting. The way Turrell achieved maximum attention on light, was to strip the area bare of all other objects in order to convert the space into a non-functional arena. Turrell commented to Noever how the action of removing objects as well as whitewashing the walls was done to ensure absolutely nothing remained in the setting to provoke viewer associations or recollections: “The space, then, is emptied out to become a place of withdrawal and imminence concerning the gaze itself: a looking into, opposed to any vision in quest of an object: a looking at”.

Turrell also celebrated the pristine bare white-walled place, whether the corridor where the light runs the length of it “...terminating in a perfect lunette...” (Figure 17) or

58 Lindner, op.cit, p. 106
59 Lindner, op.cit, p. 106
60 Lindner, op.cit, p. 106
61 Peter Noever(ed), James Turrell: The Other Horizon Cantz Verlag, Germany (1999) p. 46
62 Butterfield, op.cit, p. 73
gallery white space where he exhibits his light works. For they became his blank canvases upon which he painted with light.

Similarly, my own light installations in the virtual environment involve painting with light to create a definite mood. In the preliminary stages of working in 3D computer graphics, I constructed the lighting laboratory where I undertook lighting experiments. This is a three-sided room with a ceiling and floor plane virtual construct open at the front, where I placed all manner of lights and lit them up to judge individual effects (see Figure 18).

![Figure 17: Lunette 1974](image)

Figure 17: Lunette 1974

![Figure 18: A lighting laboratory that I construct in the virtual environment where I carry out lighting experiments. (Author's Technical Picture Collection)](image)
I wrote the following account about my ‘Maxon Light Play Experimentation’ in my sketchbook:

My next major work in the 3D computer graphics application involved becoming familiar with lighting effects. I undertook a series of tutorials, which allowed me to experiment with individual light objects. Under the Object Manager as a set of tools that add a diverse range of light objects such as the Sun Object, Environment Object ... For my exercise purposes I created a number of objects and then tried out different light objects to gauge their effects. When you open up a Light Object menu, there are a number of other sub menus where you can control the colour of the light, its inner and outer radius, the fall-out of light on the whole scene, the type of shadow it will cast, soft or hard, the light intensity, whether it is foggy or patterned. The range is infinite. There are omni, spot [round and square], distant, parallel, tube, and area lights to choose from. Say you want to just add colour to the overall scene then place the Environment object in the scene. Go to its menu and pick a colour. This ambient light illuminates everything in sight. [There is also] the Sub Object that ... acts as the literal sun, cast[ing] shadows and [can] be altered from dawn to dusk conditions by moving the time slider [great for time lapse sequences].

2.6.2.2 Heavy Water

Another context in which Turrell presented light was in water, and he told Noever that through these types of works he was desirous of “…orphaning the spectator of all that provides him with the usual conditions for visiting an art space filled with works…". I consider the best example of this type of water-work is ‘Heavy Water’ that Turrell executed in 1991 (Figure 19), which required the artist to construct a special swimming pool in the first instance. There were conditions to be met by the participant of this artwork that Turrell left in the form of instructions. The participant was asked to strip off all clothes and don a bathing suit; after this to dive under the water to reach a series of platforms, and once there to spend time contemplating the sky seen through an opening above the pool and the changing light conditions it imposed in the space.

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63 See Appendix A for all sketchbook entries.
64 Noever, op.cit, p. 46
65 For the full explanation about the artwork ‘Heavy Water’ refer to Noever, op.cit, p. 90
Turrell compared the navigation through water with the meandering journey during which one stops regularly to pick up things, as the participant had to climb in and out of the water to access all levels of the artwork. He stated that his primary intention in making Heavy Water was to involve the participant in an embodiment experience not normally on offer and furthermore a temporal experience, because an integral aspect of coming to know the artwork involved time, from taking clothes off, moving in and out of the pool, witnessing the passing of time, and finally getting dressed again.

2.6.2.3 Shallow Spaces

After the Projection Pieces series, Turrell started to investigate the deconstruction of spaces that he explored through his Shallow Space Constructions over 1968 and 1969. To Noever he stated that this series “...dealt to a greater extent with the architecture of the space occupied by the viewer...”\textsuperscript{66} Accordingly, he set out to manipulate viewer perception on content and spatial fronts. In practical terms, he achieved this by suspending partitions that alluded to the presence of more structures than were actually present, which in turn also implied that more space existed than really did. The different Shallow Spaces Constructions were lighted in such a way that made the planar objects appear to be metamorphosing from two-dimensional to three-dimensional states and back again (see Figure 20).

\textsuperscript{66} Noever, \textit{op.cit.}, p. 73
2.6.2.4 Dark Spaces

On the completion of the Shallow Spaces Constructions, Turrell embarked on the Mendota Stoppages collection from 1970 to 1972 whilst living in the abandoned Mendota Hotel (see Figure 21). Over this period, he gradually stripped out rooms in the hotel, closed up the windows, and made a series of aperture openings to let passing traffic lights and the general ambient lighting of the street leak in. The visual effects of this light spillage he photographically recorded, and these photographs became the first in a group of series Turrell refers to as the Dark Spaces, which he has continually added to over the ensuing decades. I am particularly drawn to the Mendota Stoppages series because they are accessible as photographic prints in their own right, which cannot be said about most of Turrell's artworks for the reason that the artist expects the viewer to engage with his creations directly, and not second hand through another medium. A further reason why I am attracted to this series is from an art-processing perspective, in that I relate to what Turrell is doing behind the scenes as it parallels my own actions when I undertake my photographic practice in the physical world. However, there are a couple of differences between our working methodologies. Turrell designs the actual container, what I refer to as a ‘light trap’, whereas I locate an existing ‘light trap’. Secondly, Turrell produces monotone prints of the light play whilst I produce colour prints. Beyond this, we both bear photographic witness to light being bent, interrupted and trapped by some form of material barrier.
In the various Dark Spaces series Turrell has executed over three decades he not only wants the viewer to focus on light play but also on time (see Figure 22). He does this through the creation of an environment that contains both blacked-out areas and minimal light seepage areas. The space is designed in such a way as to force the participant to initially feel their way around until vision adjusts sufficiently for them to become aware that there is actually a tiny amount of light in place. Turrell described to Noever a Dark Spaces encounter: “...the light levels are extremely low, to allow the juncture between the seeing from without and the seeing from within (imaginatively generated seeing like the dream) to become apparent...”.67 From his first Dark Spaces venture at the Mendota Hotel to most current manifestations, Turrell has pursued “...a phenomenology of time to see, a time which, itself, little by little, will come to constitute the place as such...”.68

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67 Noever, *op.cit.*, p. 127
68 Noever, *op.cit.*, p. 48
Turrell has expanded the Dark Space series to now include a sub-category, The Walking Dark Spaces. These latest works involve the Roden Crater project, a volcano setting where sage bushes are specially lit with a no-shadow light on those nights when no moon appears. The viewing audience accesses this work by walking on a pre-designated trail. Now nearly four decades in the making and still very much a work in progress, it is a complex project that this overview of Turrell’s artworks could not do justice to: therefore, only a brief acknowledgement is made here of the fact that it is one of Turrell’s most famous artworks to date. The project is situated in the Roden Crater, Arizona, and he was able to purchase the volcano plus surrounding lands with the help of the Dia foundation in the mid 1970s (Figures 23 and 24). It is a mammoth undertaking, which has received worldwide attention since its inception, and there are numerous literary treatises currently available for those who wish to be availed of full information about this remarkable artistic venture.

Figure 23: Roden Crater  Figure 24: Roden Crater Section of the Plan

2.6.2.5 Skyspaces

Equally ambitious in the making are Turrell’s Skyspaces, which reside in various countries throughout the world, the majority in the United States of America. They are chambers with minimal furniture, usually some form of benching in the centre or around the walls, with an opening in the roofing to let natural world light infiltrate the space (see Figures 25 and 26). As with his Projection Pieces, Turrell's underlying conceptual motivation is for the viewer to be an integral part of the unfolding creative event. As
regards the individual perception is a contributory factor in the totality of the viewing experience. In addition, Turrell leaves it up to the individual to decide on the duration of the temporal experience to be had in the Skyspace. He has made this possible in certain Skyspaces by putting into place viewing arrangements that allow those individuals that wish to, to watch the temporal changes over a full 24-hour period. Turrell's Skyspace chamber can best be described as a temporal deity ever in flux, moving from one light state to another as time passes. Butterfield makes the following observation about this artwork:

There was nothing to focus on except the sky, which was at first a deep, thick enamel blue with soft white cirrus clouds, framed by the knife-edged aperture cut into the ceiling. Time passed. The sun had been gone for some time. The sky became a deeper blue. The room cooled. The sky firmed up until it looked, improbably like a cube of blue Nyquil. The further passing of time was marked only by the subtlest changes in the blue.  

69 Butterfield, op.cit, p. 80

The artist likens the temporal experience to be found in the Skyspace to a journey taken with no particular destination in mind; for some, the journey is quickly over and for others, the journey stretches out over many hours before the decision is taken to disembark from what I refer to as Turrell's time machine.
2.6.2.6 Concluding Thoughts

The two series of artworks by Turrell that most resonate with me are the Projection Pieces (Figures 14, 15, 16 and 27) and Dark Spaces (Figures 21 and 22). His restrained use of colour light and minimalist lighting set-up transforms the white wall architectural shell, from being bare, cool to enveloping, and warm. The simplicity of the space and the mood inducing hues are designed to saturate the viewer’s visual sense. Many hours after one leaves a Turrell installation his ‘light fantastic’ show continues to play out in the mind’s eye.

Turrell’s technical adeptness with light has guided me to carefully consider lighting type choices and arrangements, as well as his general philosophy on the making of light artworks, which emphasizes the importance of ‘keeping it simple’.

![Projection Piece Series](image)

Projection Piece Series
Figure 27: Wide Out 1998

Turrell’s quest to eliminate material that will define the viewer’s experience is noted by Butterfield in the following quote from the artist himself: “…there is no object in my work, there never was, there is no image within it...”.\(^7\) Thus, the responsibility for

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\(^7\) Butterfield, *op. cit.*, p. 68
reading his artworks falls fully onto the viewer. As Turrell maintained to Noever, it is about “…confronting one with seeing how we see. It is seeing seeing that we generate…” Turrell's artworks cause to surface in my conscious mind a very ancient token. The collective racial memory of the first light that the cave dweller drew forth from the fire, which allowed him to illuminate the darkened space for the first time, which resulted in the first cave painting being painted, which led to setting afire the human capacity to imagine. In a similar vein, Turrell's light works worked their magic on me; they set afire my own desire to work with light, space and time.

2.7 Conclusion

Upon critical reflection, I feel that my art practice is situated within the City genre and is informed by the work of numerous artists such as Stieglitz, Atget, Casebere, and Luxemburg, who also work within this genre. My concept interrogates the nature of city spaces focussing on architectural edifices. My work in the cities I have constructed in the virtual environment presents my interpretation of an idealized urbanscape. My aesthetic choices have been governed by my desire to present images where shadows and light traps coexist to create compelling atmospheres.

71 Noever, op.cit., p. 128
CHAPTER THREE: EMBODIMENT ISSUES

3.1 Overview

In this chapter, I begin with an analysis of three theoretical frameworks that are utilized to explain body and bodily experience. They are the positivistic, dualistic and phenomenological models. After this, I address specific issues of embodiment that affect my art practice in the physical world and the virtual environment. Firstly, I describe my sensory and perceptual experience. Secondly, I provide some definitions of presence that include the different forms presence can take. Thirdly, I acknowledge the role that computer hardware plays in depth of presence experience. Finally, I look at fear, what I refer to as the ‘fear factor’, and how its presence and absence factors in my art practice.

3.1.1 Theoretical Perspectives on the Body

One of my research aims is to define the embodiment experience in the virtual environment, and I have explored theoretical frames relevant to this issue. My initial reading introduced me to the positivistic, dualist and phenomenological analyses of the body. The New Penguin English Dictionary offers definitions that emphasize the specific theoretical agenda of each of these. Positivism is “…a theory rejecting theology and metaphysics in favour of knowledge based on the scientific observation of natural phenomena”. 72 Dualism is “…a theory that considers reality to consist of two independent and fundamental principles e.g. mind and matter”. 73 Phenomenology is a theory that describes “…what is directly experienced and of consciousness, in abstraction from any consideration of casual connections between what is experienced and the external world”. 74 This was my starting point.

Through my reading, I learnt that the positivistic and dualistic perspectives on reality have dominated Western thinking in Europe from the Middle Ages to the current day, and throughout this period minor changes have happened to each of these models to

73 The New Penguin English Dictionary, ibid., p. 430
74 The New Penguin English Dictionary, ibid., p. 1043
accommodate new ways of thinking. For example, in the seventeenth century, the philosopher Rene Descartes adjusted the purely ontological axiom that is positivism to include metaphysical principles. In a compendium of body theories Donn Welton notes how this philosopher set out to “...reduce various types of human experience to the mechanical interactions of the body, i.e. ultimately to physics...”.

Descartes’ *Treatise on Man* influenced mainstream academic perspectives on the body for the remainder of his century. Welton presents one precept that makes up Descartes dualistic reductionism of the mind and body:

> The whole range of human passions and moods, as well as determinations of the will, are nothing more than effects of the mechanical interactions of the fluids and parts of the body.

Welton goes on to discuss other key academic literary contributions to the field of body theory; however, I do not intend to provide a full list here as it is outside the remit of this current inquiry. Rather, my intent is to show how dualism, positivism and phenomenology informed my theoretical position on embodied lived experience position.

In the early part of the twentieth century, the philosophers Husserl and Heidegger each developed ideologies within which modern-day phenomenological theory is situated. Later Merleau-Ponty developed his own theories on phenomenology in his quintessential text, *Phenomenology of Perception*, which went on to play a key role in the establishment of the phenomenological model. These theorists helped position the phenomenological interpretative framework to be taken as seriously as the dualism and positivism frameworks to explain reality. In my own research endeavour I have found that the phenomenology model most suitable because it deals with the body as the epistemic condition of knowledge of the world. Whereas, I have found the positivism

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77 Welton, *op.cit*, p. 3
and dualism models proved to be inadequate for the following reasons. The positivism approach because it only examines the body as an entity in its own right independent of human perception and practice, and the dualism approach because it only examines the body as a binary form, i.e. the mind/body split.

Richardson and Harper propose that “Arguing for embodiment as essential to being and knowing in the world – as Merleau-Ponty does with his notion of the body-subject – is a significant beginning to challenging discourses of disembodiment”. Other theorists from a cross-section of academic disciplines that include the fine arts, new media, philosophy, psychology and communication studies have adopted the phenomenological model for the fact that the lived-body experience is central to gaining knowledge, and I shall bring them into this discussion shortly. Grosz’s elucidation of Merleau-Ponty’s phenomenological reflections on what constitutes bodily experience, in her book ‘Volatile Bodies’, is an invaluable source that I draw on in this research. She also examines theorists who conceptualise the body from a feminist position. My reading led me to recognise that my own ideas on embodiment mirror those of Grosz and Merleau-Ponty. “Phenomenological reflection on the body reveals that I am not a subject separated from the world or from others, a mind somehow cut off from matter and space”.

Furthermore, other treatises I have sighted that detail all three primary models have enabled me to become conversant enough in these three theoretical perspectives to make the informed decision that neither the positivistic or dualistic models are appropriate interpretative frameworks vehicles within which to develop my own discussion on embodiment for the following reasons. The positivistic model, though it may be able to explain natural phenomena satisfactorily, does not deal with intangible phenomena except as representations of real things. The dualistic model, by splitting the mind and the body as two separate constructs alongside each other, does not deal with corporeal existence as a holistic concept. The mind is divorced from the body. Kirkby suggests that “…a post-corporeal subjectivity configured in purely informatic and

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81 Ingrid Richardson and Carly Harper, Corporeal Virtuality: The Impossibility of a Fleshless Ontology www.burnel.ac.uk/bst/2no2/Papers/Ingrid%20Richardson%26Carly%20Harper.htm (September 2002) p.3
82 Elizabeth Grosz, op.cit
83 Grosz, op.cit, p. 86
immaterial terms..."84 is inevitable when employing the dualistic model. On the other hand, phenomenology prioritises the body as an epistemic condition of knowledge that closely parallels my own thinking which involves the necessity of corporeal schema, for it is only through bodily situation that we come to know the world, and why I chose this model over the other two models. I believe it best explains my lived experience as an artist exploring and conceptualising the city in the virtual environment and in the physical world.

Narratives about what denotes presence in the virtual setting is an embodiment issue that arises in the specific context of my art practice, and those individuals who offer opinions on the subject that assist my research include Hayles, Richardson and Harper, Qvortrup, and Wertheim.85 These academic critiques include criticisms of positivism and dualism interpretations on embodiment and reality that lend support to my own findings. Hayles argues that the dualism of mind divorced from the body precept is nothing more than a regurgitation of futuristic mythology. Hence, she is dismissive of the notion that “...in the new age of virtuality, the mind will continue unchanged in its incarnation as electronically coded information, and the body will fade away as a superfluous accessory ...”.86 Richardson and Harper also criticise dualistic disembodiment rhetoric, as but another one of those “...hopeful renditions of the fleshless ontology of cyberspace...”.87 Wertheim stringently disagrees with the way physicists promote the Cartesian dualism disembodiment agenda, due to the fact “... that we are quintessentially embodied beings and that the cybernautic dream of mind download is itself a pathological fantasy...”.88

Some of these theorists refer to Merleau-Ponty's keystone criterion of lived-body experience to counter positivism reductionism rhetoric and the claims of dualism. They

86 Katherine N. Hayles, Embodied Virtuality: Or How To Put Bodies Back Into The Picture in Mary Anne Moser (ed) with Douglas MacLeod in Immersed in Technology, ibid., puts forward an idea of Hans Moravec; Head of the Carnegie-Mellon Mobile Robot Laboratory from his book Mind Children.
87 Richardson & Harper, op.cit, p. 1
88 Margaret Wertheim, op.cit, p. 12
expose the two models’ fundamental inbuilt biases that preclude questioning the bodily experience. Therefore, the phenomenology model, Richardson and Harper ascertain, “...serves as a corrective to complacently regarding the body as an objective thing...”.\(^9\)

Hence, the boundary of theoretical inquiry now extends to include those questions that the positivism or dualism models cannot accommodate.

Richardson and Harper observe, “If we use technologies that alter our space-perception, our modes of embodiment are also affected...”.\(^9\) thus, the phenomenological framework can address issues that emerge from human-computer interaction. The embodiment debate expands exponentially with each fresh technological progression to now include questions about the effect of the virtual reality system on spatial immersion, how the content of virtual environments alters perception, what hardware factors increase the sensation of virtual presence, and whether the integration of technology tools into our corporeal schematic means that we are now part cyborg, for example.

Essays emerge from the mid-1980s onwards that propose embodiment issues not previously thought about, because after all they are products of the new technologies. Such as, Hayles’ deliberation on new technologies there is an accounting of how humans achieve spatial recognition in cyberspace that integrates negotiation of real world space Hayles notes of the physical world embodiment experience. “Normally we know without thinking about it, exactly where our body boundaries are and how to move our bodies to negotiate complex spaces and topologies...”.\(^9\) Alternatively, Ajana’s account focuses entirely on the cyberspace bodily experience, “…in an attempt to negate the idea that digital environment is the location par excellence for fulfilling the dream of Cartesian dualism...”.\(^9\) Furthering of the debate about man-machine amalgamation, Lauria adopts an anti-dualism stance in her discussion about electric space being tactile in nature, “…we immerse ourselves in the electric sensibility of virtual cyberspaces, and the consequent effect is that of a sense of being part of technology rather than separate

\(^{91}\) Hayles, *Embodied Virtuality: Or How To Put Bodies Back Into The Picture* in Moser, *op.cit*, p. 21 in *Immersed in Technology*

Meanwhile, Innis observes in his paper *Technics and the Bias of Perception*, how the technological tools we use like the mouse and the interface “...cease to be something that we experience as objects and become part of the felt structure of our embodiment...”. Hence, the new technologies necessitate the reconfiguration and expansion of embodiment terms that in turn sees the debate on the body include the virtual body.

When I consider my own human-computer interaction, I have found on the rare occasion that my embodiment experience could be said to resemble what Lauria and Innis describe above. However, no complete escape from my corporeal existence has ever happened to me, and so I cannot take seriously the dualistic notion that the mind split from the body is but a short time in the future from happening, simply a question of the right technology being put in place. Rather, I agree with Stone’s statement that, “...no matter how virtual the subject may become there is still a body attached...”.

Nevertheless, I will concede that when I first began to use the computer and associated tools to make artworks, I felt it could be otherwise, that an escape from my corporeal existence might eventuate. My opinion was formed in an era when hype, about the Internet and emerging computer technologies, was prolific. I joined a legion of other artists that Frank Popper describes in his book *Art in the Electronic Age*, who were excited not only about the new visual possibilities the computer offered, but also the new embodiment possibilities. Popper states of the visual possibilities:

For some artists the computer is only a design tool. For others it is a means of fabrication; and for yet others, the computer is used because it possesses capabilities analogous to human intellectual processes and may even be considered as a creative entity in its own right.

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I close this discussion of embodiment theories in which I have discussed three theoretical frameworks that promote positivistic, dualistic and phenomenologist perspectives. Furthermore, I clearly exhibit my own preference for the phenomenological viewpoint on the body, with evidence of why this is so by drawing on other theorists’ summations. They go on to support my own theoretical position on embodiment experience. For from the *terra firma* of phenomenological *sancta* flowers an interpretative framework that Richardson and Harper claim can “…counter the disemboding proclivities of cyber-discourse with a materialist, somatological approach to existence and the production of knowledge…”\(^{97}\) Certainly, I am led to the conclusion that only through my corporeal existence is it possible to experience being an intangible presence in the virtual environment. It is as Merleau-Ponty states: “Our own body is in the world as the heart is in the organism: it keeps the visible spectacle constantly alive, it breathes life into it and sustains it inwardly, and with it forms a system”.\(^{98}\)

### 3.2 An Issue of Embodiment: Senses and Perceptual Experience

I address the embodiment issues of sensory engagement and perceptual experience in this section as they pertain to my art practice in the virtual environment. To begin, it is through my bodily senses that I gain perceptual knowledge of the world. According to the New Penguin English Dictionary, “Perception is an awareness of one’s surroundings that is produced by the operation of the senses”.\(^{99}\) Therefore, by virtue of my body’s visual, tactile, aural, nasal and auditory conduits I am able to gather information about the world. Biocca thinks of “…the body as an array of sensors propelled through space to scan, rub, and grab the environment…”.\(^{100}\) His account makes clear the important role that the senses play, as the data each sense collects about the world is processed by the conscious mind and is what constitutes perceptual experience. Therefore, how I perceptually process the physical world and the virtual environment comes down to

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\(^{97}\) Richardson and Harper, *op. cit.*, p. 3

\(^{98}\) Ajana, *op. cit.*, p. 4 cited quote in Merleau-Ponty, *op. cit*


which of my senses are engaged. In the physical world, all my sensory mechanisms operate to create an all-encompassing lived body experience, but in the virtual environment, only my visual and tactile senses operate to result in a less-encompassing perceptual experience. To use colour as an analogy of perception depth, in the former situation, I experience the entire colour spectrum and in the latter situation, I experience only the grayscale end of the spectrum.

In his analysis of computer-mediated technologies, Ken Hillis notes how “...virtual reality privileges sight, and other senses play a subordinate role to it...”\(^{101}\) I am in agreement with Hillis's observations, based on my own sensory experience of Maya's computer generated virtual environment. It is my visual sense that predominates and feeds back information about this particular reality, with my tactile sense in a secondary role. All other senses are superfluous because of the type of virtual reality system I access. On opening up Maya's interface, my vision is immediately engaged due to the existence of a perspectival grid floating on a grey background. In the dissection of the geographies of virtual worlds that Taylor undertakes, he explains exactly what comprises the computer-generated virtual environment:

VR application programs have spatial dimensions: they have internal extents and boundaries, users orient their way through them using direction, and the virtual landscapes are laid out along a precise Cartesian coordinate system.\(^{102}\)

Hillis states that “...a strong sense of landscape is achieved, albeit one that is highly geometric...”\(^{103}\) through the presence of the familiar grid. In addition to this marker are two other visual markers that I use to orientate myself in the virtual environment. The first marker is the three-prong arrows tool that represents the x, y, z-axes. This is known as a directional axes tool, and by default positions at the point of origin (0,0,0) on the grid floor plane (Figure 28). The existence of the directional axes tool allows for the immediate establishment of up and down (y=height), left to right (x=width), and

\(^{103}\) Hillis, op. cit, p.xxviii
front to back (z=depth) as illustrated in Figure 29. The second marker is the manipulation axes tool that on selection alters an object via interactive handles that, on dragging, alter height, width and depth of the object. Hence, the grid, the directional axes tool and the manipulation axes tool all help my vision sensibility to the point that my perceptual experience is of an arrival at a place.

As I mentioned earlier, my tactile sense also has a part in the sensory proceedings, although indirectly, because the computer mouse replaces and acts as my hand. Biocca defines this as “...a form of cyborg coupling, the body coupled with its technological extensions...”\textsuperscript{104} He makes this reference to express how telepresence works, nevertheless, this is also applicable to my situation even though I work with far less sophisticated computer hardware and software tools. There is certainly some form of coupling between my physical body and the computer peripherals, which include the mouse, the keyboard and the screen. The mouse is central to my activities, as I use it to simulate physical gestures in the virtual environment that allow me to pick up, move, and alter an object. As I carry out these actions, they play back in real time on the screen in front of me. The seamlessness of my action in the virtual environment and its temporal translation on the screen is such that I share Biocca’s sentiment about how “... the interface is adapting to the body; the body is adapting to the interface...”\textsuperscript{105} The resultant smooth transition between physical gesture and virtual action sufficiently convinces my tactile sense to result in the perceptual experience that I am actually manipulating the virtual fabric of that object.

\textsuperscript{104} Biocca, \textit{op.cit}, p. 21
\textsuperscript{105} Biocca, \textit{op.cit}, p. 2
Richardson and Harper identify the situation that involves “...a collaboration between the technology and our own sense of being and having a body...”\(^{106}\) as a new configuration of embodiment. They cite Merleau-Ponty’s theoretical premise, “...this pliable and malleably extendable nature of the body-image through our ability to incorporate tools or “fresh instruments...”,\(^{107}\) to reinforce their point. What Marshall McLuhan predicted back in the 1960s about television that is encapsulated in his well-known remark “... media are extensions of the senses...”,\(^{108}\) has in fact happened. Laurie also theorises about the effect of technology on embodiment. She states, “Theories of mind, self and soul reconfigure as the lens of our perception shifts in interplay with the biases of our artifactual use”.\(^{109}\) All of these theorists aptly sum up humanity’s willingness to amalgamate with all forms of media. In Hayles opinion, when the corporeal body and virtual self-presence combine with the computer it results in the following perceptual experience.

The body remains in front of the screen rather than within it we are never disembodied (because) the specifics of our embodiments matter in all kinds of ways, from determining the precise configurations of a VR interface to influencing the speed with which we can read a CRT screen. Far from being left behind when we enter cyberspace, our bodies are no less actively involved in the construction of virtuality than in the construction of real life.\(^{110}\)

As I have now established, in my art practice in the virtual environment setting the two senses I use are the visual and tactile senses. Grosz defines vision as the “...non-temporal or synchronous sense...”, and the other senses as being “...momentary and occasioned by events...”.\(^{111}\) Therefore, Grosz positions the visual sensibility above all others and states this sense is what enhances embodiment experience. Certainly, as a visual artist I also place vision as the most crucial sense. Not only for the fact of what vision delivers at a physiological level, the ability to see, but also as a trained artist I

\(^{106}\) Richardson and Harper, \textit{op.cit.}, p. 9
\(^{107}\) Richardson and Harper, \textit{op.cit.}, p. 6
\(^{109}\) Lauria, \textit{op.cit.}, p. 3
\(^{110}\) Hayles, \textit{op.cit.}, p. 1
\(^{111}\) Grosz, \textit{op.cit.}, p. 97
know how to use my visual sensibility to take the more considered look at the world around me. Thus, the move to the virtual environment may not engage all my senses, but overall as an embodiment experience, this is similar to that which I have in the physical world. In other words, I am not precluded from any aspect of artistic operation due to only having my visual and tactile senses taken up.

3.3 An Issue of Embodiment: Presence in the Virtual Environment

Lombard and Jones note how “…many scholars have advanced a wide variety of unidimensional and multidimensional conceptualisations, and corresponding terminology, for presence…”\(^{112}\) Certainly, my research into this disciplinary area has uncovered a wealth of material on corporeal, psychological, literary, objective, subjective, spatial, social, and virtual presences. These presences are actualised as both tangible and intangible forms. The avatar is one form that Frank Biocca expounds upon in his paper on the changing representations of the body in virtual environments. Biocca notes how the avatar in online sound worlds acts as visual signifier of the self and symbolic signifier of “...an internal subjective representation of the self, a model of the self’s body and a model of one’s identity...”\(^ {113}\) The cursor in the 3D software stood as my avatar in the virtual environment as I constructed my cities.

Another electronic form is the ‘telepresence’, which Jonathan Steuer uses towards a determination of virtual reality.\(^ {114}\) He describes telepresence “...as the experience of presence in an environment by means of a communication medium...”.\(^ {115}\) Biocca also defines telepresence and refers to other theorists’ positions on presence (e.g. Heeter, 1992, 1995; Sheridan, 1992; Loomis, 1992).\(^ {116}\) Heeter looks at environmental, social and


\(^{113}\) Biocca, *op. cit.*, p. 20


\(^{115}\) Steuer, ibid., p. 78

\(^{116}\) Biocca, *op. cit.*, p. 19
personal presence, while Sheridan examines virtual presence and conveys it to be a subjective sensation. Loomis focuses on the functionality of perception in the construction of presence. In addition, Biocca highlights terminology such as ‘self’, ‘body schema’, ‘self-presence’ or ‘phenomenal body’ that serve as other descriptions for presence. In his paper, ‘The Psychology of Virtual Presence’ Andrew Patrick provides a checklist of the various forms presence takes. He sources dictionaries and specific academic disciplinary areas for terms that include psychological and literary presences. On presence, “…a true condition when an object is actually present in the physical world ...”; on literary presence, “…an illusion of presence that is created by story telling...”; and on virtual presence, “…an illusion of presence that is created by artificial devices ...”. Sheridan best describes my presence in the city because it most closely resembles my lived body experience.

Elizabeth Grosz also considers the nature of presence and how it is manifested not only as a corporeal actuality but also as a mental state. She draws the reader’s attention to the clinical studies made of the ‘phantom limb syndrome’ to make her point. Grosz highlights a set of interviews with amputee subjects who state how they continue to experience the subjective sensation that their missing limb is still there despite integrated mental perceptual and conscious rational acceptance that it cannot be. Furthermore, these subjects believe that the missing limb has been transformed into another form, beyond matter. For Grosz, the “…fictional or fantasmatic construction of the body outside of or beyond its neurological structure...” signifies how the human being is able to extend the concept of bodily presence to include the mental state of being somewhere. Through an act of imagination, I felt I could extend my presence into the city I had constructed.

117 Andrew Patrick, The Psychology of Virtual Presence Andrew.Patrick@nrc.ca p. 2
118 Patrick, ibid., pp. 1-2
119 Refer to Shaun Gallagher Phenomenological and Experimental Research on Embodied Experience gallaghr@canisius.edu for a general overview on Aplasic Phantoms and excellent reference list for further reading on related topics.
120 Grosz, op.cit. p. 90
For an overview on measuring and managing presence in virtual environments, in the same-titled paper by Sadowski and Stanney, the authors provide a comprehensive directory of researchers working in this field (e.g. Singer & Witmer, 1997; Slater and Wilbur, 1997; Barfield and Hendrix, 1995). Their own research concerns include clarification of those variables that influence presence and the effects of presence on performance. At the outset, they observe, as Lombard and Jones do, that “...there is no clear consensus on how best to define the sense of presence...” 121 Key variables they point to that influence the level of experience in the virtual environment include ease of interaction, user-initiated control, pictorial realism, length of exposure, social factors and system factors (Lombard and Jones, p. 3). In terms of my own experience, all but social factors are relevant to my sensation of presence, because I work in a closed system that no one else can access. Up to this point in my analysis, what I am able to establish is that existing definitions of presence and forms of presence prove to be fluid concepts.

I will now undertake an analysis of presence that addresses two areas: firstly, what form my presence takes; and secondly how the virtual reality system I use affects sensation of presence achievable in the virtual environment. My presence manifests itself in two ways, as a body in the physical world and at the same time as an intangible self in the virtual environment. To deal with my corporeal presence first, I am present in the world as a body comprising of bones, flesh and organs that is embedded with an emporium of sensors. These sensors act as primary “...communication channels to reality...” 122 and are the portals to the mind, as Sekuler and Blake point out. To deal with my non-corporeal presence, I am present in the virtual environment as an intangible presence, a phenomenon that Margaret Morse describes in her article on landscape and narrative of the virtual environment, as a “...self that lurks as a ghostly, disembodied perception in that world...” 123 Hence, I undergo the subjective experience of feeling present

121 Wallace Sadowski Jr. and Kay Stanney, Measuring and Managing Presence in Virtual Environments Chapter 45 University of Central Florida – no other information available.
123 Margaret Morse, Nature Morte: Landscape and Narrative in Virtual Environments in Moser, op.cit, p. 199 in Immersed in Technology
somewhere other than where my body is, and describe myself as an intangible self-presence when I am in the virtual environment.

The state of affairs that leads me to be a physical body and an intangible self-presence in two fundamentally different settings, the physical world and the virtual environment, is well documented as an embodiment experience. Experientially, according to Clive Fencott in his paper ‘Presence and the Content of Virtual Environments’, this state of specific embodied being should not prove problematic because it is a human proclivity to escape bodily reality, whether through literature, painting, film or the Internet. Thereby, Fencott continues, “…presence in VEs (virtual environments) is just perhaps the most recent example of the degree to which humans are naturally inclined to be taken out of themselves (his emphasis), (and) enjoy immersing themselves in environments artificially created through communications media of all sorts…” Biocca also shares Fencott’s assertion that humans are capable of going elsewhere other than where they are, and uses the definition of telepresence as “…a sense of being in a mediated space other than where physical body is located…” to make this point. In addition, Grosz notes that humankind can “…live in two spheres, the concrete sphere where ‘real’ things take place and the non-concrete, the merely ‘possible’ sphere…”. Hayles describes the embodiment transition as being relatively seamless:

The body remains in front of the screen rather than within it we are never disembodied (because) the specificities of our embodiments matter in all kinds of ways, from determining the precise configurations of a VR interface to influencing the speed with which we can read a CRT screen. Far from being left behind when we enter cyberspace, our bodies are no less actively involved in the construction of virtuality than in the construction of real life.

For me, it is Singer and Witmer’s observation that I find most accurately encapsulates my virtual embodiment experience which Sadowski and Stanney cite, “…humans may

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125 Fencott, ibid., p. 1
126 Biocca, op.cit, p. 11
128 Hayles, op.cit, p. 1
experience varying degrees of presence in the VE, typically dividing attention between
the physical world and the virtual world...”. Hence, I manage to maintain consistent
sensation of presence, even when my attention sometimes flits between the physical
world and the virtual environment.

### 3.3.1 The Virtual Reality System in Relation to Achievable Sensation of
Presence

The sensation of presence that is achievable in the virtual environment, resulting in the
superficial or deeply-felt embodiment experience of being somewhere other than where
the physical body is located, is also dependent on the type of virtual reality system
employed. What I access is the 3D computer graphics application Maya, which provides
a Cartesian grid interface that I use to interact with the habitat and its objects in real
time. To be in this environment, Lars Qvortrup states in the book ‘Virtual Space’, is to
have a space experience, albeit one that is technologically manufactured. Also, the
theorist Jesper Kjeldskov interprets the user’s spatial immersion experience in his paper
entitled ‘Interaction: Full and Partial Immersive Virtual Reality Displays’, wherein he cites
the following observation by Shneiderman on the same topic:

> Full and partial immersion in virtual reality are fundamental different user
experiences: partial immersion supports the feeling of “looking at” a virtual
environment while full immersion supports the feeling of “...being in” that
environment.  

Hence, Qvortrup along with Kjeldskov and Shneiderman, all assert that the virtual reality
system one uses is as important as the innate human psychological ability to “...transport
their presence to another place that may not exist in reality...” on the
sensation of presence achieved in the virtual environment.

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130 Lars Qvortrup, op.cit.
131 Jesper Kjeldskov, Interaction: Full and Partial Immersive Virtual Reality Displays
jesper@cs.auc.dk
132 Sadowski & Stanney, op.cit., p. 1
In order to explore how one virtual reality system as opposed to another affects sensation of presence, I will now make a comparison between the full and partial virtual systems. I start with the full immersion presence experience that is made possible by accessing the virtual reality system known as the CAVE system.\textsuperscript{133} This is hardwired to provide a realistic simulation of the experience of being in space. This is made possible via an assortment of devices, such as the stereoscopic Head-Mounted Display\textsuperscript{134} with piped-in soundscape effects, position tracker (attached to the head), and data body suit/gloves with sensors. Once the techno-apparatus is donned, it allows the participant's movements to be tracked, which in turn triggers off a myriad of visual and audio effects. When the vision, sound and touch senses engage simultaneously, this provides the user with an all-inclusive sensory experience to effect believable spatial immersion, which results in a strong sensation of being present in the virtual environment.

In contrast, the partial immersion experience that Kjeldskov describes as “...fishtank virtual reality (3D on ordinary monitors)...”\textsuperscript{135} happens via standard equipment, the tabletop display unit connected to a computer, with a keyboard and mouse. This visual sense is predominantly engaged (sound also, if speakers are in place). This provides the user with a limited sensory experience and in turn spatial immersion. This results in a superficial sensation of being present in the virtual environment. As far as Kjeldskov is concerned, the type of display one uses defines the immersion experience, either partial or full. He provides convincing evidence in the form of a table containing field of view ratios of the different monitor viewing experiences to make his case. In the case of the CAVE system or panoramic system there are a number of displays (4, 5 or 6) used that cover the user field of view by up to 360°, whereas fishtank virtual reality only covers the user field of view between 20 to 40° (Kjeldskov p. 4). This enables Kjeldskov to

\begin{itemize}
\item \textsuperscript{133} Qvortrup, op.cit, p.11. The CAVE is a cube, approximately 3m on all sides, constructed with four, five or six back projection screens with external projectors projecting the computer generated images. The user moves around inside the CAVE, he or she will don a head tracker and shutter glasses, so that stereoscopic view based on his/her actual position is produced and projected onto the screens. The advantage of the CAVE is that users actually can observe their own body moving in the space, thus combining external references and self-reference.
\item \textsuperscript{134} The Head Mounted Display consists of displays built into glasses and allows the user to move around in a surrounding virtual world.
\item \textsuperscript{135} Kjeldskov, op.cit, p.2
\end{itemize}
establish that the CAVE or panoramic display system will offer the richer immersion experience because the user vision is completely taken up by what is on the monitors.

In my creative endeavours for this PhD by Project, I use the fishtank virtual reality system. It consists of a monitor that only covers my field of view partially and, as such, I can still see the physical world surrounding the screen at all times. As a result, I am never fully immersed in the virtual environment. My presence in the virtual environment is superficial. It is therefore just as Shneiderman establishes it to be. I am aware of looking at, rather than being in, the virtual environment. In a similar vein, Fencott acknowledges the impact of the medium and the role content of the virtual environments in generating presence. This is also a concern of Steuer, who states how “…the extent to which users can participate in modifying the form and content of a mediated environment in real time…” affects lived body experience. He identifies two technological dimensions, vividness and interactivity, as prevalent in the establishment of a sense of being in the environment. Richardson and Harper state, “…the corporeal schema…” is “…extendible’ through artefacts…”, and in the context of the virtual environment this includes interactive-orientated tools. Such tools simulate physical actions to allow all sorts of object manipulation, and in turn, this reinforces the perceptual experience of being present.

Biocca states that the notion that “…modern communication interfaces attach themselves to the body…” is not new. I agree with Biocca. Objects and tools we use frequently are often seen as an extension of self and this idea is not at all new. For example, Alvin Toffler and Marshall McLuhan both foretold in the 1960s and 1970s a time when computer-mediated technologies would result in a new hybrid of man and machine. In addition, McLuhan’s literary treatise on the impact of television on society went on to influence his own and future generations. In addition, a parallel can be

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136 Steuer, op.cit, p. 14
137 Richardson and Harper, op.cit, p. 3
138 Biocca, op.cit, p. 5
139 McLuhan, op.cit
drawn between McLuhan’s later observations of the televised age and computer age. This considers, amongst other things, how media tools affect our lives.  

In Merleau-Ponty’s opinion, which Richardson and Harper cite in their literary challenge to Cartesian disembodiment theory, “…tools are not conceived of as merely perceptual attachments or extensions, but rather are incorporated into our embodied field or corporeal schema…”. Furthermore, tools that simulate physical actions that allow all sorts of object manipulation reinforce the perceptual experience of being present somewhere. A notion that the psychologists Zahorik and Jenison pursue in the paper ‘Presence as Being-in-the-World’, stating, “Presence is instead tied to one’s successfully supported action in the environment, this environment being either virtual or real”. Therefore, by being able to simulate all manner of physical world actions, from movement to manipulation of objects, subjective feeling of being present increases exponentially. The more adept I became at using the 3D software, the more the mouse felt like it was an extension of my hand and the more present I felt in the virtual environment.

To summarise this analysis of presence, I have outlined above some definitions of presence, provided other theorists’ responses relating to the phenomenon of being present in two settings at the same time, detailed two virtual reality systems in order to determine the user’s sensory and spatial immersion experience and to show how this impacts on sensation of presence, and have ended up with a brief overview of the integration of tools and of how action-orientated tasks can enhance presence. Finally, I want to draw a parallel to Hayles account of the predicament of the cyborg in which she states it is “…at the crossroads where psychological, material and virtual intersect…”. In similar manner, the predicament of presence is that it is between corporeal, mental and immaterial form, dependent on the setting; hence, as a concept it is multidimensional.

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141 Richardson and Harper, op. cit, p. 9
143 Hayles, op. cit, p. 23
3.4 An Issue of Embodiment: The Fear Factor

Whilst conducting my photographic practice in the physical world, my embodied emotional experience regularly entails fear as I work in potentially life-threatening circumstances that cause me to feel fearful. In the virtual environment, this is not the case because I carry out my art practice in a closed computer-generated system only I am able to access. If someone else could enter, though I would not necessarily face the same issues as I do in the physical world as regards danger, relinquishment of complete control would be one result. Since the transfer of my creative endeavour to the virtual environment, my embodiment experience has gone from one of fear to one of no fear. This leads me to question whether the removal of fear has led to any significant benefit to my current art practice. I address this by considering the adrenaline rush that I received as a result of being in fear, which I admit that I came to enjoy, because it gave me the courage to go to places where I would never otherwise have ventured. Secondly, I discuss my psychological attachment to the city, which originates from my time on the streets as a teenager. Thirdly, I undertake a brief examination of the archetypal figure of the predatory male, who is the source of my feelings of danger.

3.4.1 The Adrenaline Rush

My self-belief that nothing will go awry when I am out in the city is enough to motivate me to leave home, but to return to the city night after night takes more than a desire to get a great photograph when faced with the reality of danger. What makes it possible for me to go back is the adrenaline rush I get whilst working in dangerous circumstance. The trigger that generally sets off the surge is fear: therefore, to keep on experiencing high adrenaline levels means that I must keep on experiencing fearful situations. This inspires me to continue to go to areas that most people would not venture into alone, and the potential edginess of the situation produces enough fear that in turn creates an adrenaline burst, so that I can maintain a nonchalant attitude in the face of growing danger. I become philosophical about the whole affair and tend towards thinking ‘what
will be, will be, that it is all for the sake of Art’. I feel that no amount of worry about a possible encounter with the predatory male that could go badly wrong is going to prepare me any better for the actuality, so why worry in the first place.

The above account is intended to illustrate why I did not undertake any serious examination of why I place myself in potentially dangerous situations until I moved my art practice to the virtual environment, and of course by then I was off the real streets. Contemplation of my actions is now possible, given that I am no longer going out there facing danger every night. After reflection, I can say that it is not because I have an unconscious death wish that I do what I do, but rather I became addicted to the surge of adrenaline that happens when I am fearful. This leaves me with a willingness to put one’s mortal existence on the line because the resultant adrenaline hit is worthwhile, and leaves one feeling fully appreciative of life. Certainly, documentation about adrenaline addiction supports the notion that life/death situations leave the survivor with a heightened sense of awareness.\(^\text{144}\) Therefore, whether one is racing down a sheer mountainside on a snowboard risking life and limb, reporting amidst flying bullets and bombs going off, or in my case running madly away from the predatory male who is intent on doing me harm, all such events are guaranteed to get the adrenaline pumping. In the aftermath, the hit is enthralling. The majority of confrontations with a predatory male generally find me fearful in the moment, then the fear disappears quickly in the flood of adrenaline, I can easily squash any underlying uneasiness when I next leave home to go on a photographic assignment. As far as I am concerned, as long as I gain good photographs nothing will stop me going back out onto the city streets. Fear and adrenaline are life affirming.

3.4.2 Home Away From Home

Alongside my fascination for the Night City in visual terms and the adrenaline highs that make life on the edge utterly worthwhile, is a psychological attachment that takes the form of a recurring desire to return to the old homestead. Why so? Once upon a time, as a fifteen year old, the inner city streets were actually home to me in the most literal sense of the word. The streets were where I hunkered down alongside other street kids who also had nowhere else to go. Over a two-year period until I was seventeen, a small group of us found sanctuary, solace and freedom from the pimps, the gangsters and paedophiles, spending daylight hours squirreled away in the boltholes that pepper the city. We came out at night to wander the city, and when ready to sleep the dank alleyway, sooty stairwell, deep doorway or abandoned warehouse served as a temporary home, certainly safer than the hostels and shelters set up to take young people. In those so-called havens of safety, every sort of predator congregated. Children are easy pickings for predators of every sort, vulnerable to exploitation, sexual abuse, even murder.

When I walk the streets now, occasionally the echoes of past sights come back to haunt me and I find myself remembering bygone spectacles that elevated my human spirit to hope. The incredible sights I saw as the Night City revealed her infinite dazzling showgirl best, all sparkles, plumes and smoky glamour, were what set me on the road to become an artist, twenty years later. Yet, it is no longer the flashy and glittery face of the Night City that now catches my visual attention, because I find such sights as the bridge lighted up with its mirror reflection in the river below, or busy shopping mall with crowds of people looking into the illuminated window shop fronts, the epitome of postcard imagery, urban clichés that the commercial photographer is highly proficient at producing for the tourist market. Rather, I seek to filmically capture what I refer to as the ‘in between zone’ en route to the more desirable destination. Such sites look unattractive on the surface, but closer examination shows otherwise. Much the same can be said about most human beings, and behind the despondency and desperation of the street kid is the desire to be seen as something more than just prey to be exploited.
The outline of my history on the street was presented in order to illustrate how this period set me on the road to making art about urban spaces. The future artist in me first learnt about contemplative observation as a street kid watching the world pass by, an invaluable lesson in order to be able to stand the life I now experience, always on the outside looking in at society. My visual appreciation of the city began to flower from that time, and I came to understand that the truly beauteous is rarely obvious. My story is not about victimhood but about self-liberation, for the time I spent on the streets gave me the will to more than survive: I went on to thrive. By getting to know the city from the ground up, for after all I slept on its pavements, the experience has left me with a life-long wonder of all things urban (see Figures 30 to 33).

3.4.3 The Predatory Male

When the predatory male disrupts my photographic endeavour, it is usually about his need to conquer either geographic or gender terrains, or perhaps both. If his motivation is geographical conquest, this is easily dealt with because I simply move on to another site. Typically, the sort of predator who is normally seeking this type of conquest is the local drug dealer and his cohort of junkies, or the local pimp and his collection of girls. These street regulars generally cause me the least grief because in the majority of cases, these two groups are often open to talking to me about what I am doing. Once I reassure them I do not want to photograph them but rather the buildings, they let me get on with the image making. If anyone in these groups needs watching, it is the individual junkie who may see my expensive camera equipment is a tempting target, so I do all I can to avert any possible mugging scenarios from unfolding in the first place.
Inevitably it is the solo predatory male not connected with the business of the streets who can be the most serious threat, and here is where gender conquest comes into play. Effectively, I am fighting on two fronts, the first battle involves the preconceived idea that man is superior to woman, which in the mind of the predatory male means that a woman out there alone late at night in the city deserves what she gets and is nothing more than prey to be had. The second battle involves the physical plane and such interaction can generally be dealt with. Either way, this marriage of preconception and action on the part of the predatory male can result in danger to me. The predatory male is a misogynist who seeks to control situations, and most interaction between us is of the non-verbal kind: he is tediously circling in the background waiting for my general peripheral attention to be engaged sufficiently enough to let him swoop. I weigh up each individual situation and act accordingly, knowing that with this type of predator it is either going to involve sexual assault or a life-threatening scenario. I exercise common sense to extract myself from the situation with the minimum of fuss, and avoid actual confrontation at all costs. I am realistic enough to know my limitations: for example, I am not professionally trained to defend myself. I use my instincts to test the waters whenever a man ventures into the same environment as me before I take action. Otherwise, I would forever be moving on, because there is always an abundance of men slinking around the city at night seemingly with not much else to do but cruise the streets.

3.4.4 Absence of Fear in the Virtual Environment

The fear factor is an integral part of my creative endeavour in the physical world that acted as a positive force, because it produced the necessary adrenaline rush, which took me into areas of the city I might otherwise have hesitated to venture. In other words, adrenaline triggered a heightened mental state that gave me the necessary courage to enter places not usually considered safe at night. Therefore when I transferred my art practice across to the virtual environment I was concerned about how the lack of external forces, either in human form, the predator male that causes fear=adrenaline high, or circumstantial form, the random event that causes surprise=unplanned visual
happening would affect the overall creative experience. What did eventuate in the virtual environment where there are no people and unexpected occurrences was an embodiment experience somewhat lacklustre by comparison to that in the physical world. Without those things associated with humanity there can be no life and the city in the virtual environment lack those forces of life that enrich embodied being experience.

3.5 Conclusion

What I have chiefly gained with the transfer of my art practice to the virtual environment, as I will establish next in Chapter Four, is a setting I control in every way, as well as personal safety. Therefore, I find it somewhat ironic that these two reasons will now be the ones that see me return to my photographic practice in the physical world.
CHAPTER FOUR: CONTROL ISSUES

4.1 Overview

In this chapter, I identify the control issues that affect my art production and aesthetic outcomes. In the first instance, I describe the different ways that I am able to control the structural and dressage elements of the City in the virtual environment. Secondly, I outline my control over the temporal conditions in the City in the virtual environment by giving examples of specific situations that pertain to time duration, time saved and time frozen in connection with image making. Finally, I provide a general discussion of control from the perspective of the controlled setting, which I consider is the virtual environment, versus the uncontrolled setting that is the physical world, and ruminate the implications for my art practice.

4.1.1 Control Over the Structural, Dressage, Content and Placement Elements in the Virtual Environment

The built cityscape in the virtual environment is not a fixed entity, and I can change it in any number of ways. I am able to carry out repositioning, rescaling, duplication and subtraction actions on any of the objects. The control that I have over the material attributes of the habitat and its objects favours my creative endeavour on both the production and aesthetic fronts. For example, if a model in the Cityscape is in the way of one I want to record, it is a simple matter of repositioning that model or subtracting it entirely by using the mouse or an Editor to enact that change. In contrast, when I am in the physical world I must accept the environment as I find it, which means that if there is a mundane object such as a parked car or rubbish bin marring the setting that I want to photograph I must accommodate this circumstance somehow. Hence, I embrace and appreciate the control I am able to exert over the structural, dressage and placement elements in the virtual environment. For example, when I decide what layout the City should follow, I can pick any grid system I please, whether circular, oblong, or triangular. As regards content, I can create any architectural style I wish. As regards the visual look across the City, I can apply textural surfacing to create any number of looks, metallic, glass and otherwise.
4.1.2 Control Over the Temporal Conditions in the Virtual Environment

3D computer-generated time is no more than a binary form that I can erase, suspend or transcend. In addition, it does not run sequentially like physical world time, where events unfold in chronological steps. In essence, how I know ‘now’ in computer space is measurable by my user-initiated action. This relates to what Munt describes as “… the participatory event between the user and the computer which emphasizes the present …”145. Because time does not run sequentially in the virtual environment, means that I can set time to run in any order I wish. I am able to predetermine temporal conditions in the City in the virtual environment with Maya’s Sun Light tool (a complete discussion of the use of this tool is in Chapter 6). This tool behaves similarly to the real sun tracking across the horizon. It is able to evoke realistic shifting of light and shadow that mirrors natural world circumstances, as Figures 34 to 37 demonstrate.

Fig 34 to 37: Light and Shadow Shifting over a 12-hour period using the Sun Light Tool (Author’s Technical Picture Collection)

The Sun Light tool is a valuable contrivance when it comes to conducting fall of light and shadows tests in the City, as it can be set to run through numerous lighting scenarios one after another without having to go back and recalibrate the tool after each change. This makes for an efficient viewing experience that, when I have set up the specific temporal conditions, brings the visual results immediately on to the computer screen. What is normally a time-consuming task in my photographic practice in the physical world - because in order to witness temporal changes there I must wait for the passing of time - is not so in the virtual environment, as I can simulate instantaneous temporal

happenings. Hence, world time shackles me to witnessing the passage of dusk, twilight and night, by the second, minute and hour. There is no avoiding this experience if I want to capture on film a site undergoing these temporal changes. The ability to fast-forward time in the virtual environment means that when I so wish I am able to compact into minutes the passing of 24 hours, and in terms of image output this makes it a far more prolific operation because I can produce more in any given period.

Another temporal advantage I gain in the virtual environment is being able to select a moment in time and freeze it. This is not something I can do with world time, and it disadvantages my photographic practice in the physical world, when I have to adjust my working conditions to fit in with the temporal windows that are only open for a certain period. Thus, when I want to photograph a site at dusk and twilight there is only so long I have to take the photograph before the temporal event is over, and if I miss it I must wait another 24-hours before it will happen again. This is a temporal issue that no longer features in my art production in the virtual environment, because I am now able to freeze-frame any period and so halt the unfolding action of time passing in the scene that is being viewed by me on the screen. I am then able to save the scene as an image file that I store on the computer drive to be able to refer back to it whenever I like. In somewhat similar fashion to the character in the film *Ground Hog Day*¹⁴⁶ who relives the same day repeatedly, I experience the same, though in my case I get to pick exactly which day that is. Therefore when I want to relive the dawn light of ‘Shotcopper Temple @ Dawn’ or the nightlight of ‘Shotcopper Temple @ Night’, I just reopen the scene file that contains the temporal event (see Figures 38 and 39). In effect, the digitally manufactured temporal event once converted into an image file becomes perpetual and, in turn, I use it to my creative advantage.

Another favourable consequence of being able to control the temporal conditions in the virtual environment is that I no longer need to use a time-consuming technique that is central to my photographic practice, one I cannot avoid if I want images with a certain visual look. This is the employment of an image-capturing technique involving the long exposure of light onto colour film. This photographic anomaly is known as the ‘Reciprocity Effect’. When used, it causes a chemical reaction on film that results in unexpected colour changes, and the use of this technique can take anything up to 30 minutes or more to complete. The result in terms of image output is that over an evening I rarely end up with more than a half a dozen images committed to film. The reason why it is so important to carry out this technique is that it produces exactly the sort of dense film negatives, i.e. intense contrasts between dark and light areas, that I require to make photographic prints of a certain kind. For example, one of these could be a print of intense colours offset by deeply sooty shadows and vivid light that scallops, squeezes between and ribbons over the entire image surface. However, since the transfer of my art practice to the virtual environment this specific photographic operation has now become superfluous. I can simulate similar photographic anomalies with the Sun Light tool. This favours my art production in two ways: I gain time that I am able to utilize in other art production tasks, and I increase image output.

In summary of the above, the principle reason to record the City in the virtual environment at dusk, twi- and night-time rather than daytime is to fulfil a predetermined aesthetic agenda. This is to realise a visual look close to what I manage in my colour
photographic works of the City in the physical world, and I believe this agenda has been fulfilled, as Figures 40 and 41 demonstrate. The temporal conditions of the image on the left have been set up using the Sun Light tool, and the temporal conditions of the image on the right have come about from the natural light and street lighting on site. Though two different image-capturing techniques have been employed, they result in similar visual appearances.

4.1.3 Creative Experience in the Controlled Setting Versus the Uncontrolled Setting

Additionally, I shall discuss one other control issue by way of conclusion. This pertains to my working in a controlled setting, what I can also define as a closed system, which is the virtual environment, as against my working in an uncontrolled setting, or what I can also call an open system. In a comparative analysis, I will discuss how either being in control or lacking control over the environment influences my overall creative experience.

The virtual environment where I conduct my art practice is a closed system by virtue of the fact that it neither accessible via a public network nor by any other individual except myself. It exists on the hard drive of my personal computer, and individual cities that comprise the virtual environment take the form of image files that only I have permission to open up and thereafter alter in any manner I wish. Thus the City in this context I regard as a controlled environment, because everything therein and any event that happens therein I can predetermine. The consequences for my art practice of
working in a controlled setting versus an uncontrolled setting are that: It affects how I approach image capture, in a leisurely or tensely anticipatory manner; it affects my image output; and it affects my overall creative experience, either predictable or spontaneous.

To expand, the first point above, from an image capture perspective I have a decided advantage when in the virtual environment because I can control time unfolding. The ability to do this is very useful when, for example, a recording session is interrupted just at the exact moment when all the elements are in place to get the perfect picture. In the physical world, such a distraction often results in missing shooting a great photograph, whereas in the virtual environment the passing of such a moment is reversible. I can return to it using the ‘redo’ command in Maya’s module menu bar. By way of comparison, the opposite applies in the physical world, where of course I cannot control time because of the fact that it stops for no one. This places me under pressure to commit to film there and then that wonderful photographic moment, which I will miss otherwise. If this happens, which it does frequently for one reason or another, then I must revisit a site in the hope that those exact conditions arise again. However, a return does not guarantee that I will find a site exactly as I left it. Often, some element in the overall scene alters between return visits to a favourite inner city haunt, whether structural such as newly erected scaffolding around an architectural edifice, or fresh graffiti splashed across that specific urban frontage that anchors all else. Hence, image capture in the virtual environment is a considerably more relaxing operation in comparison to the same in the physical world, where it is most definitely a more fraught and tense experience.

In expansion of the second point above, I noted earlier in the section pertaining to time and temporality, there are art processes that I no longer need to execute in my art practice in the virtual environment. The time I save in the virtual setting because of not having to undergo certain time-consuming tasks I can use instead to increase my image output.
In expansion of the third point above relating to the predictability or spontaneity of my art process, the fact that the virtual environment is a closed system and one that I solely control makes predictability a part of art production. Hence, the ability to predetermine all things that come in and unfold in the City in the virtual environment pervades my overall creative experience. As time goes on, I am less enthralled and less enthusiastic about working in a setting that I can control on so many levels. In contrast, in my photographic practice in the physical world, the very fact that I cannot control what enters and unfolds in a place means that my overall creative experience becomes one that is random rather than predictable as it is in the virtual environment. Certainly, the lifeblood of my photographic practice maintains a constant state of invigoration through external interventions on site that provide some of the most unexpected and extraordinary photographic opportunities. For example, I was on location under a motorway flyover in Glasgow one evening when a gang of workers arrived on the level above me. They closed down an entire strip of motorway to all traffic that spanned the Clyde River and beyond; an event that in itself is so rare I could not believe I was lucky enough to actually be there to take advantage of the situation. With a series of blowtorches, the men began welding the metal railings. It was one of those ‘pure gold cliché moments’ in my life when I happen to be in the right place at the right time to get the perfect pictures. The workers inadvertently provided me with a ‘light fantastic’ show equal to any of the truly great fireworks displays that hail in the New Year. I was able to capture this on film, and over a few hours the main body of City Zones was born, a compelling set of colour photographic stills that depict the glorious pillar forests that underpin the Kingston Bridge. The hot amber and red sparks from the blowtorches splash down below to where I stand with a camera on tripod. Like so many snowflakes, fire instead of ice, they illuminate the underbelly of the bridge and embellish the stands of concrete support bolsters with painterly marks. The motorway pillars are transformed from bland functional slate tubes (Figures 42 to 44) to resemble something closer to the majestic columns found supporting an Egyptian temple gateway. It is an evening like this that makes working in the winter months in sub-zero temperatures in dangerous situations worthwhile.
The anticipation I feel when I am about to embark upon a photographic session in the City in the physical world causes a visceral-like energy to thrum right through me. The same excitement has not resulted in the act of recording in the virtual environment because all that imbues urbanity with life is not present here. Hence, I have to concede that when I practice my art in an environment that I cannot control it makes for a spontaneous creative experience, and when I practice my art in an environment that I can control it makes for a predictable creative experience.
CHAPTER FIVE: MEDIA EXPERIMENTATION

5.1 Overview

In this chapter, I will undertake a brief history of my fine art practice that pertains to my media experimentation over the past two decades. It also serves the purpose of providing an explanation of why I have chosen to make the City the primary subject matter for depiction in the vast majority of my artworks. I follow this with a short discussion about the latest medium transfer to 3D computer graphics. I reflect upon my motivation to become conversant in digital art production methodologies.

5.1.1 A Brief History of Past to Current Medium Experimentation

From the outset of my artistic career I have wanted to gain modus operandi proficiency in a variety of media platforms, because I always enjoy learning a new art process. My desire to depict the subject matter of the City reignites at each medium changeover because it opens up fresh conceptual and visual directions to pursue. The first medium I explored was printmaking, and I transferred line drawings of the City onto lino and metal plates. After this, I produced a series of collages, sourcing my own and found figurative and urbanscape photographs that I cut out and paste together to make the singular image. Once a collage was complete, I would transfer it onto a silkscreen for the production of colour silkscreen prints.

Parallel to my artistic exploration in printmaking I cultivated an interest in black and white photography that eventuated in my spending much of my time out in the City taking photographs of all manner of urban locations. I received training in darkroom procedures and began to develop my own prints that I used to produce a series of monotone photomontages (Figures 45 to 47). As can be seen, this work actually contains a figure on an urbanscape background, and in fact is one out of only three series over my whole art career that includes figurative elements. The other two are the ‘Persona’ series and the ‘Dream Frame’ series (see Figures 48 – 50 and Figures 51 to 53).
Once I had explored printmaking to my satisfaction, I completely abandoned it and focused solely on art production that utilizes photographic and associated filmic materials. This led me to work in a studio work with the human model, whilst at the same time I kept up my outdoors location photography of the City. This culminated in the ‘Persona’ and ‘Dream Frame’ series, which each consist of approximately 30 images on slide film that I projected by slide projector on to sculptural surfaces in a black room setting.

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147 The photographic equipment I utilised at this time was a 35mm Pentax K1000 camera and Kodak slide projector.
For a very short period of time I engaged with the medium of painting to undergo the experience of producing larger-than-life painted backdrops of the City (Figures 54 and 55), done for purely practical reasons, because it is a medium type that can be easily hung in settings where traditional picture hanging equipment is not always readily available, such as warehouses and outdoor locations that I was working in at the time.

5.1.2 Exhibition Experiences in the Gallery and Public Domain Settings

It was in the early 1990s when I began to show my artwork in a mix of sites that were used to provide dance music. After participating in a few of these events, I began to question the placement of my artwork solely in a gallery setting, which I discuss shortly. This resulted in my decision to display my artwork away from the traditional gallery
space. I came to embrace the idea that the artwork itself was no more or less important than the place itself in which it was seen. In other words, one comes to inform the other, and the choice of environment now informs the type of support I use to depict the content. This consideration has shifted my artwork from the genre of Fine Art Photography to reside now under the genre of Public or Environmental Art. I went on to create combination figurative/city light installation pieces that involved projection on to 3D shapes I had selected and which were seen in the more atypical venues. These ranged from a surface cave on the Yorkshire Moor, open-air underbridge tunnel in a closed railway station, an abandoned primary school squat and a private house party where a room was set aside for me to alter, which I referred to as a ‘Luminous Lounge’ (aka ‘chill-out room’). Consequently, my withdrawal from the gallery circuit resulted in my spending the next five-year period that ended in 1997 proactively placing my artwork anywhere except in the standard white wall gallery setting.

The move back to the gallery in 1998 was undertaken for two primary reasons. In the first place, the lack of serious constructive criticism that I received in the club scene where the vast majority of my artwork was shown motivated this decision. It is the case that the viewing audience is there first and foremost to see the D.J. perform and to dance, therefore any artwork in the environment is seen as little more than a sideline attraction. As a result, I desired a return to the type of venue that would activate feedback from my peer group of fellow artists and those associated with the broader arts fields, which meant a return to the gallery circuit. In the second place, I was evolving a new body of artworks using medium and large format film cameras that result in large-scale colour photographic artworks, which require the white walls of a gallery environment to be seen in the best possible light. Additionally, I wanted these latest images of the City to be the main attraction. In the club setting, my visual offering was simply yet another thing that the audience noticed in passing, because it was competing with other visual and auditory products from video to computer projections to dance music.

With my focus then back on producing artwork for the gallery setting and with a passion for colour photography, I chose to undergo intensive training in colour chemical
darkroom procedures, to gain the necessary technical skills to be able to develop colour negatives and produce colour photographic prints from them. The collection of images that emerged from the darkroom I entitle ‘City Zones’. The first public exhibition of these artworks was undertaken in 1999, at my final year degree show. Thereafter, I set up a fine art studio and attempted to enhance my professional standing as a fine artist, where I continued to fully commit myself to the photographing, processing, printing and exhibiting of colour photographic prints that depict the City. I created a further two phases to the City Zones collection over the following two years. In 2002, I started a new project using 3D computer graphics to learn and explore the potential of a new medium.

As a concluding observation, I can say that I find the potent duplicitous nature of the City is a source of constant fascination to me. The brooding, compelling, inviting, disturbing, repugnant, and seductive faces of the City make it a subject matter worthy of pictorial immortalisation, because it proves to be an inexhaustible treasure trove that, no matter how often I plunder it, is never enough. The City tantalises me to go back for more whenever I catch a glimpse of yet another of its faces, and I lay claim to the City through image capture. My method of extraction uses disparate media that result in City artworks made on all manner of mediums, from the silkscreen print and light installation to the colour photograph. Each artwork is a visual narrative of my arrival at, what I refer to as an in between zone in the City (Figures 56 to 61).

Figure 56                                    Figure 57                                    Figure 58
City Zones I                                City Zones III                              City Zones I
Pale Lime Way 48” x 58”                Pagoda Ridge 30” x 40”                The Hilton 30” x 40”
Medium: C-Type Print                  Medium: C-Type Print                   Medium: C-Type Print
© S. Bell 1999                            © S. Bell 2000                        © S. Bell 1998
5.2 Becoming Conversant in the Arena of 2D/3D Computer Generated Graphics

My desire to make a substantial body of artwork about the City on the computer was already in place back in the mid-1990s; however, at the time my computer literacy was at a basic level. This necessitated the acquisition of operating system knowledge and familiarity with a range of 2D and 3D graphics software programmes, which I achieved over a two-year period by attending night school. Later I was able to buy my own personal computer and associated hardware peripherals for my fledgling fine art practise studio business that I set up in 1999. Having my own computer enabled me to increase digital art production from a spasmodic to daily activity, and I quickly became proficient in this medium. Nevertheless, my computer-mediated endeavour did continue to remain a sideline to my professional fine art photographic practice for some time to come. It was not until my relocation to Australia from Britain for the sole purpose of undertaking PhD by Project research in 2002 that the opportunity to focus solely on making art using computer graphics methodologies opened up. My return to Australia and postgraduate study was made possible by winning an Australian Postgraduate Award, which in turn made it possible for me to take my digital art practice to another level: from a part-time activity limited to playful experimentation in such applications as Photoshop, Illustrator, InDesign and Cinema 4D, to full-time artistic engagement in the 3D computer graphics application Alias Wavefront Maya.
It required concerted mental effort to grasp complex 3D concepts and then apply this knowledge in practice so that I could make a start on fulfilling the aims and objectives of the project component of my PhD. This was to construct a number of cityscapes in the virtual environment and thereafter record them and create artworks using different media for the purpose of exhibition in a gallery setting. In the first instance I sought to become familiar with Maya's individual module features and tool set functionalities, which was an effective operational procedure to undergo because it gave me a broad enough understanding of how the application works, and I could then get on with the task of modelling, shading and texturing, lighting and camera operation, and rendering. My early experimental attempts in Maya resulted in the construction of my first virtual cityscape, and over the remainder of this PhD by Project another half a dozen cities joined the first. I have come to understand that, like the cities I photograph in the physical world, so the cities in the virtual environment possess their own unique visual personality that I gradually get to know the longer I walk, so to speak, the cyber streets. As Figures 62 to 64 show, the City in the virtual environment proves itself as mood-riddled as the physical world counterpart when image capture is done under low light conditions.

Figure 62
City Prison 20" x 24"
Medium: 3D CG Print
© S. Bell 2002

Figure 63
Flat City 30" x 40"
Medium: 3D CG Print
© S. Bell 2004

Figure 64
Steelyard Blues Underpass 48" x 58"
Medium: 3D CG Print
© S. Bell 2003
CHAPTER SIX: The Creation of The City in Maya

6.1 Overview

In this chapter, I outline how I use the application Alias Wavefront Maya, which is widely employed in the creative industries for 3D modelling, animation and effects. I begin with a brief introduction to the programme user interface (UI), shown in Figure 65. I follow this with a general appraisal of the art production schedule I adhere to for the completion of the City in the virtual environment. Thereafter I provide in-depth descriptions of each module area and the tools I wield, which cover Pre-production; Modelling; Shading and Texturing; Lighting Set Up, Arrangement and Operation; Camera Set Up, Arrangement and Operation; Rendering and Post-production. I close with some concluding remarks about the learning experience made possible using 3D computer-generated graphics.

Figure 65 Maya User Interface
(Author’s Technical Picture Collection)

6.1.1 General Appraisal of Maya User Interface

The primary menu that enables the selection of the aforementioned module areas is located in the top left hand corner of the UI. Once the individual module has been selected, the associated tools and sub-menus immediately appear on the UI. The UI also displays the six most used tools, which are also mapped to six keyboard buttons.
grouped together on the keyboard. The keyboard buttons are QWERTY, and select the following tools: Q - Select/Lasso (selects objects in freeform manner); W - Move; E - Rotate; R - Scale; T - Show Manipulator; Y - If there is an icon in the box it indicates the last tool used (see Figure 66). To edit an object, this can be done either with the UI default QWERTY tools or other tools accessible via an Editor. In addition, the UI also provides a number of viewports, also referred to as workspaces: each individual workspace can be divided into several panels, and each panel has a different function and its own pull-down menu. Also found on the UI is the Status Line that contains shortcuts for a number of menu items as well as tools for setting up object selection. When scenes become more complex, the user can pick these buttons to make it easier to select specific components. At the bottom of the UI are the Time/Range Sliders where the key frames and animation are set up, the Command Line that allows the user to enter simple MEL (Maya Embedded Language), and the Help Line that gives short descriptions of tools as the user scrolls over them. Maya enables the user to view the UI workspaces through virtual cameras, and there are four default cameras: three of these are orthographic, which just means they are locked to front, side or top views, and the fourth camera is a perspective camera. The user can also set up custom-made cameras and choose their own view. Finally, when an object is placed in the scene Maya automatically positions it on the Cartesian x, y, z grid at the Origin point, which is defined as 0,0,0, and this is where I begin my city building (see Figure 67).

Figure 66: Tools selected by QWERTY Keyboard Buttons
(Author’s Technical Picture Collection)  
Figure 67: x,y,z directional arrow at origin point
(Author’s Technical Picture Collection)
6.1.2 A General Appraisal of the Art Production Schedule

I follow an art production schedule when I work in Maya that begins with pre-production preparation involving sketching out ideas and, ends with post-production tasks involving the printing and mounting of earlier image files recordings for exhibition. Therefore, at Stage One I carry out pre-production tasks, and anything to do with the new project is written up in my sketchbook. Stage Two involves the Modelling Module tools, which I use to build urban props and environments in the scene. After this labour I work with the Rendering Module tools that involve Stages Three, Four, Five and Six activities: these are shading and texturing objects, lighting and camera selection and set-up, and the rendering of the scenes to result in images files. To start with Stage Three endeavour, this involve shading and texturing of objects that as a process adds surface elements to the models, such as colour, transparency, shine, bumps, reflection and image maps. This surfacing, known as a material type or texture, will determine how the object shades. At Stage Four, lighting arrangement and operation take place, which involves lights being added for the purposes of both illuminating the scene and setting the mood. At Stage Five, the selection and setting up of different camera viewpoints is undertaken. At Stage Six, the rendering of still frames is carried out: simply put this is the process of creating an image file from all of the 3D data. Finally, Stage Seven involves all post-production tasks, where working in 2D programme Adobe Photoshop any number of alterations to an image are made in order to prepare the images files for print/projection output and exhibition. I now outline more comprehensively the seven key stages.

6.2 Stage One: Pre-Production

Before I start any art production in Maya I always undertake some pre-production planning: however, I do not do sketches or storyboarding, which are often the standard documentation a 3D Designer produces. Instead, the information I collect that pertains to the creative project goes into a sketchbook where I note popular cultural, wider arts
and photographic influences, literary references and reviews. Other data includes favourite online sites where I get 2D/3D computer graphics tutorials and other artists’ images, in addition to my own visual experimentation. I also write lengthy accounts about the evolution of my behind-the-scenes concepts and more specific recordings of any problems I encounter with the latest work in progress. My sketchbook entries also serve another crucial purpose to record and track: the inception an idea, the sequence of art processes that are undergone to make an idea into the material type reality, and how I go about showing the artwork that has evolved from an idea.

At the current time of my writing this account I now have a total of eight sketchbooks, two of those pertaining to this PhD by Project, which trace my creative output over the past two and half decades. I consider the work I undertake in the sketchbook to be an integral aspect of my art practice, and I direct as much attention to the completion of this documentation as I do to actual art production. In terms of the time I spend making entries in my sketchbook, this is almost equal to the time I spent in image generation, research and Exegesis writing, and exhibition preparation.

6.3 Stage Two: The Different Modelling Methodologies Used to Build Models in Maya

I begin a new cityscape project in Maya’s Modelling Module, and it is here that the tool sets to custom-build any architectural, organic and character model are found. The building blocks that comprise a model are bought into existence using a mix of Polygonal, NURBS (an acronym for Non-Specific Rational B-Splines) and SubDivision modelling methodologies. Illustrative examples of Polygonal, NURBS and SubDivision building blocks are shown in Figures 68 to 70. The ‘Polygonal Modelling Methodology’ uses the polygon to build a model that is a flat surface made up from a number of points (vertices), usually up to four, when connected to each other become the three or four-sided polygon face. The single polygon face can be attached to another polygon face along its polygonal edges, and become the model surface. The fewer

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148 Please refer to Appendix A for all sketchbook entries that pertain to the creative art practice project.
polygons the less complex the surface is and vice versa. When I need to create a basic model, I use the polygonal modelling methodology.

![Polygonal Modelling Method](Author's Technical Picture Collection) ![SubDivision Modelling Method](Author's Technical Picture Collection)

If I need to construct a model with a combination of curved shapes and lines, I select the 'NURBS Modelling Methodology'. As mentioned above, NURBS stands for Non-Uniform Rational B-Spline, and its geometry is based on curves. The primary tool used is the spline tool (Figure 71) that provides the control vertices (CVs) that make possible a line (think string) running between the CVs. This line is called an isoparm and a number of these isoparms will be used to form the skeletal frame of the NURBS model. The isoparm can also be designed to simulate all manner of lines: wavy, spiky, straight and curvy, simply by adding more CVs and moving these around until the required result is reached. Once the skeleton of the model is in place, a skin is needed to fill in the gaps between the isoparms and this is created using the planar tool. The process undertaken to arrive at the completed NURBS model can be likened to the real world equivalent process, the riveting of flat metal sheeting onto the steel beams structure.
I also choose the NURBS modelling methodology when I need to deform a model, because it provides the tools to take a basic model and convert it into a more complex one, (i.e. with increased geometric dimensions) instantaneously. The range of NURBS deformation generator tools (seen in Figure 72) make possible all sorts of different shaped models (seen in Figure 73). By way of example, in Figure 74 is an oblong shape that has been altered into a twisted shape (Figure 75) using one of the deformation generators. Additionally, the NURBS modelling methodology, once all construction is complete, allows me to convert a NURBS comprised model back to a polygons comprised model. This is advantageous at the rendering stage, which I describe later in this section, because the polygonal comprised model requires far less computational processing time than the NURBS comprised model.

The ‘Subdivision Modelling Methodology’ enables the alteration of one surface face, in that the user is able to take the singular polygonal surface face and subdivide it over and again, to make multiple polygonal surface faces. This results in the original model's basic polygonal geometry converting into complex polygonal geometry that in turn produces an organic looking model, because the more numerous the polygons, the
smoother and rounder the model becomes. One disadvantage of this modelling methodology is that it produces a model with a much higher polygonal count than a model produced using either polygonal or NURBS methodologies. In turn, the computation process undertaken by the computer also increases exponentially (e.g. the higher the polygon count of the individual model, the takes longer it takes to render it out on the UI). Nevertheless, I often choose this modelling methodology over the other two, because I prefer the smoother looking finish of the SubDivision model. Another reason why I like this modelling methodology, is that it enables the blocking out a crude model, also referred to as a proxy. This proxy can then be judged on whether it looks right and whether it fits into a designated area before undertaking additional modelling to bring it up to production level quality, which saves many hours of work. Through my experience of using SubDivision modelling methodology, I have learnt that the time I gain in one area (e.g. proxy building) I will generally lose in another area (e.g. greater computation time), nevertheless, I am willing to use this methodology because it provides the desired aesthetic outcomes.

6.3.1 General Preparatory Tasks Involved in the Modelling of the City

When I undertake the modelling of the City, this commences with the construction of individual buildings and other architectural edifices such as bridges and motorways. Afterwards I make random models, like streetlights, parking meters, and billboards, those objects that one would expect to find in the typical urban landscape setting. However, before I even begin any modelling I must save each newly-opened scene to the hard drive and attach a title that clearly identifies the scene file model type, which is useful when one has many park benches, for example. I title them in the following manner: parkbenchroundback, parkbenchsqreback, parkbenchslatback, and so on. My implementation of ‘save as’ and ‘naming’ protocols helps keep in order the hundreds of assets in the form of data files that I accumulate in any one project. With a good organisational framework in place, I keep a track of all the various object, animation and texture data files that now exist in various library databases on my computer hard drive that I have constructed over this PhD by Project period.
Once I begin a modelling task, where possible I prefer to open up a new scene and only construct one model therein. Once the model is complete, I name the scene wherein it now exists and save it to the hard drive for recall at a later stage. I prefer each model to remain in isolation from another until I have the full collection of individual models, and only then will I copy and paste each one into a master scene. This makes for a more efficient workflow while I am establishing a new City, as the scene I actually model in remains relatively uncluttered, because I am not trying to model more than one object at any one time. When I transfer the models into a master scene they are positioned street-by-street onto a pre-existing ground plane layout I have decided upon earlier, which is generally circular or rectangular. My preferred placement method is to begin at the point of origin (0,0,0) on the Cartesian grid and then work out from there. When this task is finished, I may add other embellishments such as gargoyles, cornices or edgings onto the individual buildings that comprise the City. A plethora of other objects, such as street lamps, traffic lights, park benches and rubbish bins, are also added into a scene. I am able to draw on the resources of my own personal category libraries (Figure 76) that consist of some few hundred assorted objects. For example, in the Building Models Library is found the office block, cathedral, mausoleum, theatre, museum, coffee shop, factory, and so forth. And in the Random Object Models Library there are arches, bridge underpasses, metal railings, stairs, fencing, interior and exterior furniture, light fittings and other everyday objects (Figure 77).
By default, all urban objects at this stage of the production process are seen in the UI viewport, with a grey surface cover, to help visually understand the nature and shapes of the 3D models being built. The models can also appear in wireframe mode, as Figure 78 illustrates should I decide to choose this specific viewing mode in the UI. Once all modelling is complete, I exit the Modelling module and select the Rendering module, where I begin shading and texturing tasks.

![Figure 78: Shotcopper City Wireframe Mode (Author's Technical Picture Collection)](image)

### 6.4 Stage Three: Using the Rendering Module Tools to Apply Shaders and Textures to the Models

The next stage of art production in the virtual environment is to add surface attributes to the models that comprise a cityscape. This endeavour is done in the Hypershade Editor located under the Rendering Module (Figure 79). This Editor provides tools that allow me to manufacture new material types, manipulate existing material types, and change how material types are applied to surfaces. On opening up the Hypershade it shows a window with pull-down menus, a row of buttons that primarily indicate how the editor is organized, and the Create Bar where 2D/3D material types can be activated. Additionally, to the right of the Create Bar are two shelves, one on top of the other. The top shelf is where Maya automatically places the material type I have chosen from the Create Bar 2D/3D shader library or from my own personal material library that I store on the hard drive. The bottom shelf is where I work on the material type that I bring down
from the top shelf when I am ready to make changes to it. I perceive the top shelf to be my material storage bay, and the bottom shelf to be my workbench where the transformation of the material type happens.

At the outset when I first came to Maya, I needed to learn about the unique nature of the material type in this application because it differs somewhat from the material type of other applications. To explain, many other 3D applications require the user to create the new material type from scratch and define its attributes, whereas Maya does this for the user. The application conveniently provides five material types and each of these material types possess editable attributes. Therefore, I am able to get on immediately with the job of adjusting the baseline attributes channels of the existent material type rather than wasting time building a new composite material type. Maya provides five default material types: Lambert, Blinn, Phong, PhongE and Anisotropic. Each is differentiated from the other by how the specular highlight behaves (see Figure 80). By way of example, Lambert has no specular highlight and Phong has a specular highlight, so if I want to apply a matte look to a model surface I assign it a Lambert material, whereas if I want to apply a metallic look to a model surface I assign it a Phong material, and so forth.
I am able to manipulate the individual channels of the material type in its own Attributes Editor (See Figure 81). For example, I can alter colour, transparency, incandescence, bump mapping, diffuse, translucence, special effects and matte opacity attributes of the material.

This makes it possible to increase the bump intensity to give a grainy surface, or cause a colour gradient to run from top to bottom of a surface, or to add luminosity just to the edges of the material type. In addition, the incorporation of a texture (which in Maya refers to an actual image such as a digital picture or scanned photograph) will help to refine or explain the attribute of the material type. By way of an example, if I want to place a carpet in the scene I do not attempt to recreate it from the ground up, but rather incorporate a photographic image of a carpet into the appropriate attribute channel. When I transfer the material onto a floor plane, this reflects back an exact replica of the carpet image.
Once all tasks associated with the compilation of new materials in the Hypershade Editor are complete, I undertake one final stage, which is to apply these materials to the range of models that comprise the City. The correct placement of the material type onto a model is made possible by the presence of UV coordinates on its surface, which are the values along a 2D coordinate system for width and height. Maya reads these coordinates as it would a map; only this map contains the shape and contours of the model surface. From this reading Maya is able to determine how it will attach colour, image and other information to the surface. The end result of my shading and texturing endeavour is a series of models covered in an assortment of material and image maps, as shown in Figures 82 to 85.

Figures 82 to 85: Maya’s Hypershade Editor tools are used to shade and texture the City
Top Left: Desert City Top Right: Spooked Ice City: Lightwave Chambers
Left Bottom: Shotcopper City: Shotcopper Circuit Right Bottom: Black Flame City
3D CG Print 30”x40” and 48”x58”
There are two other quintessential activities, as relates to the arena of shading and texturing, which I undertake that do not involve using the Hypershade Editor. One involves the collection of existing textures from external sources and the other the making of new textures using Photoshop. The first activity is the retrieval of textures from online sites that offer them freely, and in any one session on the Internet, this necessitates my scanning hundreds of category-specific libraries over many hours to locate some dozens of image files that I download into my own personal material library. The materials in this library I sort out and place in subject-specific folders for future retrieval, and each houses dozens of texture maps of the one subject matter. These folders include image maps of water, metal, wood, fur, clouds, landscape backdrops, patterns, tiles, brickwork, windows, doors, coins, grass, mirrors, and chains (see Figure 86), to name but a few. For example, one such folder will contain dozens of landscapes, from desert and woodland to tropical jungle. When I want to look at what individual image files I have in a subject-specific folder I bring it up on the UI under the Browser menu that displays all the images in that folder in thumbnail size versions, as exemplified in Figure 87. This makes possible the viewing of many images at once, and I rapidly scroll through the collection until I find the one I think best suits the model to hand.

Figure 86: Subject Library
(Author’s Technical Picture Collection)

Figure 87: Textures Browser Window
(Author’s Technical Picture Collection)
The placement of the material onto the model affects in real time the immediate change undergone by the model, and this is seen on the UI: by the same token I can reverse the process if I do not like the material and remove it instantaneously at the click of the mouse button, then repeat the entire process again. In Figure 88 can be seen a range of texture maps, from water to glass types, that I apply to the same shell. The test run being useful to see how well a texture map shows up against another.

![Figure 88: Assorted textures applied to a shell object (Author’s Technical Picture Collection)](image)

The second activity involves the creation of my own texture maps so as to avoid the ‘canned texture look’, which means the material type instantly recognisable because it is so widely used in other 3D productions. When I set out to compile a custom-made texture map, I use the 2D application Photoshop, as it has suitable editing tools for exactly this sort of undertaking. I generally garner source material from my own considerable stockpile of photographic prints, which includes my City Zones colour photography collection, which depict all manner of urban architectural edifices and façades (See Figure 89). In fact, the reappropriation and recontextualization of images from past projects into the current PhD project endeavour replicates earlier art production processes where I merged images from one collection with another and one medium with another, out of which comes an entirely new body of artworks. This is exemplified by the cases of the ‘Angel in Ruins’ series and the ‘Persona’ series, where I take monotone photographs of a city from one project and use them as backgrounds on which I place figurative elements to form additional photomontage and light installation artworks in a new project (See Figures 90 and 91).
Out of all the shading and texturing tasks that I undertake in Maya I particularly enjoy the making of new materials in the Hypershade Editor and the conversion of my own photographs into texture maps in Photoshop. I set aside considerable time to be able to experiment at my leisure in both arenas. I now have a personal material library that comprises dozens of textures maps I devised in Photoshop from my own photographs, materials I created in the Hypershade Editor, and found images from online site. This library is the principle resource I draw upon for most of my shading and texturing needs.

I find my own photographs of the physical world cities are ideal textures to transpose across into Maya as image maps for use as simulations of the ‘real thing’ (my emphasis). To explain, if there is a need to create a thousand-window office block, instead of setting out to model these windows and attach them to the foundation model I can bypass this modelling operation entirely in the following way. I select a pre-existing photograph of the same subject matter from my own City Zones collection and embed it as an image map into the material type via the Attributes Editor. I then position the material onto the four-sided walls that comprise the building, and I now have a thousand-window office block without any additional modelling work being done. This type of texturing operation is common to 3D production, and I employ it in all sorts of
ways to create the illusion of something being there when in fact it is of course not. I am able to efficiently simulate a model that to all intent and purposes looks incredibly complex. I can apply depictions of Corinthian pillars and doors fit for a palace, elaborate cornices and trims, and even an ancient Roman mosaic floor to the surfaces of a model. The skilful tiling or scaling of a texture map and its correct projection onto a model can transform the bland surface into a sumptuously textural one. Not only does one achieve some stunning visual outcomes, there is also the liberation from the task of modelling absolutely everything in the virtual environment from the ground up.

When I reach the stage where the City is ready to have materials and texture maps introduced, I utilize either of two application methods. One method fast tracks the whole process and the other method consumes large blocks of time. The first method involves blanket covering a block of buildings in the cityscape with the one material. The second method involves the placement of a variety of materials on the one model and repeats this process over and again until all buildings in the city present a different material surface. I cannot say that I favour one method over another, and my tendency is to switch between the two ways of texturing until one delivers an aesthetically pleasing cityscape, and then I stick with that for the project duration. By way of example, to texture Docklands (Figure 92) I use one material and blanket-cover the entire cityscape, whereas in the case of Dominion Bridge (Figure 93) I apply a mixture of materials in a random fashion over any number of buildings throughout the cityscape.
Shading and texturing the City in the virtual environment gives it a distinct visual personality; however, it does not imbue it with the ‘urban panache’ that is clearly present in the physical world city. What exactly do I mean by this? I attempted to answer this very question some years ago in one of my sketchbooks:

I have found on the blandest façade all possible beautiful marks, and signs, these logos of human intervention that brand one concrete pillar and peel it away from the thousand other identical pillars. The pillar catches my eye, it compels me to capture on film those brushes with humanity.

On rereading these words, I began to wonder whether the introduction of such elements in the City in the virtual environment would help to establish its specific ‘urban panache’. At the time I wrote the above words I believed that if I added graffiti, gang member signatures on the walls, washed-out peeling posters, Banksy-type fading stencils149, and grit/grime effects, I could achieve an urban authenticity. I now seek to raise the same level of enthusiasm I possessed about photographing the City in the physical world to the recording of the City in the virtual environment. Accordingly, in this PhD creative practice project I have applied all manner of image maps to simulate the effects of human intervention that I believed at the time contributed towards the ‘urban panache’ of the City in the physical world. However, I ended up with the City in the virtual environment looking like an overdressed department store window display. On every corner was an urban artefact cliché, and I hated it. Shortly afterwards, I stripped back the City to its core material and by eliminating any obviously recognisable iconography that could suggest human intervention I was able to recognise that this was the ‘urban panache’ of the City in the virtual environment. Thereafter, it became a question of emphasizing the absolute lack of human presence and not the other way around. I now strive to emphasis the plasticity, the artificiality, and the sterility of unmarred looking surfacing that comprises the City in the virtual environment, to make visual narratives that speak only of the environment and nothing more.

I exercise restraint when I work in Maya’s shading and texturing module because it offers such a veritable smorgasbord of textural choices. I find the adoption of a

149 Banksy is a well-known pseudo-anonymous English graffiti artist. He is believed to be a native of Yate, near Bristol and to have been born in 1974. His street art combines graffiti writing with a distinctive stencilling technique. His art has appeared in cities around the world.
minimalist approach works well, as can be seen in Spooked Ice City where the entire surfacing is done with only one colour opaque glass material. Yet, it still results in areas looking distinctly different from each other, as can be seen in Figure 94 and Figure 95. Another example of this is seen in Shotcopper City, which I cover in one texture map of a photograph of old rusty tin sheeting part-painted in fading white and blue paint. This causes three colour gradations and random grainy patches across the cityscape which result in several different visual finishes, shown in Figures 96 and 97. Maya makes possible, through the provision of a veritable palette of tools, different ways to make new textures and I enjoy exploring the options to the point that I am always reluctant to move onto the next stage.

Fig 94: Spooked Ice City: Abandonment Tower
20” x 24”
3D CG Print 2004
© S. Bell

Figure 95: Spooked Ice City: Data Compound
20” x 24”
3D CG Print 2004
© S. Bell

Figure 96: Shotcopper City: Seeping Shadows
48” x 58”
3D CG Print 2005
© S. Bell

Figure 97: Shotcopper City: Temple Precinct
20” x 24”
3D CG Print 2005
© S. Bell
6.5 Stage Four: Using the Rendering Module Tools to Select, Operate and Arrange Lights in Maya

How I execute the lighting of the City in the virtual environment is the central topic of discussion in this section. I shall introduce the principal tools that I use to control and adjust the lights that illuminate the environment. This includes the lighting arrangements, types of lights and lighting effects. To conclude, I elaborate upon those conceptual and aesthetic issues that pertain to my choice of a low and night lighting ambiances in the environment.

In Maya there is a wide range of tools for measuring and arranging light under the Rendering Module, where there exists a library of several light types, also referred to as simulated light sources. The light types are ambient light (light which is everywhere); directional light (many rays of light that run parallel to each other); point light (light emitted in all directions from one source point); spot light (light that is thrown only in the direction the spot light sends it); area light (a square-shaped wall of light); and volume light (light with fall-off, that goes no further than the last object within its sphere of influence). When a light type is selected, the user is taken into the Attributes Editor (Figure 98) where one is able to define how the light works and alter it accordingly.

![Figure 98: Light Attributes Editor](Author's Technical Picture Collection)

The Editor is divided into specific Attribute Categories common to all light types in Maya. The categories are Light Attributes, Light Effects Attributes, and Shadows Attributes. In the category Light Attributes, the user is able to pick or change the type of light, alter its
colour, intensity, light falloff (also referred to as decay) and shape. In the category Light Effects Attributes, the user is able to define volumetric or visible light and lens flares. In the category Shadows Attributes, the user can select the type and colour of shadow the model casts, among other things. In addition to these are two other Attribute Categories, the category Depth Map Shadow Attributes, where the production of soft-edged shadows with constant colour/transparency is made possible (although they look less realistic), and secondly the category Raytrace Shadow Attributes, where soft shadows with varying colour/transparency are made possible (and also look more realistic). Beyond the standard adjustments that can be made to a light type, there are methods for applying other special effects. For example, any number of lens effects onto a light, which will make it glow like a candle or appear as a cascading fireworks explosion, or appear as a multitude of tiny light points that on a black background simulate perfectly a star-studded night sky (for examples see Figures 99 to 101). Other lighting effects include a light that simulates natural occurrences like lightening and fire, or light reflections found on the surface of moving water, and so on. These more unusual lighting effects are not ones which are normally a part of my lighting repertoire, nevertheless are worthy of a mention because on the rare occasion one of them does produce just the right lighting ambience.

Getting the lighting just right is an ongoing concern of my art production in the virtual environment, for the following reasons. Good lighting reveals the grimy, sparkling, sooty, fuzzy, greasy or slick elements inherent to an urban zone. It also emphasizes what kind of invitation an urban zone extends: one that shuns, compels, or urges further investigation. Therefore lighting contributes significantly to setting the mood of an urban zone. I begin my lighting endeavour in the Attributes Editor, where I am able
prepare a light type to produce a certain mood (see Figure 102). For example, if I add tints to a light it softens and colours the shadows in an urban zone to establish a neutral and mellow mood, whereas if I add strong colours to a light dramatic shadows result that establish an uneven and disturbed mood. Another way of setting the mood is to place a light gel on a light, and I custom-make my gels using material and image maps I have created in the previous stage. Once complete, it is a simple matter of assigning the map to a light type and the mundane is converted into the exceptional space.

![Figure 102: The soft dappled lighting is created using a light gel](image)

Spooked Ice City: Ancestral Remains 48” x 58”
3D CG Print
© S. Bell 2005

The one light type that I rely on almost to the exclusion of all others is the Sun Light, which as its name suggests simulates the Sun, and I find it invaluable for the following three reasons. Firstly, it enables me to simulate the light conditions of any country in the world, down to the date, time and season. For example, I am able to create the exact same lighting conditions the city of Paris received in the depth of winter on 5 December 1919 at 3.50pm in a city in the virtual environment. Secondly, the Sun Light can be set up to run through a complete dawn, day, dusk, twilight and night cycle, which allows me to conduct rapid visual tests of how an area of the City looks. Thirdly, if an existing lighting arrangement usually comprising of several lights does not provide the light and shadow fall I am seeking, it is far less time-consuming to replace it with the one Sun Light, though of course this is not a blanket solution. How these scenarios are made possible is in the Sun Light Attributes Editor. This Editor has a collection of
settings that differ somewhat from the ones I noted above for other light types. There are the altitudinal and azimuthal settings that respectively adjust the angle of the light in relation to the horizon, and the projection angle of the sun onto the east-west axis. In addition, there are the country site, date and time, and season settings. Once I finalise the settings I am able to witness on screen in real time architectural edifices bathed in all manner of ambient light (see Figures 103 to 105). This results in portraiture of urbanity imbued with a chiaroscuro that is similar to what I achieve in my colour photography.

The next crucial element to get right is the lighting arrangement at an urban location, and I assess each situation on an individual basis before making a final decision on this matter. For example, the lighting requirements of the underside of a railway archway tunnel and the close-up of an embellishment on the side of a building are going to be different. I find my experience as a professional photographer in setting up lights in the studio is most advantageous when doing a lighting arrangement in the virtual environment. I know about the common lighting set-ups and apply them accordingly. The 45-degree angle spotlight pairs are placed above, in front, and to the sides of the subject, while the frontal light is from below and at the subject’s level, and the lateral light at the subject’s level, from above and behind. The backlight creates a halo of light on the subject’s edges, and the overhead light adds depth and drama to a scene. When it comes to what lighting scheme I deem best for the virtual environment, I most often adopt the one that lighting designers in the disciplines of theatre and cinematography use. This entails the lighting of a main area with key lights and secondary/background areas with fill, side and ambient lights. In fact, three-point lighting is also the mainstay set-up of my photography in the physical world studio. It is an effective lighting arrangement that illuminates either a general area or specific model to the best
advantage. In the former situation, it usually requires the presence of more than one key, back or fill lights because there is a larger area to light. In the latter situation one of each key, back and fill lights suffice to pick out specific characteristics of the model as well as some detail in the form of the shadows.

When I start to introduce lights into an area of the City I appropriate the traditional stage lighting method, which is to start with a scene in total darkness and turn the lights on one after another. In Maya, to make the area totally dark it is necessary to deselect the default light first and go from there. In the first place, I turn on the spotlights (secondary or accent lights) one by one, so that I can focus on their lighting effect while the scene is still quite dark. In the second place, I turn on the ambient lights (main or major point lights) and follow the same routine. The ideal outcome is a blending of these two types of lights so that the overall lighting effect shows through while retaining all the light accents. The light accents come from the spotlights or colour lights and these are turned up or down after the ambient lights have been defined, and adjusted accordingly to what sort of mood is to be created in the space. I always seek to achieve lighting that makes the details clear, and creates shadows that ground the models in a realistic manner. To clarify what works well, I often set up a lighting laboratory and test different lighting situations in this space: examples of this are shown in Figure 106.

![Figure 106: Different lighting situations I set up in a lighting laboratory that involves using the Attributes Editor tools (Author's Technical Picture Collection)](image)
The techniques to describe, measure and arrange light that evolve out of theatre, cinematography and still photography are now the cornerstone lighting principles of my 3D art production. Each of the disciplines is in the business of presenting a staged event that requires some form of illumination. Each of the disciplines aims to light a controlled environment in the most effective way possible: in the theatre it is the proscenium arch stage; in the indoor film production it is the studio set; and in the virtual environment it is the Cartesian grid. Hence, the tried and tested lighting techniques evolved by the first three disciplines now serve the 3D production equally well. There are benefits to be gained as a lighting designer in the virtual environment that are not so readily available elsewhere. Maya enables the user to create and modify all the light types, provides a wide variety of lighting effects impossible to duplicate in any other circumstance, makes possible animation of intensity, colour, cone angle and fall-off of a light source, and also the suspension of lights anywhere in the virtual space. I now fully appreciate the artistic freedom that comes about from being able to make mistakes in this arena with no real consequences. From a creative point of view, working with Maya’s lighting tools opens up a Pandora’s box of almost infinite aesthetic pathways to pursue, certainly far more than I am able to realise in any lighting endeavour I undertake in the physical world studio.

6.6 Stage Five: Using the Rendering Module Tools to Select, Operate and Arrange Cameras in Maya

After the models are constructed, their surfaces covered with material, and lighting placed in the scene, I move on to the next stage of my art production, which entails using cameras to record the cityscapes in the virtual environment. This activity results in numerous electronic image files that I later convert into still artworks. I begin by opening up the UI, and what is seen in the viewport is the default camera view, as shown in Figure 107. Maya provides the default camera to convenience the user until another one is selected. As the default camera is designed to provide only fixed views of the scene (front, top, side and perspective), I replace it with a custom camera that is not fixed to a specific view.
I switch from the default camera to the custom camera by going into the active viewport menu, where I select Panels > Perspective > New. At the implementation of this action, Maya immediately replaces the default camera and its view with the new camera and its view. After this, I modify the parameters of the new camera in the Camera Attribute Editor, which conveniently includes some features found on a real camera. By way of examples, I am able to synchronize f-stop increments, adjust focal length, and define the aspect ratio of the camera’s view, so for example the image is created at 35mm or medium format ratio. I can also set clipping plane ranges that will not show objects that pass beyond these distances, and establish front or rear blur that selectively blurs an element of the background or foreground whilst leaving the rest of the objects in the scene sharply in focus. Additionally, I can equip the virtual camera with an imaginary lens, from a zoom or wide angle to fish eye.

When I set out to record the City I work with two different camera types. One type is what I refer to as a freestanding camera, or as it is commonly called a single-node camera, which simulates realistic camera movement and makes panning in and out, dolly rotation, and tracking easily achievable manoeuvres. The other type of camera has two nodes (aka a two-nodes camera): one is the camera itself and the other is an aim node. The way the camera operates is that the aim node is set at an object in the scene, and once this is done the camera node tracks the aim node and in doing so the object itself at which the aim node is pointed. I employ the freestanding camera when I want a general view of the vicinity, and the camera with aim node when I want a specific view of a model in the vicinity. How I switch from one camera type to another is done in the active viewport menu, and when I pick the camera its view replaces the one
currently in the UI viewport. By way of example, in Figures 108 and 109 are different views of the same subject matter, one taken from the default Editor camera and the other from a custom-made camera.

The typical collection of camera types I bring to bear in any one recording session include a camera with a zoom lens to record close-ups, a camera with a wide-angle lens to record the overall environment, and a camera with an aim node pointed at any one object to record what is in close proximity to it. With different cameras now ready, I undertake to arrange them in the virtual environment, and with no gravitational force constraints, I am able to position a camera anywhere. Once in position I switch from one camera to another, which in turn initiates various views in the active UI viewport that I go on to record.

As the nooks and crannies of the City can only be made visible via a camera, I can only ever know it at a distance, so to speak. The screen represents one barrier and the camera another between the City and myself. Essentially the camera is the body that walks through the places and spaces. I go about the act of discovery of the City in the virtual environment in a somewhat haphazard manner at first, and later become more exacting in my search for specific locations after I have had a good look around. The same applies when I am in the physical world City, where I randomly wander the streets for hours on end before I set down the camera and begin to photograph. In either setting, I strive to produce as many visual portraiture of the one model or general area before moving on to the next subject (Figures 110 to 112). I find forming a relationship
with my subject matter produces far better visual results than if I just dash in and out of an area.

Figures 110 to 112
Setting up various camera viewpoints to reveal the nooks and crannies of Peripheral Cityscape
L to R: Peripheral Canal > Urban Stacks > On The Edge
3D CG Print 30” x 40”
© S. Bell 2006

In the art production I undertake in Maya that pertains to recording, I operate on the premise that if I am able to plan ahead in terms of finalising the camera types and their arrangement in any one of the cities, then I can get past the technical aspects and move on to the creative part more quickly, which is the act of recording. When in Maya, and the same applies in my photographic practice in the physical world, I have come to accept that there are numerous behind-the-scenes number-crunching jobs I must complete. At this stage of the project, it generally involves inputting numerical data to get a camera to operate the way I want it to. With these tasks done I become the photographer again in the fullest sense of the word, who in this instance happens to employ a technological means to create an image.

Before I close this section I want to raise an issue of semantics related to my use of the term *to record* (my emphasis) throughout the preceding sections. I use it to describe the act of image capture in the virtual environment. However, I would ideally prefer to use the term *to photograph* (my emphasis), which I use when I talk about my photographic endeavour in the physical world. This is because whether I am in the City in the virtual environment or in the City in the physical world, I enter as a fine art photographer with the clear intention that I am there to photograph. Setting aside semantics, I close this appraisal on camera types, operation and arrangement by noting that I am as keen about this stage of art production as those stages that involve shading and texturing and lighting, because I finally get to exercise my photographic skills.
6.7 Stage Six: Using Rendering Module Tools for Rendering Tasks

At this stage of my art production in the virtual environment I have a textured City in place that is illuminated by an assortment of lights, with cameras scattered throughout that present views of various models and locations. In fact, the tasks that I accomplish in Maya are much the same as those I carry out in the studio photographic endeavour. In both situations I dress the set up, light it and position cameras for the purpose of image capture. However, one key process separates the two and this involves how the end image is actualised. To explain, when I undertake studio-based photography I must develop the film using a mixture of chemicals to arrive at the image. However, when I undertake virtual environment recording I must instruct Maya to carry out a render to arrive at an image file. What this entails I shall now explain in more detail.

Rendering is the process by which the computer calculates the surface properties, lighting and shadows, movements and shapes of models, and saves a sequence of image files. Meade explains the procedure in the following passage:

For a single frame, the rendering engine draws each pixel by finding an object in front of the camera and drawing it based on the direction of the surface, the surface characteristics, and the lighting information.\textsuperscript{150}

In Maya most of the rendering is controlled through the Render Globals Editor (see Figure 113) that has a number of categories where rendering requirements can be entered. The categories include: the image format and frame extension, start and end frames, type of object to be rendered, and type of renderer to be used. There are also different output presets one can select, such as ‘draft’ to produce a test preview render or ‘production’ for a high quality render. In turn, the higher the quality of render you select the longer the rendering operation takes.

The final step undertaken in the rendering process involves the selection of a specific camera view ‘to render to’ that in the Render Globals Editor simply requires picking from a list the one that Maya needs to render out as an image file. This is one setting I return to often as there are many cameras in any one scene that require being individually selected if I want to switch from one camera viewpoint to another. The time it takes to execute these switches is worthwhile because it results in numerous images files, from which I go on to select the best few to produce in print form. In my photographic endeavour out in the physical world, I employ a similar output strategy, though of course different methodology: I take many photographs of the one subject matter from different angles for the previously mentioned reason. The other setting of importance to me is the image resolution output, which I set at the high end of the band, because I want the source image file to be large enough so that when I print it out large-scale there is minimal pixelation. An unavoidable outcome with image files ranging in size upward to 80MB is longer rendering times; however, I consider this worthwhile as I gain in terms of a quality print outcome.

Maya also provides an alternative to the full rendering operation in the form of the quick render which, though it provides an inferior render outcome in comparison to its counterpart, blocks in enough key visual elements such a shadow fall and general colour palette range to give me an idea of what a specific camera view will look like. I use the quick render route to gain an immediate review in real time of how the material type
looks on the model or how a light will affect the overall ambience: one simply goes to the Quick Render view and selects it, as seen in Figures 114 and 115, which are the results of a before and after quick render operation.

![Figure 114 Before Quick Render](Author's Technical Picture Collection) ![Figure 115 After Quick Render](Author's Technical Picture Collection)

To close this section, in Figure 116 is the look before the full rendering process, and Figure 117 is the look after the full rendering process. To achieve a beautifully rendered frame can take from minutes to hours and even days, dependent on the complexity of the project, computer hardware and video card on board. In my case, a typical session generally runs across an overnight period, as I output only a few stills at any one time.

![Figure 116: Beetle Image Before Full Rendering](Author's Technical Picture Collection) ![Figure 117: Beetle Image After Full Rendering](Author's Technical Picture Collection)

### 6.8 Stage Seven: Post-Production

With the exception of pre- and post-production activities, all other artistic endeavour that leads to a collection of artworks for exhibition are completed in Maya. This means that the City from stage two to stage six inclusive only exist in the context of the virtual  

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151 Beetle Scene File supplied in Cinema 4D Software Programme Tutorial Demonstrations.
environment and as image files on the hard drive. It is at Stage Seven that I finally initiate actions to remove the image file from my personal computer and place it onto another medium support. This can include one or the other of the following media: print and data projection. If it is to be print, I envisage the suitable reproduction size to be A3 and upwards, and if it is to be a projection from a data projector, I want it to be life-size. Before the shift from digital image file format is taken to either of the aforementioned media platforms, I sometime make alterations to the source image file in Photoshop, but I would like to point out that this only involves minor adjustments to brightness, contrast and image resizing. I do not in any way change the pictorial structure of the original source image file. In other words, there are no external image layers in these artworks. The areas of the City I choose to record and render remains in an unadulterated state, for it is the case that I want my audience to view exactly what I viewed in the virtual environment. This duplicates what I also do in my physical world photography, where I do not use darkroom techniques to enhance, add to or alter the negative. What the enlarger reveals is exactly what is printed up.

6.9 Concluding Remarks

To conclude this seven-stage appraisal, I find that working in the 3D computer-generated virtual environment is a two-layered educational experience. In the first instance I am led to understand 3D concepts by practical hands-on work with the programme tools, though I admit that what I am now capable of doing in Maya is only a small aspect of what is possible. Secondly, the attainment of some technical mastery in Maya allows me to initiate both playful and purposeful creative experimentation that broadens my art practice in directions I had not foreseen before I came to this programme. Throughout this PhD by Project, as my technical abilities grow so too, exponentially, do the aesthetic possibilities: each goes on to inform the other. I want the recordings I make of the City in the virtual environment to equal those photographs I take of the City in the physical world, where the audience is moved enough by what it sees to experience, however briefly, a point of arrival at somewhere other than where they are now.
CHAPTER SEVEN: Discussion and Summary

7.1 Overview

When the creative component of this PhD by Project was first engaged with, I explored what creative form it would take. I decided upon what the underlying concepts to pursue would be. I considered which medium would be most appropriate to achieve certain aesthetic outcomes. I resolved these issues through the writing of an initial research proposal at the beginning of the postgraduate study period. This became the preliminary research map followed that would initiate a chain of actions. The actions would have an immediate impact on my fine art practice. I wanted to transfer my photographic practice from the physical world setting, along with camera and technical modus operandi of the analogue form, to the virtual environment and the virtual camera apparatus procedures. The crossover to the digital platform called for me to undertake a steep learning curve in order to gain a reasonable working knowledge of the intrinsic functionalities of the 3D computer graphics application. This meant that the first twelve months of my postgraduate study was taken up with this task.

First of all, I undertook a theoretical engagement with the general concepts of 3D working. Secondly, I familiarized myself with the software tools and modules under which specialist tools were housed. This involved modelling, texturing, lighting, and camera operations. This aspect of learning was one of the most time consuming as it exercised a range of creative disciplinary skills: architectural for modelling, painting for texturing, light design for lighting situations, and cinematography for photographic purposes. After the best part of a year had been spent undergoing practical exercises I constructed the first two Cities in the virtual environment, which I selected out of some dozen other less successful experiments for further creative evolution.

The learning experience also involved exposure to artists and designers working in new media arena as well as photographers. I also explored the work of theorists writing about new media and photography. The academic, technical and artistic paths pursued throughout this PhD by Project were recorded in my sketchbook. I consider the labour
put into sketchbook chronicling is as important as the making of artworks. In Appendix A is presented a selection of individual page entries drawn from those sketchbooks generated throughout the postgraduate study period.

The art production and conceptual development aspects of this PhD by Project has been theoretically conceptualised in this Exegesis document. I have included a comparative account of my fine art photographic practice in the physical world and in the virtual environment. I have presented my investigation of embodiment and control issues with regard to my creative practice and media experimentation. The inquiry methodology employed initially involves broad range of analytical and reflective delving into new media, photography, cultural studies, and philosophy. That leads to specific examination of individual theorists insights on embodiment and the transfer of creative practice from the physical world to the virtual environment.

The key topics of cultural context and genre, embodiment, control of the environment, media experimentation, and the making of the Cities in Maya have been discussed in separate chapters.

7.2 Cultural Context and Genre

My creative practice is situated within the city/urban landscape genre. My focus is on architectural structures. Artists such as Atget, Casebere, and Luxemburg have had an influence on my aesthetics. I sought to create images that would represent idealised views of the City in the virtual environment. Light traps and the interplay of light on surfaces are central to the body of artworks I recorded for this project.

I chose Minor White and James Turrell for my case studies. Minor White provided me with my initial theoretical framework based on the theory of Equivalency. This allowed me to establish an art practice that is based on conceptual evolvement and the production of creative expressive photographic artworks. This revealed to me that the meanings of images are not necessarily literal and can be open ended. This notion inspired me to record images in the City in the virtual environment that had symbolic or
metaphoric significance. My examination of James Turrell’s artworks raised my awareness of light, space and form and how they interact with each other. I appropriated his stage set methodologies in the City in the virtual environment to create a staged event, which I would then record.

7.3 Embodiment

Merleau-Ponty and Grosz influenced my own introspection about what constitutes the body and bodily experience on embodiment issues concerning my art practice. Each of these theorists reveals that the human body is the essential point of view into the world. They provide insightful observations about how the human being engages with the world. Grosz’s overview of Merleau-Ponty’s writings provides an outstanding compendium of his quintessential theories that inform her own insightful opinions. In turn, her analyses informed my own thinking. The phenomenological reflections on the body are closest to my own understanding of what constitutes lived-body experience.

Once I located the appropriate theoretical models, I was able to make analytical observations about embodiment issues within the context of my art practice, the first in relation to the physical world, and the second in relation to the virtual environment. I felt this to be critical to my perception of self, but also of self whilst engaged in art practice. I explored embodiment issues that arose out of my art practice in the virtual environment. I looked at whether the body could be left behind: to put it in dualistic terms, to ‘leave the meat behind’, a classic cyberpunk fantasy. Embodiment issues in the virtual environment art practice cover the senses and perceptual experience, presence in the virtual environment, the type of virtual reality system and how this affects depth of presence, and the fear factor. My experience of working in the virtual environment, has led me to conclude that I am always aware of my corporeal existence. This points to the phenomenological conceptualisation of body, which is an array of senses that interpret the world around us, and shapes our perception of that world.

My embodied experiences whilst carrying out fine art photographic practice in the virtual environment were challenging. I conclude that experience of the world, either real or
virtual, can only be as a corporeal being. In the case of art production carried out in the virtual environment there was a continual awareness of being a corporeal body at the computer interface, at the same time as experiencing being somewhere else as a virtual self-presence. The hand on mouse and fingers on the keyboard triggering the different software programme toolic functions are constant reminders that I am, as Grosz describes it in her essay on ‘Architecture from the Outside’, wetware\textsuperscript{152} located in physical world space first and foremost.

### 7.4 Control of the Environment

The main reason I transferred my art practice from the physical world to the virtual environment was to exert control over the structures and surfaces that comprise the City. I could also remove walls, building and duplicate material elements. From an aesthetic and compositional perspective, I have control over the content within a frame. I am able to create more shots and angles. For example, if a skyscraper is in the way of an object of interest I can shift it out of the way to get the desired shot. This has a flow on effect in terms of increase in image output that in turn results in my gaining more visual material to curate.

In the virtual environment, I am able to control the temporal conditions that mean I can evoke realistic shifting of light and shade, which mimics the passage of time in the physical world. In other words, I no longer need to wait for the states of dusk, twilight and nightlight to unfold in sequential time flow to record them. I can also freeze frame moments in time and simulate the look of the reciprocity effect.

When I work in the controlled environment that is the City in the virtual environment, I can predetermine absolutely everything therein and any event that happens therein. The consequences for my art practice of working within controlled settings effects my image output as well as the overall creative experience. Everything becomes predictable.

\textsuperscript{152} Elizabeth Grosz, \textit{Architecture from the Outside: Essays on Virtual and Real Space} \textit{op.cit.}, p. 41
7.5 Media Experimentation

I have always had a penchant for experimenting with different media as a way of exploring the City. In my PhD by Project, I chose to learn a new medium. I had a fascination with computer-assisted art production, which I resolved to explore further. This meant I needed to acquire a new set of skills before I could start realising my conceptual vision. Once I had developed the necessary skills and explored the visual possibilities, I found I was approaching the subject matter of the City with fresh eyes.

In analogue photography the scene is recorded with a camera that transfers the viewed subject matter onto negative film. The negative is then developed, and individual scenes printed onto photographic paper in the darkroom. Both the film and photographic paper material can be altered in any number of ways such as through scratching, masking off, tearing, discolouration, marking, or the use of filters. However there is a limit to how much can be done to the source photographic material before it becomes unusable. Once I had made the transition to working with digital image files, I had unlimited options to play with an image.

The crossover from analogue photography to recording images in a virtual environment affected the visual aesthetics and outcomes in my artwork in the following ways:

- I could emulate classic science fiction cities;
- I could generate a theatrical feel with lighting;
- I could experiment with an almost unlimited array of colours and textures;
- I could juxtapose strong verticals in terms of form;
- I could introduce incongruity with light sources that are extremely difficult to achieve in the physical world without huge expensive lighting rigs.
7.6 The Creation of the City

In the process of becoming familiar with the material variance between photographic data (fixed), and digital data (dynamic) imbued with fluid qualities, means that any number of visual outcomes are achievable. The shape shifting liquidity of digital data is further illustrated in the inherently chameleon-like behaviour of the virtual wire frame object (made up of bits and bytes) as "something that can exist in different, potentially infinite versions". As a result of the virtual environment malleable fabric there are a broader range of conceptual and aesthetic avenues that can be pursued.

In Chapter 6, conducted an appraisal of how I created the City in Maya that covered preproduction through to postproduction. Throughout this PhD by Project, my technical abilities grew which meant I had greater control of the aesthetic possibilities. I captured images of the City in the virtual environment to equal those photographs I take of the City in the physical world.

7.7 Concluding Remarks

What began as a passion for all things to do with computer-mediated technology has over the life of this PhD by Project has been reduced to rare flashes of enthusiasm to carry out any creative endeavour on the computer. On the positive side, I have learnt how to use a 3D application to construct enclaves that stand as Cities in the virtual environment. This enabled me explore an environment I could control. I have achieved my aim to produce a body of artworks that can be exhibited in the gallery setting. However, it would be true to state that my love affair with virtual environments has ended.

The desire to walk the real streets and once again experience physicality in all ways, along with the spontaneity of external happenings, beckons. My growing disenchantment with technological means of art production after nearly five years

153 Manovich, op.cit, p. 36
working in the 3D computer generated virtual environment makes it questionable as to whether I shall continue my creative endeavour in the City in the virtual environment beyond the lifespan of this PhD by Project. I have discovered that I do enjoy the unpredictability of physical urban places.
Arts

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APPENDIX ONE

A Selection
From
Sketchbooks
135

SUPERVISION SESSION: I met and I am meeting each Tuesday at 10 a.m. for a chat and general progress report. As a kick-off I still need to get my progress into a workable format. We met with Jonathan Holmes again and set out last minute goals, I know that I would need to transport the idea across a week and visualize it fully before the next session.

The first thing I do is write a list of all my ideas on paper and download them onto my laptop. By the time I have the latest information for the next session, I know have a solid idea of where I am going. This is a key to the creation of garments. I need to say more about the relationship to the material. The company that created this software, based in Germany, has programs at some stage. In the interim I will use the same document as I have to print the Tutorial. I need to also begin checking out artists involved in this field.

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I checked out the works of Rodney Bang, a truly creative digital artist, on a site called "Cultivation," which was pretty neat. You have a chance to see a 3D environment populated by a number of moving agents. They interact, make curious new shapes and render landscapes. He creates also produce a series of musical videos that evolve depending on what the individual viewer creates. I have downloaded a few sheets on this body of work.

T وهناك works is totally awesome. You have some utterly stunning works which use computer graphics, video projection, and staging animation. Some, like "Victory Light" at the Hyperion Art in San Francisco, another piece "Pure" a site media" to an interactive audio visual installation. His work is to watch, check out and regularly to see what else he is creating.

Generally, what I am discovering looking at the works of artists involved in the digital media is that the methods of production and eventual output will amalgamate sound, light, projection, interactive elements, and video; with video and sculpture/film material integrated into the completed artwork. I go without saying that programmed laser availability), whether as the means to present the work and/or promote it. The Grounds for Sculpture Sculpture Festival of 1997 offered a glimpse on a variety of artists but unfortunately you cannot print their specific name which is underlines. Here include Emily Bynum, who did an interactive electronic sheet which is underlines. Its indicates each. This manipulates and manipulates in every limited way with the users roll over a suitcase. Not particularly桦桦 but some of the idea, who are lovely images.

Vocational to be a break activated work - a universal idea is named "Voyage" is inspiring given. You can activate this by playing against the face using the break switch.

They invariant get into interactive sound work - a similar movement. Sculptures alike to a set of organic instruments. The soundforms create an environment for individuals. Come others open to the full variety with "Incarnation, in essence" you don a text-oriented display and make hand-held devices to go into a virtual space which you initially explore at a 3D comfort grid that then draw into a virtual. There are that each work: space in essence, mostly based on metaphysical aspects of motion.

SUBMISSION SESSION

Generally, talk about progress I am making with C4D. Had a good week learning about the Interface, different transforms, the actual language of 3D modeling and then began to create primitive and internal objects. I am now so to really focus in on making primitive objects before going too deeply into transforms involved in physical modeling. And torn I am. Now I will need to model one. I got a good grounding in Texture and some creation, particularly low-lighting work.

This is a start thinking about virtual reality experiences and awareness. Bill viewing Jay Barton, who has pioneered the place of cyberpunk, teleportation and interactive media in art. Bill Beecham explores language, image and social relationships through video, computer, and other based media configurations.

From these, there come up on the Emergent Futures Institute Program and with more artists/artists such as Edward Hae, Ken Boda, and the others based media configurations.

There are three VR Systems - "Essex." From Germany. I need to do a quick check in to see what is going on there. Also go and the Germany itself. Because it is in the cutting edge of what to cut there in the 3D world.

Film: Final Fantasy, out on 3D and first full feature production of 3D. There's about Depth cue - a sense of ribbon.
LIGHT TRAPS & TRANSFORMATION

I am going to look into these two areas and
check out other artists working with manipulation within the digital medium. I
shall concentrate on these technological platforms because there are too many
artists out there to sculpt, painting, printmaking, installation that have
before such things but in a light area. Expanding that base, I may focus on the
area. That way I minimize my specialist knowledge and I can now attempt to
each the source of Virtual Reality and as forth.

Karin Ekkeberg says in "Designing the Future: The Computer Transformation of Reality" that the computer is potentially the most important bridge ever built between the two cultures of art and science. I wonder if this mathematical tool for handling abstract symbols, it was imagined - with the advent of new technology - the electronic image, and with it a completely new form of expression."1

Benjamin Wedley, "Virtual Worlds," in his introduction, says, "Everything a computer does can be seen as a simulation, and one of the things it simulates does not exist beyond the simulation." How and in what ways are virtual realities taking on their own metaphysical paths.

Art in America
Dec. 2001

Editor: Francine Cahn

As we go to press, the installation of Tetract Light, the Lower Manhattan Monument at 511 West 11th Street, will be a chance to the World Trade Center and the removal of 5/16, remains on held five square and 11th (West). The project, developed by architects Deli Seibert, John L. Mair, and architects/hubris, in collaboration with the Nuve Hill Society, received the E Independent Art Fund and installation of the piece same time in early December.

Beam Me Up: Futuristic Look to Installation (Chief Article)

By Francine Cahn

Art in America
Dec. 2001

Yes, whole light on held (Street).

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So a search on the Net came up with a list of artists that0rd and three
all kinds of light installations as the search began to some. I feel right now that I want to surf a whole lot more before writing any impressions. I really am lost in a maze at the moment. I tried digital arts and of course with such a great team the question is what does it look like. It is not the end, I think. To do this, I have been trying to combine the again and

The computer I am in right now is a pretty good tool for finding things that goes by. The way I am doing this is to try to look at the work and to try to look at the work again and

At all times really convincing. Next week for a first time Helsinki I must try.
I didn't have any real reason for photography, for me, photography was not a real activity that I enjoyed. I was just doing it because it was something that I could do with my father. We used to go to the beach and take pictures of the people and the landscape. But it was never a real passion for me.

I remember when I was younger, I used to love to draw. I would spend hours in my room, just doodling away. But when I started to get older, I started to lose interest in it. I think it was because I was getting more interested in other things, like music and sports.

Anyway, I'm glad you're interested in photography now. It's a great way to express yourself and to capture moments that you might otherwise forget. So keep going, and don't be afraid to experiment and try new things. Photographic style can be very personal and unique, and it's something that you can develop over time.

I hope this helps. Let me know if you have any other questions!
Electronic art is essentially related to the search of artists belonging to the kinetic, luminous-kinetico art movements, who in the 1960s made abundant use of technological devices in order to create a variety of movements and light effects, ranging from kinetic, mechanical, electronic, thermal, hydraulic, and magnetic movements which appeared in the works of these artists, sometimes combined with light effects. (Refer: ‘Art of the Electronic Age’ p. 15.)

Apart from making public technical experiments with light all the time, there were attempts to integrate artistic procedures connected with the 'environment.' (An idea which was still going on in the 1980s.)

Apart from this, there were also those who attempted to create a sort of 'environnement' in which artistic 'mechanical' movements played a part. Combined light and movement artists included Richard Serra, Larry Bell, and the brothers in the beginning of the 1970s.

Pfeifer’s work is to really inspirational in terms of the range of his ideas and a great deal of his work in 'environnement' was in the beginning of the 1970s. He made a point to really inspirational in terms of the range of the ideas that he was exploring. I needed to view the environment of so many wonderful artists to begin again. And again when I might go.

From this point onwards, I moved ahead to computer art research. So there I am sitting on the weekend looking at my research proposal and wondering what I want to do. And then I decided to schedule it for myself over the next 12 months. I’m thinking about how I might do two or three different approaches to researching the area of computer art. Under the guidance of the following 6 basic approaches:

1. An artist and art school to research in computer-aided activities which cover how art is done using the computer hardware and software to create original art works.

2. A B.F. of computer scientists who work on computer art research and studies to research in the area of computer art.

3. A group of computer hardware designers and software engineers who create original art works.

4. A group of computer scientists who work on computer art research and studies to research in the area of computer art.

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6. A group of computer scientists who work on computer art research and studies to research in the area of computer art.
READING SOURCES: I went onto the net a few days ago and downloaded info on a number of articles I wanted to read. In the particular article I am referring to, the author mentioned various sources that caught their attention. The article itself is quite interesting and covers a wide range of topics. If you have any questions or need further assistance, please feel free to ask.
I was a child. I saw works of art in the movies, which made a lasting impression on me. I clearly remember walking into the movie house, desperately wanting to capture the “magic”, despite how it turned out to be, whilst watching the battle between human and machine unfold on screen. I quickly lost interest in the humans and became fascinated with the robots. I was transfixed when the robot was terminated by being abandoned and cancelled out! I definitely saw the early and rudimentary beginnings of the future. I was fascinated with the images of the formations that existed in my imagination. Shaped from years of watching my favorite science fiction movies, I would often perform complex movements inspired by the formations on the screen. I was in a classroom when the teacher introduced a new Madam about the robot's point of view. Later when I finally got to the electronics lab, I was very excited and interested in the thought that robots could exist in the real world. While working on my own project, I was often inspired by the formations that existed in my imagination. I wanted to explore a world where robots and humans coexisted. I wanted to create a world where robots and humans could exist together. I wanted to create a world where robots and humans could exist together.

**MORE THOUGHTS FROM ARTISTS ABOUT THEIR PERCEPTION OF COMPUTERS**

For some artists, the computer is not only a design tool, but also a means of self-expression and for others, it is a means of fabrication and for yet others, it is a means of expression and fabrication. Computers are designed to perform tasks beyond human capabilities, analogous to human intellectual processes, and may even be considered as a creative entity in its own right.

1. **Computer Art**: Computer art is shown as a passage of abstract information, rather than a tool for design or creation. (P. 28: Pepper)
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10. **Computer Art**: Computer art is shown as a passage of abstract information, rather than a tool for design or creation. (P. 28: Pepper)
I first started making an incredible product, at the time were, in which I did considerable research into archives and anything connected specifically to 3D animation work. I completed my first personal document (about the cinema of animation) and really made strides into the second room construction. What made the difference was not something via the archives. The first time I did 20 days of Sunday day classes, though, for only a maximum of 3 hours on one day, one hour another day, and two hours on the third, really put up my time, so I found it treated more hours in the end. I came to hate having to go back and forth to the campus and once semester. I finished it wrote to cut the hours down by half so this was what I did. Over the next week. I spent a break period to create and write the kind of narrative unfolding on the computer. It really reminded me of the original experience for pursuing art studio again. As expected, then, I felt that it was done, the motivation to finish the envelope as such.

The big day for my first show and talk to the complete. Part graduate group. I really felt nervous about five days before and then realized I would be in total shock if I kept the tension more all that time. So I just let it go and practiced in the fact that I would be alright on the night. As such, I was booked for 10 am but the video projector and sound did not work so on the end after much running around. I got it worked and came on about 11:30 am. The man with the projector definitely threw me as I stumbled through my presentation as that he could. Trying to focus too much on fact itself. I think and not enough on what I actually wanted to achieve in the digital platform. My good friend who had organized with absolutely perfect sound images through a neat package. I was connected out into hall inside pictures by the cheap video projector which really didn’t make me feel particularly confident about my presentation. Suddenly as an afterthought I took several of my 2 x 3 inch presentation collection away and handed that back to the audience. It was a gift for everyone at turned out and most made up for the story presentation shown.

Feedback consisted of broad observation as to how I would eventually present my work in a narrative creative environment and curiosity of what image would come and once it got over the was a wider one with regard to the software packages and tools and processes.

Key works: Landscape > Deep space > Mind/scape > Escape.

Name of Martin takes ‘viewer’s’ name? Need to claim this not as data not care I got right name. On the whole I felt reinforced by the very act of presenting my work finally. With all I have been in the program for weeks with the help being real time the next time it did a “show” talk. It made me feel more a part of the art school community somehow. The audience of the final presentation document was specific to clarifying my next six months priorities. Now all I need is to finalize a decent studio space at Art School again and can really kick off a feasible period of extended creative processes and research.

First Master Critique & Research Proposal Submission

I went to see Bill’s studio rehabilitation at last. It was a video and oh... I wonder if you’re always. Relating to the environment. He was always in through. Royally was a factory that. Mixed cloth, lots of cleanup of machinery and computers to the wall would. Shown, most of the process. Played within. The factory setting, went on for about 15 minutes and there were some lovely scenes, very valuable to watch. Really felt relieved when I walked out. The video was projected onto a really large screen and nothing pleased like. From this. That was it to the film itself were. The central point. This is reference, network of quality which does not need one bit of given to.
imagine when the viewer what the artist vision is. To continue the experience I attended
the Friday art forum in which
I took notes and commented around selected spaces as key insights that inform the work and ideas of interactivity. Really caught my attention as I know the stuff beyond
the support of the visual to create and organise sense of direction.

In installation incorporated two separate scenes in different position that displayed
count when people arrived to ‘front’ of a screen that resulted in loss of ambience in a space done for the University of Colorado. Art galleries in Boulder thought evening matter (1992) considered material art form and its allowance.

What mostly interested was the way to rethink and relationship to the environment.
In architecture, interdependence, the measuring. Seeing cities as organisms beyond the human
life span. CHECK OUT “EMERGENCE” by Stephen Johnson

Talked about cities having flow vs non-linear. Discussed the inner relationships of the
objects means that more within. Those urban environments. A reminder of how we know the world when we move through it. We have to search for an orientation. So, how
do you begin to orientate yourself.

What would be the knowledge that we gained from the city space? The preserved local
knowledge, sense of touch, optical viewpoint, all are common.

“Ding ding machine” introduced. Deux three different engine, collaborative piece with Bill
Kurtz. Oligomorphic projection – phase of fast change changing and able going backwards.
A click of people that you can think of as memory. The track will have some pages of
writing. Later you can look back – like you would over past seasons. The track almost
as something still designed. REDEVELOP program to promote “City” will make the
cells available to the public. The watching machine will be played at three sites
the South Centre, Canada, Canada, and the Art Centre, Hobart.

CHECK OUT: Zen debuts as an artist. A Melbourne artist who does still make projections around
the city space.

There is a historical tour around Hobart through the drawing right. That 0 have been
invited to and will get me to lots of differentapply, but for the next month or as
who want to concentrate on finishing of the different materials in the Makers Club book. Once the
This 2001, an interesting 3 am up for dry

AND OUR PHOTOGRAPH DIRECTION? My biggest
Concern now is the financial aspect of photography. Quite simply I do not have the cash to go back
down that route again in the business business
which I would enjoy doing such processess occasionally. When I died sitting of the paper it
was a shock to confront just how explosive the medium of colour photography really is. I am
starting to people a number of different
themes in the stage and have found
that I can only do what is affordable.
Photography is not apart digital art as. I can
be so much in virtual reality with regard to

CHAR BARKES: ©C:EMEMBACE: ENHANCE GROUNDWORK:
THE MOJST INTERESTING ASPECT OF RESEARCH FOR ME
IS THE FUTURE APPLICATIONS, GIFTEDNESS, CREATIVITY
EFFECTIVE LAYERS THAT GET RIGHT AWAY FROM THE
IS THE LIFELONG LEARNING GENERATION, GRAPHICS.

Jan 15
A roundabout journey to arrive at the point today, which leaves little to be desired. I responded to the question by Bill & actually made an image in CD to my first involvement with the program had been focused on doing the textures. The model making, introduction to the layout; both are managers; playing with primitives and generating (crude) features, lighting and camera tests. I started just about of the animation. Now I get 3D into the new project.

While time is a constraint in making the image size that I ended up moving out of CD into Maya World (the background and foreground) and then to Photoshop to work out the defining line that I could not sort out in CD between the sky and floor of the image. I actually made moves to improve at the end phase because velocity in CD it seemed obvious that I lacked certain tools to draw lines, draw tools, or maybe light, etc. I thought about the time I got into Photoshop that I didn’t like the image much and decided to go through the exercise anyway to learn what not to do next time. Certainly I must resolve the lighting issues in CD before transferring. I also need to consider the placement of my objects, their texture surfaces (which must be just on the subject of lighting stereotyped when you need to look at the finished material source you find it has not there). Then I moved around for ages in the ‘light’ since this is the difficult task of keeping light objects from moving too near and get the lighting in the image while allowing for control over what the light source is select in the ‘skeletal’ tab & doing. You can import a layout. Import inside and alter distance of the light source. I just ended up thoroughly confused by the time I activated the full set of lights, but I found intensity and where to cut or not. That was when I quit because I had been stuck for most of the day back rendering the final images and I guess while looking at an image and usually incomplete (I try stage two together), a thousand and one ideas came to me in the process of putting together the Odeum piece. In particular having to model making and lighting fundamentals on CD. Once I printed out the image it was obvious where the source had been set (on the right side) and where not. The source of the blue light which I decided to some of the lighting source where I dropped in a new cast. I killed off the only white light. This thing was special to stop all those blues from surfacing on the overall image but. I could really tell that was ruled to play this last round. The program created the image rather than me... It made me happy through the advantage of getting a jump on it before the finished artwork... Later two days later...
RESEARCH SESSION

For Everestia, was really useful with Professor Holmes outlining some excellent procedural strategies for writing and compiling data over the next couple of years.

It is preferred to use the MLA system for footnoting. The History model used on MLA then allows use of Footnotes to expand upon an argument, apart from the obvious footnoting types - author name, title of book etc.

Quotations - Excellent website for what you can or cannot do quite wise, a great guide for writing research papers found at www.writersconnect.com/edgemap.htm. At the University site go to the Library site and check out VisualArt articles as a good reference source. Books on the style of essay layout are available in the reference section. An excellent one being the Government "Style Manual" which allows the protocol of many different source quotes from the Internet to the Film sector. Also refer to "How to write essays" by J. Adams & E. Ballard.

GENERAL INFORMATION

There are different ways to introduce quotations within your text; you can introduce the author's name before the quote and then continue with the voice of this writer. The layout of the Everestia can be found in the booklet you each received. This is a good template to follow and plans you need to make sure something like this:

- Introduction (Central Argument, Expansion of Abstract) - what you want to achieve
- Content (Sequential Visual/Substances, How with Form/Conclusion)
- Avoid jargon, make the Everestia readable. If you want to include your practical submission.

There are around 220 Everestias in the Library. I suggest you look at them from 1996 onwards.

INDEX SYSTEM

Is an incredibly important thing to set up now as it will record all your quote sources, ideas spared off from any exhibition, film or whatever. I imagine in two/three years time how many sources will be noted that contribute to your writing. It will lead up possibly running into many lines. It is crucial to keep control on all this information and so the card system can follow this task perfectly. You can obviously copy and paste through Word 2002 also. It is good to have the cards in hard copy because you can take them out on a table and then pick out what you think it important for say backing up an argument and so forth. There is a common way of organizing your card information as shown here. List the page number and source at the top for quick reference. Then file it up to you. If you have articles, internet sources and so forth make a code for them so the card system can have branches and the central trunk will be the books.

BIBLIOGRAPHY Sources are split between Primary Sources and Secondary. The latter category would include Monographs, Chapters, articles, Catalogues, Bibliography, Videography, Make sure with the Internet that you always make a hard copy of the material chosen from the URL because these sites can close down.

WHAT AUDIENCE ARE YOU ADDRESSING? You need to think about what kind you write in and who else shares your area. You can then begin to narrow the field down, e.g. Digital artists run into many thousands but those that may just work in 2D programs can be gauged, then from this smaller group there may be only hundreds working in a specific program that uses installation as exhibited finished product and so forth.

Write with these people in mind. Pitch your arguments at this target group. Record on your development make sure you document all your processes to it exhibition, college (get someone to take notes when you are making a presentation).
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The way in which you construct your artwork (record sketchbook, technical journals, etc.) will be inextricably linked to the time and mood of the moment. The abstract nature of these ideas is limited to the information you have received and assembled. Your artist's vision is also influenced by your personal experience. A student is often at a loss to describe their ideas clearly, which is why an artist must document their work. This can help you prepare for any interview. ORIGINS 

How to begin: Write your ideas down, then develop them into a final design. Consider addressing the audience in a personal manner. Describe the process as it progresses. This can help you find your voice. ORIGINS

OTHER MOTIVATIONAL TRIGGERS

1. ask Supervisor: if you can do a design for the exhibition space so that you don't need a piece as a task. Suggest around 1,500 words; this is around 12,000 pages long and makes up about an hour lecture.
2. Sit down and write a description about a set of artworks, and then display them as an individual work. This helps develop critical writing skills.
3. Continue to explore your ideas where you need to write artist statements, catalogues, etc.

MAXON LIGHT PLAY EXPERIMENTATION: My next major work in Creo 4.0 has been to become familiar with the lighting options. I undertook a series of experiments (random light) while allowing me to explore different methods of creating lighting effects. Under the Object manager, a set of light objects consists of a light object type (e.g., Sunlight, Environment, Spot) and a main light object which is represented by a hexagon icon on the Command Panel which when placed on your want to allow an incredibly powerful object. As soon as a light object is placed on an object you will notice that there may be shadows. This is because the light is often placed inside an existing object. To remove it, select and drag it. For my exercises, I created a number of objects (metal light) and then used the different lighting tools to change their effects.

When you open a light object menu, there is a selection of other sub menus where you can control the color of the light. The inner and outer radius, the fill color of the light on the whole scene. The type of shadow it will cast (soft to hard). The light intensity. Whether it is foggy or patterned. The range to infinity.

There are omni, spot, (cone and cylinder), distant, parallel (light square, square), tube, area, lights to choose from. When you want to just add a color to the overall scene, then place the Environment object to the scene. Go into

The menu and pick a color. This is a sort of ambient light that illuminates everything in sight. The sun object can act as the default gain, cast shadows and be deleted from scene to change conditions, the position of the sun within the current scene determine
MOVING AROUND THE INTERFACE: My confidence is growing as I work with more natural, instinctive movements around the 3D view panels. I've found myself getting used to working on four window view panels, the default Ellingsen being projective on the left side and front. The x, y, z coordinates are all being represented. Once you get the hang of it, the speed with which you zoom out from view to view when immersed is so quick I am hardly aware of the changeover. Now I want to select a set of vertices to scale down, perhaps outside, or whatever, then I often end up changing the geometry to achieve all vertices on all coordinates are selected. It's too fast without any delays now. Something that only a month ago used to take ages and I would feel like a baby again trying to learn coordination skills to feel at an object.

My brain is starting to see the world in a different way somehow. I mean visually. I think much more like a sculptor now — accessing the different planes and their specific qualities. It also shows that it's good to know what the program offers.

Still I am likely to not be able to fall down again when I think what would happen if I tried to add a material, texture, type of light. So yes, I need to turn back to the manual and read it. There must be a particular methodology I use this program and the other number of possibilities for interesting image generation it offers.

REVIEWING CAD CONSTRUCTION: I am considering the next steps to take and decided to order my ideas. I attempt to work on the digital files but it isn't manageable. I take photos as I go from one point in construction to the next. Rich as a personal record but also because I need to. Still it is important that other people can be made aware of all the steps that are involved in digital production processes. It is a lengthy procedure to arrive at the finished image. Like in the rendering.

This construction of? My first completed tutorial set which took me through over 100 pages in the "3D in the Classroom: A "Handbook" by Adam LaVallon. I have created three main folders: Photos of work in progress, actual images, master construction tree etc. / Organiser the whole lot of pages as shown here. I am putting these into my idea to make for portability. My digital negatives so much. Once I get my studio painted at work I am going to do a big triangle of my current digital language onto the canvas. I have thousands of images to use in Photoshop, then there are completed digital images, then texture, and edit maps, libraries. I think it is growing and I need to be conscious of my material.
BUSY TIME MAKING REAL CONSTRUCTIONS after another exhibition session with DfL in which we looked at my first attempt at creating work from called in 2002 that was not sold into a gallery (Waterworlds between a couple of huge tanks) it was agreed that the effort was most definitely less successful because it did not have any anchor to the real world. Essentially a very cliched space age type image that did not even manage to be particularly effective even in its own fictional context. What was missed was in my doing the piece through a number of40 different iterations, arrive at the final product, i had a shot at basic construction, material rendering and briefly a bit of lighting. then I dumped the lot into Photoshop and at the final final time image but decided to persist, getting closer at least if not much closer. We talked about when I would get my own material and the suggestion to draw when my own photographs, the city times collection could be a good beginning point. So I am going back into 2D with a clear objective to keep the rest construction in the program and not jumping out to another program so I can really see if I want to continue the direction I am taking. The illustrated project demonstrated that right now the program rules the author I take some of the risk to become the master of the tools, not the other way round, so it is currently.

It has been a very productive period in which I think the door on the world, whenever possible, is concentrated on my first construction. I selected 'cultural impact' from the last stage of 'city times' to write as real, prepare as possible space. creative with regard to lighting, and material look. This is all work on progress because I wanted to do another construction before the Armend to allow on Monday night later.

I am linking to a certain stage, but obviously need to change the coloring of the water and consider the lighting. The exercise really helped me to see what was possible and for the first time inside my 'city times' workis really excited by the possibilities. I also had a greater degree of control over the program. Interacting with this activity was making a start in the next control and organizing my Technical. Technical which makes constant adjustments as I learn new construction points and like to work these tips down for later referencing. I do more time than expected to sort out the lighting effects demonstrations, i had to carry this out in order to be able to create the light objects in 'cultural impact' for example, but now i feel like i have a step forward.
This is the second construction I talked about earlier that is still in the preliminary stage. I took another couple of days just making the plan and deciding what to attach remolding. Initially I had a lot of experimentation with the lighting and have some sense of when I want to take the image. I want to use the right part of the image as far as I have got. I enhanced some new texture maps which often look into Photoshop and play around with before bringing them into 3D. The texture maps will be used to coat the model. The model is now receiving special attention as I want to make it more permanent. I think the texture of this object should cover the entire model. I have just changed the angle slightly to make the model look more permanent. (Full details on creating seamless maps are made in my Technical Journal). After my annual review I intend to complete both local impact and Saffron Premade all-prototyped to the best of my abilities before moving on to a new project.

ANNUAL REVIEW was held on Monday 15 September with Noel Frankham (Head of Art School) and Bill Holt. I showed my work to Noel and he discussed it in a lot. I discussed it in a lot of other general things about the project. I want to take. I handed in my selection proposal and associated documentation. The meeting lasted about 20 minutes and it was confirmed I was doing fine. One week and would be able to continue my studies. Because I have only been on site for the last 12 months this particular review was even more crucial as I did not expect to be in any situation that involved being told to change the course. Bill and I chatted for a time afterwards about question sessions. In particular one which I felt to be crucial, why do it that I want to make the constructions on 3D when it would be more logical to make 3D out with an analogue camera and then try to do it in a digital way to arrive at the final image, ok use a digital camera to get the image then manipulate it in a standard 3D graphics package like Material. Giving the final image as the completed artwork.

Great question and one that I admitted that made no sense. I was going about capturing a particular moment in time, space and its light conditions in a matter that is more logical. Taking an image, remaking it, then through the computer, and obviously making some changes, but still trying to make a copy of the original. Why is this decided at this stage of the creative exploration......

SAFF FROM SABA continues as I begin to explore material options and then 3D model. I notice the perspective is not in the different column positions and create a few sketches. Finally I begin to get this perfect view of the project. So I take a day-off and that helps a lot. I grew back from 3D and start a new out of Photoshop and take me into another aspect of the model that features a right near. I am beginning to make the Material manager which has different material settings such as Diffuse which is the color that is seen. So when you add some more to a scene it also shows a bit of interaction with other parameter like specular (highlights of the object) and the Translucency parameter.

I went back onto the web site for new materials as I wanted to get more brickwork pattern for the floor and I needed to run these texture maps into Photoshop for
Special Treatment! I also played around in Photoshop with texture filters, maps, grafts and used filters to try to create more realistic effects. It’s great to be able to get textures from so:
http://autonomy.com.ua/psauto/photoshop_filtering/ a technique is to try to create more realistic results. On the end and made it into an image that overall & found this to be frustrating as a construction picture. I then got into a fight, and using the image and a sense of being as detailed as in the steam picture 2 shades. I learnt some basic techniques for deriving background images, textures, but it was not worth spending three days trying to find the finished product. So I asked myself am I an artist or an architectural photographer?

BREAKDOWN > BLEAT OUT > LOOSE BEER

I was sitting at my work station, wondering whether I should just walk away from drama and go back into full-time photography, or stay and go into all the detail of living in this program for one four months of my life and what I was getting out of it? The image had some exciting ideas, but it was not easy to do. I had just bought into another one of my fantasies where technology was combined with the actual reality of things. In this case, software, and cannot get on the roof of the house, photos, and I desperately want to get back to images that come out of the process, and I desperately want to get back to images that come out of the process. I had been working my ass off, not had so few actual images to show for it. I knew there was a mountain of polygon models

from the construction of the objects, textures and so forth, but that simply revealed the process, and I desperately want to get back to images that come out of the process, and I desperately want to get back to images that come out of the process. I had been working my ass off, not had so few actual images to show for it. I knew there was a mountain of polygon models, from the construction of the objects, textures and so forth, but that simply revealed the process, and I desperately want to get back to images that come out of the process, and I desperately want to get back to images that come out of the process.
A weekend of creativity in which I created four virtual luminous enclaves (now referred to as VLE's) and did lots of seven snapshots as seen here. How it been. Fantastic to be turned deeply back into a body of work again after so many false starts. So frustrating to go down a path just to have to turn around and go back to the beginning. Of that, happens to often to start losing confidence. And I really needed this break to what was developing into a bleak forecast. I have a number of things developing now in these VLE's that should result in some interesting final prints. Developing these works also triggered off using the camera object tools and there are a group of settings to work live camera, 7-stop settings and so forth, different lenses so you can get right into the enclaves and make different lenses. So you can get right into the enclaves and make different lenses.

That particular angle of the building or light effect or texture, I really felt like I could take advantage of the tool palette an offer on Cyo's property for the first time. I printed these images on black paper but have done a couple on glossy photo paper and they really come to life. The truth to getting good shots is an interplay between camera selection and placement coupled with adding light objects (keeping it simple to say just one). If the area too dark.

The larger images on glossy paper are similar better reproductions than the ones on these pages because I had got into the swing of things by that stage and dropped the images into Photoshop for curves' then went. More problem nothing going on as each more unfolding and dropping into my use of Cyo and the area.

A possibility seems like daunting as I found limitations in program. That is not blue for your editing skills lack in and command of the overall program begins to evolve.

By the time I created the four I had settled out using the light objects more effectively, and there is an organic feel and look to the enclaves. And that really shows amazing light in situations. Where I live it through so that the interesting constructive elements of VLE are removed to a great extent and I realize I am going off track into more abstract areas. Still the opportunity to explore these individual VLE's unfolds further images types that lead into thinking how I would apply that type of filter or pull the camera back a foot or bring in strong lighting just in that corner then I could realize very unique images that challenge the usual computer look prints. Still early days yet and I am having fun playing again.
What's in a Name? I get to a stage in my work where there is a need to begin to name what I am making. So, on the first instance because the sheer number of images that are pouring out it is easy to become lost. Only in regard to wanting to take a specific image a graphic image is printing out in hard copy. And it became when I developed the 'City Icons' collection, with a slow, proof sheet in front of me and the numbering system of the PC it was no longer sufficient detailed information for me to be able to quickly locate the work. It always a logistical nightmare today, a task once the work begins to take a life of its own.

So far we are a couple of weeks down and the pile with about ten different world ideas, though I rejected more already do I felt the images drawn out were rather weak. All the same time, I have once again retrained my research program as the committee felt it was too technical and they wanted more conceptual elements presented.

It turns out to have been a good thing because I have made a major change allocation as follow.

I now call the overall collection the Virtual Luminous Network, under which will reside individual Enclaves.

The title then will look something similar to 'City Icons' (eg. City Icons: The Box Canyon). Currently I have the following: Gridiron Enclave; Plaza Enclave; Partition Enclave; Virtually Enclave; Luminous Enclave; and Oracle Ridge Enclave.

It creates an ordered system of reference in the case of what kind of space we want in the image and what kind of space we want in the image and what kind of space we want in the image and what kind of space we want in the image and what kind of space we want in the image.

I could note this as Van Damme Ridge Enclave 1 and so forth. Otherwise the other number of titles to consider in each Enclave set will become a minimum task. And the way I can really contemplate carefully what that Enclave says to me, what it represents. Where it not me as I portrayed through the Enclaves.

The images on this page are a mix of requests and early experiments. The top (Gridiron Enclave) and bottom (Partition Enclave) are to remain in the Network that the Middle one has been drawn from a request now-internal.

Possible Enclave Names: now in the meeting got include 'Presentation', 'Steelhead', 'Deadlock', 'Placita', 'Edge', 'Ingram's', 'Stellar', (a short story), 'Cable', 'Stiles', 'Stadium', and will be applied as and when or perhaps not depending on whether they suit the Enclave in front of me.

Right now I am driping back into the Enclaves rather than create new ones as I want to perfect the construction aspects, the materials applied and consider the background. So far I have simply built the Enclave itself on a black background.

Multi-rendering lesson: I need to make certain each spritelet taken in the Enclave by the virtual camera can be manipulated further (if required) and as I have finally got familiar with the 'Rendering Effects' dialog box.

I mean, sometimes in common use reality.
The manual again to understand how each setting will impact... basically you renders to the "View Image". The rendering will take as long as the settings...

"Choose..." example: if you want to make an absolutely perfect and... large digital file select "All the best", "Gchannel", "Save File", 1920x1280 resolution...

"Options" settings... It will take half the night for the process rendering to... done but worth it once printed out in hard copy. This is necessary since I want to produce very large reproductions.

**November to October Review**

The second critique of the academic year looms closer as I... have been chasing the computer trying to produce as much work as I can. Also... am perfecting my technique. I've been getting along with... and my overall... and my overall... I can deliver. The specific Envelope just that much more by adding more instructions.

**Supermarket Session Notes**

Bill and I had a great chat about the way my view is... I brought the PowerPoint in and introduced Bill to the different Envelope... probably on the go. I include Envelope: Envelope, Envelope: Envelope, Envelope... and so forth. Bill had noted here... and included some slides taken from the environment.

...discussed around my PhD... and how we need to progress after the October critique as well as consideration of... he... an application to the... the graduate... to get finances for making dream... Transparencies... I also... to contact the Fine Art Gallery at this point... for the space to host an exhibition... which also means I can time a critique at that site to discuss my progress. I'm interested in the art gallery... Bill chatted more on how the... work might... still become temporal... movement... line... scale... also that seeing of on screen... a digital... and... and... it's part of it... I did come Across... the just... Copied that certainly... flattens out... the image considerably... We talked about Thomas... incredible... the installation... fields... "..." I must check his work out again.

Bill said he would like to see the... showed him some more and to keep... with the atmospheric... Metallic... Rendering... etc... Bill... and... so I had some... and just... Copied that certainly... flattens out the... We talked about... "..." I must check his work out again.

Bill said he would like to see the... showed him some more and to keep... with the atmospheric... Metallic... Rendering... etc... Bill... and... so I had some... and just... Copied that certainly... flattens out the... We talked about... "..." I must check his work out again.
SPRING is in the air and it feels old to be witnessing the season now, after all I am usually trawling myself for words of dreary then bitter cold weather in Britain. So perhaps I can just this as an excuse for feeling incredibly distracted at the moment, coupled with bouts of depression and debt, and I wake again, and wake just as it all come from. I think I am in reaction over my art practice increasingly being tied up with the computer which means being stuck indoors for days on end feeling very sickly.

Any indication to remain regular, energetic-like and cut off from the world at large. However on the other hand there are no ways to access society easily while you are a middle age single woman without any familial bonds of friends that regularly frequent your life. I have shipped through the cracks of human society instead small and urgent and insistent interest in things, black, black, black, I have got it bad today to find something into my personal diary I will exist and come back before I turn this stupid book into my personal diary I will exist and come back before I turn.

This is where more oriented towards writing about art stuff.

Nothing like a bit of cat company to bring the world back into focus. I met this gorgeous black and white cat sitting on my chair about five weeks ago. It was the owner of Spicy and it took me a bit because I felt like my foot had come to haunt me. Anyway the cat was friendly, cheeky and playful, even came in the flat and hung out with me for a half a hour. I kept the front door wide open all the time so the cat knew it could leave whenever. It was so lovely to have a cat around again as I miss Spicy and Tofsky awful. Anyway off the cat went into the night and I didn’t see it again until last night. I decided to get organized for this coming week to sort the arts afternoon and evening in the big graduale College. The project is starting the video project and all me into the little Show Fellow Good. I did this because at least the project wouldn’t pick up a signal from my Postcard but the 4th hour of missing me at first line got sorted. It also made sure the screen was well light pretty and the clarity of the images was excellent as well took. (Unlike the July college which is a miserable mess) that dropped out old video project, showed the work as digital this week or wash out. Back to the hint of cat power as a result of the dedication.
I ended up leaving home late and once in the street, a few houses back from my flat, I just happened to see the carnage. Flabbergasted out of the corner of my eye, my eyes were really the only part of the lower half of my face in the line of fire. I was so surprised and then suddenly, and then I realized that I was seeing my gorgeous black, white, all-white. We are now sharing our table regularly and I hope that she will continue to visit because it ease my sense of isolation right now.

Inbetweenes and October Critique

I was first up on Wednesday morning, 23rd October at 9 o'clock, which pulled me fine, seeing that David had written me to say he could only make it for 6:00, and before anyone else. Overall, I think the session went well, and as usual, we had a couple of awkward time lapses but overall, my presentation went well, without a hitch. Most importantly, the feedback from the group really helped immensely. Comments included looking at one of the postgraduate students’ paintings, which I was able to view. The feedback was most encouraging.

I have to say that as The Nutwood, which is a metaphor for the space where the work takes place, I am particularly interested in creating an environment that is representative of reality in my unconscious, and not just for people. I think it is a great challenge to create a coherent, logical narrative that is both engaging and thought-provoking. The feedback was most encouraging.

The challenge in the way the eye moves around the space is creating the feeling of a space. The use of light and shadow is very important, and which was not too effective. I think the use of light and shadow is very important, and which was not too effective. I think the use of light and shadow is very important, and which was not too effective.

VNL REJECT

ARTURO VAN ENDE

ARTURO AMÓS
uncertain what was meant by this observation in association with our way of working. Mention to look at MARTIN Fay? Also TRIES? something to do with works on Catacombs and Lyssos.

Final observations came in comments about how I will show the artworks in an exhibition setting which will continue coming up until I make a decision probably overviews or right for installation. While may seem one and the same but in regard to an installation these would be added elements then.

Just a 2D point on the wall. On choosing I was congratulated on the sheer volume of work produced and very evident progression from novice use of CAD when the WOW factor dominated to confident masterly of a complex are pages program in which the images themselves speak rather than the technical exploration undertaken as in the July critique.
DECEMBER ALREADY and the long front is over. It has been
chaotic as usual for all 3 weeks to be moving. The 1st was
very nice, but the next day, that's where it started to go, then I
was off again!!! I am through of myself because of
this experience and have gone through another period
tension followed by extreme behaviour. I took my
birthday in mid-november - all in all, my holidays were
extended beyond my expectations. However back on
board again and ready to go. I needed to step away from
shrink fully to consider next direction. I have
spent the last couple of days at home packing up my
digital studio. Finally I managed to organise one of
the tech boys at the school, to come help me get my 24" screen, keyboard,
mouse and monitor out of the time studio and into my school studio.
Everything is set up now and I like it! To have my creative area in
one space finally. I now have these computers to go. The school is
with internet access and the 24" screen and Powerbook G4. Perfect!

I spent yesterday exploring the net and found a mighty fine digital suite run
by Gary Chapman of "visual manipulation.com". I replayed the next step is to get
lots of good use much objects to village in my VBS. I plan to document
and recreate the structures into my personal cyberworld. The idea of using
all my buildings from scratch is ridiculous. There are lots of freeform
packages out there in 3D land, and as long as you change the textures
resemble the originals and reintroduce it with changes than I believe you
can use such material as inspiration or catalyst material for
new shapes and formations.

NEXT BIG PLAN: I want to start from making one enormous VBS this
year. The longer I am thinking through the possibilities and
journey throughout to bring back to the same great skill images.
So this week I have downloaded a "city" , "pyramids" , "houses", etc
State buildings, Celtic crosses , interesting packing pieces like a chain
shaped enclosure yard. The serious model construction is about to
KICK OFF. I intend to hold off on any textures until a good far
blocks of the VBS is constructed. Signing up as I want the show
and crap...... catch up soon with more updates.

LAST SUPERVISION SESSION BEFORE X-MAS: Bill and I met up on Friday 14th
December, at 11am @ Kellanw. Basically we reviewed the progress
of VBS and I discussed my work and current state of meshes that
are offered free on the web. He felt that was a good topic given that
I am more interested in CAD program to use it, its not as perfect with
mesh model maker but rather to create special materials to apply to the
structures and "real" environmental camera and lights. There are some
really excellent black structures that are found in polygons one can grab
and transform into an individualistic additional piece unrecognisable
from the original.

Bill and I discussed my period of reading and research to begin
writing towards "Exchanged". He suggested I might want to look
into the art of digital "cinematic" references because I am beginning
to do this in my VBS work. We talked about animation and I agreed
that kid's cartoons were a great source of ideas.
I already check out not kids stuff in the last
afternoon.

There was the suggestion of exploring the essence of
"deformation maps" which change the critical
surface, unlike textures which give the appearance of changing the whole of the rendered object.
One ex student of Bill did some very simple
Object constructs and used transparent filters made up in Photoshop with lights plus some to create the illusion of my bit renders in an office space and so forth. The image above actually uses a photograph of mine of another object to create another kind of illusion. So I relate to trying out new tricks to get the looks I want in my cityscape.

**To Do:**
1. Look at deformation maps
2. Check out Compositing (then look at animation to see how the mentors do it)
3. Rendering techniques in relation to alpha channels

Finally, Bill will not be back until February and in this next six week period, I want to begin a concept chapter - which as a kick-off can be me writing what I am involved with or comparison to other articles in similar field.

**Research for Eunebris**
I have just spent the last month sorting out my system, to proceed with anything connected to writing and needed to understand the work I am producing in three-dimensional space. It requires an initial think tank in how to view, record and respond in effective ways to the growing mountain of material being accumulated on the Web in the past instance fetched clearly by books where I gather quotes, broad range theory and anything else that catches my eye which I believe will contribute to my Eunebris. I created a visual chart with colour coding that is connected to cards where I note the details of author, publisher, etc. and quotes or blocks. It means that I can now keep track of all my libraries, books, information which will probably run into 200 items over the next six months.

Once I hit the library databases, I took off on an intense reading period and now navigating relevant databases such as current content and bestfit with regularity to draw forth a rationale around such subject areas as video games, urban simulation, spirituality, human-computer interaction and so on. The chat to everyone, sources such as periodicals, web, and film will be tapped into. This is a time to skim, taste here and there, with some focus of course, but enough freedom to keep weight of the big picture for now. I am zooming off into any urban theory or spatial concepts a-
Neriss discusses the cycle any technology undergoes on reaching the “transmutation of one problem into another.” He goes on to explain that a transmutation has occurred, the cycle repeats, and the new problem is addressed first by recommendation (not by solving the problem to solve old, familiar problems to adopt better ways) than by research. A new technology develops in directions that challenge the familiar and promise new to improve present conditions but to substantial old problems with new opportunities. And it leads into a new area that allowed to explore sufficiently, new technologies, extend themselves and ourselves far beyond the original problems that gave them rise. Pravik uses the analogy mode of transportation to illustrate the above cycle:... the cycle does extend the foot and move the wheel extends itself, that at each step and turn a broader concept of transportation emerges where cut off and airplanes and spacecrafts and eventually telecommunications and intelligent environments... This essay has made me consider the way the veils are developing, each new one extends and I need to decide if I want these worlds to remain static or explore motion, be it through the introduction of an object that is animated and moves around, or the parts within to be brought to life.

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Never also asks the pertinent question: ‘are we creating environments for intelligence, suggesting the creation of environments that are not intelligent in themselves, but that serve the enhancement of our own intelligences?’ He then proceeds to exemplify suggesting otherwise.

? Consider now I making the cyber world that is the ‘natural’ outdoors to the virtual world indoors. I need to clarify my descriptive usage early on. For example my term VIE.

Coming from ‘The Meaning Home’ essay by Scott McQuire of the painted out of the desire for technological means to reclaim or recreate the homelands, I making the VIEs, to represent my project ‘Home World’.

McQuire talks about the Situationists who engaged in the practice of delirium (literally drifting) through the city with the aim of compiling psychogeographical maps of its zones of force, attraction and ambience.

There are a whole range of creative people - writers, musicians, actors, dancers who in their own improvised journeys around cities, both actual and imaginary.

? How do I journey through my VIEs? What do I want to bring back? How shall I map these regions and will I invent a device for this - a scanning device perhaps? A Kaleidoscope?

I want to open up to parallel artificial or fantasized places that exist in RL like the amusement park, the casino gambling room, even old world video game, the film noir setting of the late 50s and 60s. To think about the type of environment I wish to control or journey through, the virtual… Hey Rimbaud truly, medieval Hell in Hades - play settings is the limit.

THE VEHICLE FOR VIEs? Try coming up with other ways of representing a screen, rather than bringing the physical screen into play, the architect Steven Hall, in his work, the manifestation of the electronic flow of information.

? Pared down Box? Bare Universe? Carry Away World. The type of vehicle to which to transport or frame the final art works?

? Maps/Map making of VIEs, how could I introduce an additional object installation piece to the VIEs? Or should the work remain simple?

Whether in the writing or creating I need to begin to take a stance in order to draw a set of contradictions similar elements in my work. Something to resemble or bounce off?

? Why do it? Only choice to recreate cityscapes and not RL? When City Zones unfolded the motivation was to take my audience on a photographic journey through the city to show them how extraordinary urban sectors could be once transformed by Twilight and Night.

Now I make virtual cityscapes or more aptly ‘skeleton’ virtual structures is what I zoomed in around these branch system, that is the model. Am I lost in the maze again to my attempt to duplicate the whole ‘City Zones’ experience or am I truly finding the strategies and breaking into a new ground. The doubts recede in face of new VIEs that come back when I contemplate how to show this new work appropriately.

? Why am I obsessed with cityscapes, urban spaces? I am also sick with Wellington and his chaps who ran away to London to seek a fortune, and I know that in my time on the streets in Adelaide, Melbourne, Sydney and Brisbane is as a street kid with the other kids. I lived all the globe, rights, the magic, the movement, the sense of possibilities, city space critical. But back to the panel. Is it I want to reconcile or glorify the City? Am I even asking the right questions? There are endless sets of writing whether academic or informal that discuss/research about the city. From an academic
The 'Tower of Babel' images here are reminders of Dyer's comments about how we are trying to 'rebuild the mythical tower' and how this acts like a 'resurgence of many of these worlds into external manifestations' by digital artists these days.

SUPERVISION SESSION WITH ANNE on Tuesday 16th February mainly covered my research plans and reading lists. I was also able to show the system I designed for efficient recording and filing away of information gathered. I showed Anne my sketchbook material which to date has been kept in my new vacant home studio. It's good to have most of my art stuff in one location now at art school. The only thing Anne wants me to sort out is a two-year plan now that the written confirmation has come through. I have exactly that amount of funding left also to cover that period. I was also informed unofficially, by having (acting head (and coordinator) that Bill is beginning his PhD and so cannot do a main supervisor anymore. This means Anne will be. Coupled with this, Anne is off to Barcelona for three months this year so I envisage a pretty, including six months or more once again. Oh well, that is the time one is expected to find out in art school and I know that I can always seek help elsewhere if I really get bogged down as overall I am content.

FACING THOSE OLD BLOCKS I am once again starting around making actual images and I don't know why this is happening. I get into old to just find myself drifting, like I might work at constructively a tower than get bored, or missing around with a material to only find one more I am distracted, I can't put my finger on it, what so going on. Is it because I don't realise how the work will ultimately be seen. Or is it that I think my image making sticks and is cliched, as I love enthusiastic every time I relook at what I am doing. Mostly I find these polygon structures on a grey-black surface and figures should be slowly constructing a major landscape but by far before I get lost in the lighting and material rendering of the figure, or this me being too much of a control freak again. forcing myself to control before I walk as such. When instead I would walk alot more quickly. by taking the occasional intuitive leap into the unknown, which I was doing the first part of 1987 I felt totally out of control of the process. I would quickly construct a polygon structure...
on a grid, mostly the black shapes being moulded from an underlying landscape, the horizon filled in. The sun shone in on the different feature maps, cold lighting, zoom back in and click away. A virtual reality camera, seen in the virtual world, produces lots of still images but the actual overall VIEs are not exactly what you could say were complete works, more like streets or blocks of a city. Not that may be it, but I feel I'm starting to get me moving, producing again.

However, this second major phase of the VIE project I went in with the idea of building more traditional structures, my own resolved city, my own utopian worldscape. Setting the foundations down initially, then like the Tower of Babel or every Indian cityscape in Delhi or Mumbai, adding new layers as time goes on. Great idea but right now I am still stuck wallowing in the mud, trying to lay the first bricks and mortar down, start!

My working practice as an artist requires a balance between reading, viewing other artists' work, talking about what I am doing, making the actual images and periods of contemplation or non-art space to recuperate.

Reading for inspiration / clarification. I am checking out articles and books to begin understanding my own underlying subconscious motivations for making the type of images I make. Secondly, I am seeking dialogues, expressive, virtual platforms on which to develop my own writings about the VIEs. Thirdly, an effective methodology to integrate the making of art with the act of describing the journey.

Writing me into a major block right now with regard to an actual exhibition sometime this year. I am experiencing cold feet about this coupled with some financial problems, the latter reason ultimately influencing what actions I can take now, which is really bloody nothing. I have to keep everything in virtual mode until I can find a way of making more money. I would like to do more photographic work, for example but the cost of paper, chemicals, etc. preclude this activity. Avoiding that still leaves me with little room even if I stick purely to digital generated images. Eventually they have to be reproduced large-scale, then I am thinking how I want them to be on light boxes, transparencies, all of which I cannot consider yet. So it has a lot to do with avoiding an exhibition commitment for as long as possible this year. Yet, I know that the best way to resolve a body of work is to be forced to make a conclusion for an exhibition or similar. There is no doubt that the July/October critiques are great for getting me back on track. From a list of goals needs to be sorted out which also consider my reality now and for the near future, financially.

At the suggestion of Bill I started attending the 3D modeling classes held over 3 hours each Thursday for one semester. It began out to be the ideal activity to do right now and here I am six weeks late in the middle of making a complete little animation. The very act of being in a classroom situation again, conversing with other students and sharing ideas, as well as the discipline of writing in a specific project schedule was good. What I needed to get put out of the everyday with CAD. I had been buried deep in the program, at a level that involves all aspects from modeling.
animation. The modeling side was what I really concentrated upon in the first three weeks because I wanted to finally get into all the different tools on offer. I chose to do a collection of shells in order to try texture and surface techniques of various types to flesh my skills much further. It certainly did this and I am far more confident in making shells, foliage, tools, and so on.

I then concentrated on rendering which involved me of the new tools in LT 5.0. Shaders which have custom interfaces and different ones can be used to make glass, wood, metallic, etc. surfaces. After everything in LT 5.0 is complete, I spent a great deal of time at 3AM! So coupled with the theory and execution of the work before I knew it, a whole go by of what I knew for days, weeks, and even months on the computer. It feels good to be really dedicated at the moment.

The unit 386/380 Digital 3D modeling and animation project brief requires one to undertake two assignments in 13 weeks. The first which I am currently working on is:

1. Develop a fully textured and animated model of a personal object or scene by critique week 4.

2. Develop a project with the lecture overview on it and present to group the project concept in Week 7 and a critique of project in Week 13.

The first stage for my modeling project was to construct the shell, of which I ended up doing 10 or more prototypes and selecting eight of the best for the final animation phase. There were more tweaking and improvement of the surface materials and environment you can see the results above.

I then used a bit of my own creativity and imagination to make the shells look like sea shells. In some backgrounds and ocean but not really done with the shells, just seemed to be floating out in another land. I also had to decide whether I wanted to make some realistic ocean since I kept it artificial looking. The drive towards realism in particular, my own, but on the other hand, I want to try to see what I can achieve in this course unit. Rock pools came into my mind after the beach leakage didn't succeed, I began to construct different settings, rocks and also went back to the net to check some tutorials on making realistic sandy surfaces and water. I gained confidence collecting all sorts of materials from lighting effects to camera movement tutorials also. I have begun to compile a broad range tutorial library as a result of these explorations onto the Web because I will be able to draw from this pool for later CG artworks.

Before I Forget to construct the shell texture I had to spend a whole day and night collecting many text maps and then had to create my own texture library which now consists of a dozen odd sub-libraries from glass, metal, landscape, nature etc. Technically, I also filled my catalogues as when I need to I can quickly bring up say my library of different brick and concrete surfaces within CG Builder Manager. You are left to view thumbnails of all your textures which is really neat.
cyle’s hierarchical system is awesome and once you get confident in negotiating the program’s managers then you begin to truly appreciate the software package range of amazing tools.

Back onto Rockool, construction 3 really worked hard at getting the surface of the rockpool to look realistic and then played around with lighting the scene. As always I am fascinated by ambient light, I am just not inclined to see places in full daylight. Mind he firs’ just have do not have any buildings so it was quite complete as this always affects the scene lighting your place. In the end I found it easy that I wanted to continue with the idea of an animation around this depth area, ie. on the surface as such. However I found and began to place objects in different parts of the rockpool. What I couldn’t believe was how long it took to place individual shells. The reason for the difficulty is that in the construction stage of a shell sometimes the outer changes so once y, z or x is positioned then you cannot simply grab say y and move the shell in an upward or downward movement which is on the axis normal direction as it may now have changed to x instead. What all this simply means is you have to keep going back to a 3D view and tweak your object movement on all three axis planes which takes time and began to drive me crazy by the time I got to the fifth shell.

Observation makes you get a sense of whether what you are doing is working or not visually as a whole. The longer I stayed in the rockpool the idea I became engaged with the space, I was still with the fantasy of the rock so in the initial construction phases I had inserted clusters of rocks together in such a way that to pull me out meant the overall structure looked incomplete or downright anachronistic as you ended up with a glaring gap and say a rock seemingly suspended in space. The third picture from the left on that page shows that, all this meant also having to review the rock structures again, pulling them apart and getting the hierarchy of names in order. Normally I would be on top of this but over the evening I just got caught away building rock and thought half of it, learnt a good lesson there and went to bed that night.

This meandering journey then got me thinking about how I could animate the space creatively and so I made a sea creature which turned out to look more like the Loch Ness monster with a shell on its back... harm not guilty what I had in mind! What you experience in all this LD activity is allot of standards from you spend hours making an object only to dump it.

Back to the drawing board took me back to the spot where I located a neat tutorial on how to make a snake slither side to side across the stage. Suddenly I began to see the merits of making an underwater scene. I had the sandy floor created, the ocean surface created, the rockpool created and the individual shells created. My snake tutorial kickstarted making an ‘electric eel’ that of course could be a ‘sea snake’ also and I had the zigzag movement sorted out. It was simply a question of putting all the components together, all the above taking me into the first week of April.
April activity in Lud. My mind was set on making the underwater world now and I had about a week left for my first presentation. Will put the off another week at the class request to give people more time so I was happy about this.

Lots of pictures taken with my virtual camera as always. This project happens naturally in any project I undertake in Lud. I snap away different frames of the image to the right are 9 of my favourite out of about 100 still shots taken whilst constructing the rockpool. All the images were taken throughout the first five weeks of this project. I consider that my eventual 3d show will comprise of a combination of still and moving images irrespective of whether any of these projects see the light of day at the end of this year.

Ocean Bed, and Beyond. Well okay I struggled for a title to match each progression and it gets a bit stuffy sometimes! I transported my new rock bed formation down to the bottom of the sea and then spent a few days getting it all in place before bringing my sea snake on and animating it. I also decided to make bubbles rise from my grey clam shells while requiring using an omni tool and gravity tool. First of all I do the initial animation in individual files before bringing it into the main project file. I experienced problems working out how to do this transformation of animation. The first couple of times, then messed it up, I wanted movement in a few places and the opportunity to try different animation techniques so I also animated the black clam shells by simply getting the top shell to slowly open and shut. That meant the animation piece has three different applications of movement i) grey clam shells with bubbles ii) black clam shells opening and closing iii) sea snake shedding slowly side to side and gradually moving across the ocean bed now, when it was time to send by rendering exercise, I lifted a couple of clips and ran into big problem. My hardware only had 256 MB RAM on board so I was somewhat restricted in my expectations of the machine. I figured, leave it on overnight and hey it will not the whole short piece out. And somehow, I woke up the next day and it had done 40 frames of a 600 frame piece. I thought.
And even when I came back later that day it had only completed another 20% of its time so I had to cancel the whole operation. Off I went on a tangent after this.

MORE MEMORY REQUIRED So the day of reckoning had finally come about and on I knew I should face the more involved 3D work with care. I had to zoom off and try to figure out how to get thatomainy8MB of memory block which off course was very fuzzy, countdown one more night before the presentation so I was feeling quite confident that I would simply pull in the new memory and get on with the rendering. In the last, after all the time with computer hardware, you know think I had learnt my lesson well the machines worked out and crashed so I ended up sitting it down and that blew my being able to show an animated piece the next day. St I still was fine no other people had not got anywhere near the amount of work done or even attempted going into the timeline. Luckily I had not too many movies off the shelf with titles and moving parts to show plus lots of stellar so it went down fine.

COMPETE UNB R UINING... The small beast is thrashing now after I took it into the Max Shop, but they replace the memory card, I have a whopping 840 MB of RAM on board and getting it makes a huge difference. I have just the underwater world animation on the backburner because at Bill’s suggestion I can see the computer in the Mac Lab and let it run on that over the weekend as it is a heavy polygon, complex animated piece. I will complete it at leisure just for the final rather than as a particularly involved art piece - of which it most definitely is not.

DEVELOPMENT OF A NEW PROJECT The second part of this modeling phase is to take your piece onto a more complete stage and do still working with the shells I intend to take them out of water and place them in a museum or similar type of setting... Back five later sketchbook so I want to get on and construct......

TIME TO OPEN UP I had a talk with Ruth about the general direction and work was taking and how I felt ramped up. We talked over what I had been doing on the stockyard images and helped image and the conclusion reached by both was 3D tools let go of the city toes bays, stop trying to hem myself into just producing virtual architecture and break out... I discovered in making the shells that I enjoyed modeling organic shapes as well as architectural and built reinforced that it was okay to move in all sorts of directions rather than tie myself to either architectural worlds. It was like someone coming into my brain and something the light on, I mean it was always within my abilities to do the same but I got as close as the world that I lost sight of the bigger picture.

When I thought later about what it is I love about working in this way I do not see it is to create any face I like and light it, or color it, or texture it, the perfect staged photography situation. When I think about photographers who actually go to the trouble of building an environment, which takes enormous resources and physical mental labor, so they can get the exact control over every aspect of the scene, I begin to realize their motivation for taking such trouble because it is within my own striving that 3D expresses a similar conclusion. I am not saying I am looking to create the ‘perfect’ world, environment, scene or object or that I want total control over voices or photographs, it isn’t that extreme but yes I want to create a type of space that can add to, shift around, embellish, alter in some way. The sense of endless possibilities excite me. The only limits being technical right now.
Second Part of 3D Modelling Project

Bill and I chatted about the usefulness of my attending the first six weeks of the 3D class but as I knew my own Prez's time table, I decided that I would continue with making another small work for the class I would go on to be the end of the Semester and submit at the end. Bill agreed that it was not necessary either because I should prioritize the last few weeks of Semester one in writing my paper. I just wanted to quickly write this progress then of late and just some images here that I developed further from storytelling. Store room.

I had the idea to create a shell made in the Sea World piece and build a museum of some kind. Initially what I had in mind was a circular hallway leading into a large gothic type room where the shells would be placed in cabinets. Perhaps I would try to convey human presence by showing footprints in the dusty hall leading to the main room. In reality I scrapped off the construction of the room in the museum, trying to link it with the Sea world animation film.

Stage one is shell museum.

That I had stripped down from a contract located in the Net. The result...
PATIENCE ERADICATED after another day moving around in the Shell Room and I reached the conclusion that I needed a fresh angle, a major subject scenario. So I conjured the idea of a museum and decided to go back to the Shell structure itself. I picked out one of my favourite shells I had collected placed it (as pictured left) on a plain surface began to experiment with glass reflections on the outside and inside skeletal fibres. I also began to add different lights into the scene and really liked what I saw. Suddenly I realised I had the perfect room for my shell project. I wanted to explore the interior of the structure and to fill with the outside surround. I also wanted to introduce the animation technique picked up in my very simple Seaworld project, but still did not quite know how to approach movement as I only had a solitary object to work with. I decided to add a sphere to the equation as shown below.

I set up a sphere track on which I then could have a rough guide of the path my sphere would take on its journey towards and into the belly of the shell. I saw all four views of the path and got a sense of direction then got rid of the sphere. I decided to place a camera inside the sphere itself so that it would record the sphere’s travels and get about animating the sphere itself. I obviously made the sphere a child of the sphere. Once I had laid down the path which I found to best get a 30fps between each key frame and extended it around 500fps in all duration. Once the sphere started moving inside the shell I stopped it at random points and took snapshots as shown above. I kind of got carried away and took lots of these outside of shell with floating sphere images initially cause I liked the reflection of the background being shown in the sphere. I also messed around with lighting and colour gels to get dark, dawn, and night lights. None of the pictures generated of outside view are seen as strictly of rendering overnight as and I got bored with this, I moved my focus into the sphere’s journey into the interior of the shell. Having the virtual camera inside the sphere to react and I can switch between the scene camera, hence the reason why the pictures below show the sphere itself in movement and once inside of the shell, what is actually ahead of the sphere can be captured by watching the camera on the centre of the sphere. Later I will add other cameras to the scene for more choice in angled shots but for now I am keeping it to two until I get my bearings.
The first shots I took in the Enclave blew me away. The sense of depth and illusion of space was quite incredible considering the size of the interior. I ended up zooming around getting used to the camera and trying out different angles and textures in the inner core of the Enclave. Also soon into the photo shoot I began to think up names for this space, deciding quickly on Belladona Enclave. Why that name, well I think of it's meaning deadly nightshade and somehow I like the nightshade analogy. Particularly as I still find the images generated here have that moody ambient colouring to them.

I adjusted the camera focus in the Enclave after taking a number of pictures. I also added some further cells inside and realized sections. The next thing was beginning to save individual scenes for overnight rendering later at college. As I do not want to tie my own computer up in rendering I am limiting the ones I render at night to an output size of 2000 x 1128 or thereabouts. This takes around 41/2 hours per image rendering time so I am pretty selective about which ones to do.

I have my system in place now and a `Master` set of folders `Scenes to render overnight` and so forth. Otherwise it gets too confusing by the time I try to join to Belladona Enclave files. It is such an adventure right now and I am really excited with the work and so glad as I come into my 15 month PhD milestone to see just how far I have progressed. There has and no doubt will continue to be dry periods but I feel very engaged now in my work. I probably have about a dozen ideas and images and another twenty odd that will find their way into my personal artist collection.

EXERCISES BLUES: Well here I am in the aftermath of my paper presentation and utterly mentally empty. I have just sat at the computer for two solid weeks foregoing everything I normally do just so I can have some clear uninterrupted space to write. At the start it was ambitious just by the end of the first week the minds began to flow. I finished up with around 3,000 words that had been edited and culled and tightened up from about 5,000 words. I felt the paper read well, flowed and the sense of satisfaction was there on some good work being completed. The actual thesis was a smooth one that the Postgraduate Office who run the section, Professor Helms did not come, seems he had forgotten 6 or 7 thought 3
I would have to cancel it. I wanted to see how many people turned up, around a dozen, and decided to go ahead. I am glad I did because I was so jazzed up for the event any other date would have been an anti-climax, and quite frankly unacceptable considering all the preparatory work I put in for the session. Feedback included that I did not need to guest so much. Justify why I used technology as my main medium and people wanted to hear about the ideas around the work more. The second point was how I needed to make my aesthetic come much more clear and perhaps this could be achieved by selecting a couple of artistic sources to make a comparison with. For example I used film and a few cinematic experiences have really influenced my art as an adult. The argument was to focus totally on this one source. Also to write about how I felt I was controlling the technological layer as perhaps I should bring forth stronger theoretical arguments into the writing about this.

Then there was the point about all the different artists who influenced my work, and how I would concentrate on a couple. Certainly Hildur Heij and another could be Chris Davies.

Basically it is about sifting down all these influences as they are pretty numerous and widespread down to just a few. So it could be:
1) Filmic / Artist / Feminist Theory and completely forget about justifying why you use the technology to make art as this is not the purpose of the project.
2) Focus on one artist, one visual story, as you mention how it is the very best of science fiction that influences your own choice of visual language.
3) Artist - How are the women using technological platforms differently because you feel that is exactly what you are trying to do.
4) Thoroughly worked out that allows you to get to the specifics.
5) In general terms it was also suggested that I might want to bring in the photographic element i.e. particularly staged photography.
6) I could really look at the term Enclave and strip this down. What does it mean? Check out how Enclave is deployed in other contexts.
7) Write about whole context - my aesthetic - why do I make the pictures as I do. Women / Film, immersed in that world... - a quote of Bill Viola - "Reason for Knapping at an empty house is reason for knowing at an empty room" to view more frothy *writing*.

**RANDOM THOUGHTS**

- Shot a programme advert talking about the 32 parts of the body and seeing within, feeling away... sick idea.
- And what is in a name? Considering all sorts as 'Balestra... Enclave' as photographed. Both for the individual parts of this Enclave and the new Enclaves made. I must begin to compile a list of five titles for the works as they come out. I have had another look at the photos I took of this Enclave and the underwater Enclave as well as the Rockpool Enclave so really call out the ones. I have only selected four so far that I think are exceptional from the different Enclaves. And as when the 27 collection grew I must settle on names - because I can then keep track of what is generated. More importantly each work really gets its spirit in the descriptive process...
FIRST SUPERVISION SESSION with John sense. He return from three/four months away
in Barcelona. We had to much to catch up on that we are doing another
session next Tuesday week. Basically we covered the artworks generated and
had a superficial look at the paper I presented in July. Really I wanted at
least another hour but there are always time constraints.
After this I met up with Jonathan Holmes who saw
me on a one to one basis because he did not attend
my critique paper presentation.
I showed him some of my artworks in belladona
Enclaves and we discussed my idea of wandering
through the Enclaves. He suggested I might want
to check out the following:
• Period 1815-1880 for Wanderings undertaken and
engagements beginning between private and public spaces
• Walter Benjamin’s text on Charles Baudelaire: A Lyric
Verse in an Era of High Capitalism
• Margaret Hunt ‘Revolution by Night (Surrealism)
SordNUMBER
• British ‘Some of the Marvellous
• At Fodor’s ‘Surrealism’
Jonathan talked about how Baudelaire coined the phrase ‘Fini
Being anonymous in the crowd.
• Check out classic modernist wandering theory
There was a Retention of the Structure of the Exercises:
Brief Introduction > Central argument 2,000-3,000 words > Context for
Work > Visual and Material Influences (be academic in your style of writing here) >
New work was pursued (more personal writing style here) 4,000-6,000 words >
Conclusion 1,000 words Total: 13,000 words. Can do between 27,000 – 28,000 max.
I was also suggested I might want to consider doing one or two lectures
for 8-10 min each which would require 4,000 words (40 pages) to cover around
• By March/April now I want to kick off writing about ‘how the work
is pursued’.
BACK IN A FUNK I have just off on what I think has been another dead end
alley. However what is frustrating this time round is that I felt like I
was getting so close to a breakthrough in regard to producing work that
would survive intact and maybe even be good enough for my eventual
PhD exhibition. To let go now would be bloody far away.
I really am had me throwing the arm up in the air and nearly waving
in despair.
I got all cocky about the much improved modelling skills I
had acquired making the underwater and rockpool Enclaves. That moved me
into belladona Enclave where I began to animate and using the travelling
shades with screen Enclade, the first I was getting were surreal and striking.
The mix of organic with inorganic shapes seemed to evoke both familiar
and strange landscapes (or that is what you could call them) that were
reasonably interesting. I then decided it was time to go back into city
culling and this is where I have been for the past month or so. All in
preparation for my Show Talk critique on 28th September.
LEGBLAND is not what I was aiming for and not the city I have contracted
with around 40 buildings to date. Model a grid system with
small roads and over a suspension bridge running across a river to greatly resembling that look. I was looking at it last night
and noticed I hated it, too hard edge with moving buildings
around, trying to add different lighting, putting sections in glass...
away with numerous photographs. This is an important element to this work.

That not only do I get to learn for my own purposes and the artifice to which they relate but have the excitement and anticipation of the journey I will undertake through these Environments. With camera in hand, exploring modes and strategies that even as the maker I could not foresee would be 'waiting to be photographed.' The current Environments is not doing anything for me.

So back to the point of month of modelling, texturing and building that stopped the city layout appears to have been a complete waste of time. I need to get out of this situation, a process of building that are not entirely interesting to view in these rigid structures. I did have some photographic terms or otherwise? All this left there are three pictures of the first photographic terms or otherwise. All this left there are three pictures of the first photographic terms or otherwise. All this left there are three pictures of the first photographic terms or otherwise.

What I am building in 3D space is not placed in the real world, of course it is but it is not sitting down and straight copying or place objects or space from another world. What is currently being created definitely comes from my imagination. My interpretation of the City and what it offers back to me through the images drawn forth.

TIME FOR REFLECTION & RENEWAL I flicked back through my City Environments photos to consider what made this collection stand out, private and personal from the public and art critics alike. It was a collection of elements the relationships of light to the objects and the way it illuminated and shaped the overall space and what was contained therein. It was the specific corner.
or object or detail found that I was able to focus upon and bring forth. This which might not normally be perceived as interesting in the cool daylight and yet in other fine shots was transformed into something else real. It was the very act of wandering and rediscovering areas the city I thought I knew well, the purpose of finding an area, a tiny corner, a space and capturing its beauty on film.

**Important Discoveries**

There would be 5-6 back and look for the simple objects or clear spaces in the Enclave, that would offer detail or form of interest. To act upon what I learnt, as a creator of City Zones, to strip back and far down to just stroke a space rather than great them as a surface. Because I think that what I always fascinated me, comes from within, or inside of something or someone. I don't find any longer outer walls, object or human, to be something to trust. We live in a world of appearances, an obsession with it in fact and we learn to they nature that often what appears to be so rarely what it actually truly is. Dig deeper and you really get to discover the elements that make up the whole...

**Practical Issue**

I want to build a small prototype. Light box by the September critique as I can at least demonstrate a way in which I might show the work. Or if not for that time period, set up a small projector way back in the postgraduate room to give people a very large scale reproduction of one of the Enclaves.

**Reconnection**

I had a few days out great doing daily activities, going to the gym, reading up with a couple of friends on the telephone, real nice normal human stuff. It was exactly what I needed and now I am back again considering what I wrote in my notes. I have been thinking back in the Enclave and taking on board my own observations about going back to a small set of objects or space, keeping it simple was the trick! At the desk are a set of images taken on a small part of one of the sites. I stripped out all the individual textural coatings on individual buildings and overlaid the entire block with one texture. Suddenly the city looked muted, warm and interesting at the same time. I also created a huge cube which I placed over the entire cityscape and applied a 'glass' texture. It then added even more incredible shadows and mottled patterns onto surface. The suggestion of things lurking in the nooks and crannies was exactly the kind of atmosphere I was looking for... more later I am thinking to go off for a wander in this Enclave.

**Back From A Journey**

I am happily beginning to produce the kind of imagery I clearly picture in my mind's eye. That which shows the intangible peeping out from behind a veil of shadows. With flashes of brilliant colourful hints of light, not unlike the smile that suddenly transforms a face in a way that appears quite ordinary. It is a beginning and stepping away from wide angle fixes of the city at this time to intimate underarm bolt right.
Questions of what did I mean that I did not mean the exact dimension and being in a single structure corner and so forth in an Enclave given that I had constructed the entire structure in the first place were not ones it responded to very clearly at all. headed to confusion about what I meant. So I realize I need to consider the way I articulate this particular aspect of the work/research to other people. My explanation relied on the assumption that people would understand the fundamentals of 3D interfaces. But it in retrospect I can see that not people look at images taken from given fixed medium and visualization a Flat TwoDimensional working space whereas in fact I am moving around a three dimensional terrain all the times being able to walk down streets enter buildings and so forth. As a result I do not know every aspect of the city I have constructed because when I am in the virtual terrain it is so I am in the real world. Where I can only see what is in front and at the side of me. So this is what I was trying to describe to the audience in the presentation but did not do clearly at all. Perhaps people imagine that one can miraculously see through walls and so forth like a super hero on going into virtual terrain. Sure I can call up a split screen view in the screen to see my city in a perspective lift front or top view and that when I go to do a photo shot I work in perspective only and that takes me back to a set of limitations great as I would encounter doing a photo shot in real life physical space.

With regard to the final format/look. Questions of Raw I will get out of a piece of game/constructed film make different. My response being that I am not necessarily concerned to try to disguise the “look” of my artwork.
Parallel to the look found in the films 'Dark City' and 'Cube' which I thought lent so I particularly loved the former film. I ultimately bought commentary back to seriously considering what I want the viewer to get. Coming from observation that the work was both forbidding yet very beautiful. Also received traditional gothic and interpreted city which brings to mind that I need to consider my own use of language when describing the work and that way I can keep control of others perceptions of what they think I am saying rather than have a view imposed? Like no I do not see my Endeavours as looking remotely gothic!

Consider other traditions which feed into your language such as set design, staged photography when talking then about your work it also does not need to be just formal language but also needs to be more poetic.

SOURCES TO CONSIDER - Constructivist traditions of set design / Iren? Fraenkel / Dante Ferruccio (literary that has strong allegorical drive) / Mertens (film)

Essentially I need to locate a framework i.e. allegory - the story or description in which the character and events symbolize some deeper underlying meaning. It is crucial because I know that my end imagery in many ways come from a deep private inner space and I am yet to have located a specific theoretical camp to begin to draw parallels with to begin the process of investigating. It goes through to arrive at my artworks. Describe this in reference to my research away from outlining the technical processes back to the poetic and those that inspire me to make the work. I need to direct my research away from outlining the technical processes back to the poetic and those that inspire me to make the work. Lots of films and literary references like Julia Term ’s Journey to the Center of the Earth type, similarities and connection that perhaps I am unwilling to take command of the fortifying nature of my spaces?

Now how do I have a positive experience in the Endeavours without any human presence? I well I know myself that until because of my background as a street kid I know I experience the called public spaces without people in a different way to the average person who has always had the security of four walls roof over them. I guess I don’t see my Endeavours as lacking in human presence but I can talk on board that the current Endeavours definitely need more of a sense of having been peopled. Need to work on that one bit more. Of a sense of having been peopled. Need to work on that one bit more.

How do you bring in a sense of scale without something on the view to compare something with the interior room ancestral remains gives you objects that anchor the eye but the public spaces are more difficult to work out.

Sound & Smell seeing that element as something to develop later in this research.

Spaces look very clean — can you ground them up and move to the point do you want to? Obviously lighting could bring this dirty look in by placement of gels.

General discussion opened up and all sorts of literary references again from Luke Hennard’s Die Mann that was suggested because I randomly wander the Endeavours right now and perhaps I might
Want to introduce more controlled methodology to the way I explore the Enclaves. I can consider this because I used to put a limit on the radius of a new city that I would walk around when doing the city tours. I would draw a circle on the map and stick exactly in that parameter.

Mention again of the Arcades Project in France built in the 19th century. Also Met Men movies and a couple of science fiction novels.

The one reference to chase up that I have not looked at is Margaret Hunt 'Evolution by Night' on the Arcades project.

Big question: Why do I make the 'Enclaves' that I do. Want more reasons behind the cities and actually it is an important freedom to cut down and try to write in more detail about. After all I could have decided to construct private houses not great tower blocks etc.

I realize that in all my writing I really do not tackle this anywhere.

Check out James Casebere (photographer who constructs models and photographs them) also Toni Dove.

Several leaving 'The Survivor' - until this year ago, will look again.

Mention of 'my being a stranger in the places of the Enclaves is considered a total point!' This really needs to be focussed upon and answered in more depth.
I am writing a retrospective account of the past couple of months because I find it impossible to engage with thought-life activity as I am so unsettled in my life generally. I hate the place I have at Unit and my living situation. That means I am feeling mentally dehumanised from life and studies as a result. To keep things simple, I have reduced my activities to admissible days by day which rather than the day itself, whilst I do not have a distinct start at least I feel comfortable enough to write to. I simply cannot write & making images. It is not an insurmountable obstacle but an agent & need a conducive light and good energy place to do in. So I am going to create. Instead I have a door in a corner which in front of a door that cannot be shut as it is broken, under these lights that cannot be switched off with those floods of reflected light constantly reaching out my foreground screen. Then I am in a room with three other girls who are as they are, I feel they are in a rush out of water doing the artist's work whereas they are all stuck more than something, not trying to make a fire artist in such an environment. I have a real wall glass to be able to hang things up. In the end I decided to move to the room next door. I call it that because it is a closed, no window, hot room. But at least it has a shelf at the floor that works and there are no other people working in it. It is possible to join small groups not bigger because once again, will space just does not exist. To join such big piles not bigger because once again, will space just does not exist. I feel like I am in an alternative to the front room, it is like first floor, but better. I do not use it as an alternative to the front room, it is in front of an over there, you felt that it was in another. 

I also attended a Thursday night and great reason to mid-February that man talks for the master's that students. I was also in the library and three people turned me all of whom were only part-time. But he went to the next meeting and realised it was not particularly helpful to me as the people were all standing out as if really as if after an hour and half presentation by a woman on the potential research project pre-lab submission. I decided that my Thursday evenings were better spent working on my own project. This kind of seminar to present if you are starting out that but not for someone two years into their postgraduate projects, research, strategies that succeed. Every postgraduate student must attend a four-day research strategies workshop at least at least at least, at least, not at least, not at least, not at least, not at least. I was also asked if I would do a presentation of my work on the Tuesday afternoon. The workshop really had a great range of different presentation styles on an investment of necessary research methodologies, such as for other. Research focused to the future and creative fields.

Both self-employed on the design or film industry, representatives and academics. It was a long week after you walked out the end of the week with your head reamed full of information. For my presentation I took it as given through the city centre to correct virtual turnarounds, Polaroids, I got to see a slide projector which I did not work well, because I was forced to cut off. Later to giving the talk. So more than I ever knew I couldn't count out the
As usual, as well as meeting after class finishing when I would not normally come across a classmate at the University, I went to the first meeting as an observer and as habitual. Really either much of the discussion; I was often not able to keep up with the discussion; I was also never able to express my own. Overall, I thought it interesting to see how the decision making was undertaken by a school specific committee.

In the same week I had another meeting, this time with Alice, and after seeing her for a couple of times in the last, or maybe, or as it has given me a fair idea of what to expect, I brought into the mentoring process. A balance between support, advice and general confidence boosting without getting into formal terms. That way one avoids becoming more of a social worker/mentor to the student. In the future if I was approached again, I would tend to help the mentoring down to only one or two students at a time, as your and of spending so much time, they should not seem to be an overwhelming amount. Whether I am involved with teaching. I guess in the future has to be a reminder that I have time that much more time left before I must submit my PhD. Well, we have just two more months, I think to still about 18 months to go. However, I realize I must always just put the school of anything else.

Thank you for your comments. I am still doing lots of different things at the start. It has been a few really full on months so 3 exams, and time able to get much of that 3 weeks ago. I have had some fantastic infrequent meetings with Martha. We have met every week for three months. It really got me back on track. I decided in consultation with Martha to submit an essay for the first conference, that of creative writing. Martha is going to the conference, that of creative writing for the first conference that of creative writing, the conference for the first conference that of creative writing, the conference for the first conference that of creative writing.
Teaching preparation forced me to teach class was full on and took hours to accomplish. I initially believed a breakdown week-by-week plan to be correct, mainly driven by conceptual aids for creative thinking to our instruction, sound and stimulating. My group, bound by a task to visit the MIT Media Lab and develop my major project, preparation with the final week being presentations of each student's major project. Thus my group had to do an today. More on Teaching later...

Something else I also forgot to mention earlier. I managed to score one day the Friday of the week before I taught. All I do for the hours was fill out thestef 11 was a day after I wanted to think about job hunting in Cambridge. The job hunting is not a day to consider I think about job hunting in Cambridge. I have done a few times this week and decided I'll probably do it to end the week. Thus, I reminded myself of the money I need to get my work done. I plan to remind myself of the money... I need to get a really great photo printer. I am the finding my pictures to get to my photo prints. I am the finding my pictures to get to a really great photo printer. I am the finding my pictures to get to a really great photo printer. I am the finding my pictures to get to a really great photo printer. I am the finding my pictures to get to a really great photo printer.

In the Background is Edinburgh in Lange and Founder. The conference paper shapes the nicely and I am trying to get a look at a decent 6E or 6E Mac in the 11am area to begin to render some of my scenes. I have to Renderer Enclave that shows by making a scene of my scenes from Sketchup to the 11 am area to begin to render some of my scenes. I have to Renderer Enclave that shows by making a scene of my scenes from Sketchup to the 11 am area to begin to render some of my scenes. I have to Renderer Enclave that shows by making a scene of my scenes from Sketchup to the 11 am area to begin to render some of my scenes. I have to Renderer Enclave that shows by making a scene of my scenes from Sketchup to the 11 am area to begin to render some of my scenes. I have to Renderer Enclave that shows by making a scene of my scenes from Sketchup to the 11 am area to begin to render some of my scenes. 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The rest of August was a mix between teaching, client development, redesigning my Conference page and sitting up waiting to hose to get a set of images together to show in my presentation.

Your Commission 2 was approached by email and phone, lectures in photography and revised as I would be willing to provide more images than city laws for the conference committee to look at so they needed to select an image for use on the different adoration materials that I've designed for the conference. A couple of course not, that I am willing to the end of the play at EMIR because each department to do an advertorial for each and don't want doing each commissions when the prebook to advertising my artwork to a broad audience about a week later. I managed to get me hanged that "Hepatica" had been selected. It would be used on the poster, large scale banners, conference hand-out flyers and any other literature connected to the event. It will also be used on the web site 2002 I was pleased about this. The conference is over two days 20th-21st September, I am feeling pretty relaxed about presenting now that I have been teaching over a number of weeks. When you can run a four hour class where generally I must deliver information anything up to two hours out of the term in a straight block before the students can get on with the different inclusion projects set for the particular class. The room of 300 half hour per session presentation is no sweat, the days when I was absolutely panicked about my previous speaking engagements are now a thing of the past.

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The conference was a success in terms of good attendance and lecturing in content. The theme of the conference "hymn" which the WECI did the good job! Michael was present at the conference and the fantastic Jeffrey Stowe was the keynote speaker. There were a wide range of other speakers from all across EMIR and some international speakers. It was started in London last session on the first day in the main hall. Unfortunately at the same time as another presentation, who was in the other presentation from. It meant that none of our students attended to be surprise to me! I was pleasantly taken back by some of my students coming, as well as admin stuff I work with one day a week and of course, Markus was there so I felt the people I have the most real contact with. Was told by the good news when called by my Telkom and associated staff in EMIR, were in place, if we well prepared having done a process through the day before with Dean and Heiner. It was a good job, I did this because my timing was out in parts and I was advised to cut sections or abbreviate and talk more about one area than another. So my presentation ran in perfect sync with the images I advanced. I am grateful that it never got to really see my very properly large scale images as if course I was facing my audience. However, I received feedback that they looked incredible. Generally I only see the individual scans from the live on the computer monitor. The one thing I did ask about was the battled art school which was also given an award for being a "whole room" and use of a data projector so that nobody was left behind. As I would take the space and equipment to show my own work, besides in EMIR no one room is available, and getting a data projector! you have to be kidding.

The presentation Adam made and Jan, the course leader asked me if I would talk to their first year students about my experience and to give a photographic practice for an hour or so. I also managed to change the group, was about 40 students crowded in the classroom. After a floor lecture with the equipment the talk went well. More of this with some change on the emphasize I did a similar presentation to my talk earlier in the year to the 2nd year Photography students, all good experience in public speaking and more of my presentation skills.
Off my feet computer and transfer relevant files over to my new Mac G5. The
screen I have been provided to is a latest Apple Power Book G4, cichemically similar
with seven real estate that gives me enough room to place lots of palette around the
main viewport where a scene is shown. For 3D purposes it will be good to
have my 3D viewable scenes available plus different manager windows and still feel
time to roam to move around the interface.

Back in customary pattern around so I needed a break from a concerted effort to
continue working towards my Exercise. I couldn't resist just meandering around
with lighting and textures with no specific goal in mind. Perfect jounery to
fill in the dead time I may need for period to work on being away from my
research and distant in Britain. I take this time of the year so I am glad
to full back on creative activities to pass through the festive season. Paralyzed
that because I have been tied down to no longer computer equipment
innacle of doing decent 3D work so I stepped my activity quietly made
in London to New to past six months. Instead concentrating on reading,
writing, conference paper preparation and so forth. all academic journals
and tackling in any hours on visual activity. So I had become dependant
with the virtual humanities teaching as well as the daily interaction with
the software programme itself. It is easy to forget that of the fundamental
operations in a programme as multi-faceted and complex as Design SC.
I decided to put back into the cab table by Adam Wolinsky, a低价
handbook that I lived in for my first year of MSc research to get to
grasp with the programme. I also felt it was important to hold together
random notes I have scattered in different notebooks and centralize them here
in my sketchbook. Doubtly it would be an automatic procedure but
was in a technical sijourn. I have a tendency to make quick jottings
down of one operation or another. That involves a considerable amount of
time and I want it recorded here as it is an important part of my
art practice.

CUSTOMIZING THE INTERFACE
Just coming to grips with the GUI interface is a bit
of a nightmare in itself. The GUI interface is called the main-window and
organized into palettes on three sides (top, left and bottom) containing clusters of tools.
The interface incorporates all major areas of the 3D creation process: modelling,
rendering, lighting, cinematography, animation and rendering. The palettes that
contain the tools are called command palettes. These Command palettes surround the
view panes and several Managers. There are several Managers in 3D do not
all can be simultaneously viewed on the interface. Some are placed under others.
The Managers also share screen space with the View panel and Command palettes.

They include Object, Structure, Browser Managers.
You can customize all of these different Command palettes and Managers as
well as select the views you want to split screen into two four windows and so forth.
3D construction theory: The most basic building block of 3D objects is the point. Several (usually 3 to 6) points are arranged in space to form the vertices that make up the polygon itself. However, when a large number of these irregular polygons are connected or to another and placed at small angles to one another a curved shape can be created. The more polygons a curved shape contains, the smoother the curve. The idea of polygons to control all 3D modelling.

NURBS. Besides polygonal modelling, CAD also provides a form of modelling that allows for tremendous flexibility, NURBS (non-uniform rational B-spline) objects are objects created by object generation. NURBS do not contain polygons, rather through a collection of vertices, the key building element to create most NURBS objects, a variety of forms are created. Instead of collections of forms rather than actual groups of polygons. Some CAD editors also allow the defining of NURBS by manipulating the vertices of the forms.

Spline are inherently thin appearing as lines in the editor but do not render as lines, they are construction objects. Spline are a sequence of vertices connected by line segments. The nature of the line between points can be straight or curved. The nature of the line is defined by the type of spline and the nature of the points that compose it.

Closed loops or NURBS. The key to the NURBS tools is the use of the Closed NURBS object, which has its own geometry. They are object geometry, meaning they create forms from other objects within CAD, namely splines. You must tell the NURBS object what option it is allowed to use to create the spline. This is done by making splines children of the NURBS object. You simply go to the object manager and add a spline and assign it to a NURBS object as shown above in Fig. 6.

Cd has a whole collection of primitives, objects created via mathematical formulas based on fundamental ratios. Because of their dynamic, mathematical nature most primitives in Cd are used to the parametric, meaning their parameter can be changed, by altering the parameter you can quickly get near a shape without having to alter the object at the polygon level.
To alter a material, you can open the material editor. On the left, you can access different parameters. Open "Parameters" and find parameters such as color, where you can define a color, and texture where you can import a file. 

Compiling the Text Libraries took weeks, basically I also needed to put textures in different categories such as wood, metal, fabric, animal, sky, and so on. Also, I needed to put textures needed to be merged so that it is easily loaded into the 3D Tex Library. After importing a live texture map, you can view it in the megabyte range, and the program updates it. It became important that I became an expert in creating materials to use my own original textures. Some taken from very aerial photographs of the city. It is a mix of scanned and original material. 

**KEY TIPS in Material Management**

- **Creating Seamless Maps**
  - When you have an image map that you need to repeat, open an image editor and a pixel, where the left edge and right edge of the map are meeting up, you can start this tool in Photoshop. 
  - Open the image up in Photoshop and create an offset filter (Filter > Other > Offset). What this filter does is move the entire image offset to the left or right and down. The real power comes from being able to adjust values. In this case, the tool image below I have twisted only the horizontal pixels to move right and so do the bottom image. 
  - When the image map is applied to the object in 3D it wraps smoothly around the object.

- **Different Treatment for a Pattern Map**
  - Try to offset the pattern map so that the seams are in the middle where you can cut at them. The amount you offset the image largely depends on the size of the image and is completely arbitrary. Make sure that it is offset by a good amount so that the seams are clearly in the middle and easy to alter. Then use the rubber stamp tool to work out the seams that are running down the middle of the image. Once you’ve worked them out, make sure to save it. If it is too much to make, you can define another one to run through the project.
In the material manager you have two areas Colour and Texture. In the colour section you alter the overall colour. In the Texture section you can place an image and once the image map is imported it overrides the settings in the colour section. The new section of the Texture section allows you to mix the colour and texture information. Ensure that the texture setting is the top layer of the material. If the Mix setting is set at normal and 100% then the top texture completely covers the bottom colour. If you reduce the strength of the bottom colour it will be allowed to show through.

TEXTURE PROPERTIES
Over the months I have come across lots of different tuning situations and I want to make some of these that might be useful to read in a regular tutorial. Idea is to create effective solid/veg texture such as sand or water, mirror reflection and using different textures on different parts of an object.

GETTING A SMOOTH REFLECTION TO A SURFACE
Use both the Bump Parameter and using right triangular arrow select turbulence from the list of 28 shaders. This is the best shader to use to give a slight variation to a surface. The strength setting of the bump parameter must be 0 to 1. This will give the material just enough detail to project so the surface doesn’t look too flat or like.

CREATING GLASS MATERIAL
Glass is a really complex material and is largely a subjective call. However almost all glass should have the colour, transparency, reflection and specular parameters activated.

The colour and transparency parameters often have quite a bit of a grey-blue selected as the colour. The Transparency setting can be tweaked a little lower than zero so you can see the scene better.

The reflection channel largely depends on the context in which you would be placing the glass. If it is going to be a scene at night where a strong highlight is always going to be on the surface then the glass should be highly reflective, but the reflection gradually quite high (0.5)

Finally, glass speculars are very hard and actually quite high.

CREATING METALLIC MATERIAL
You need to activate the colour, reflection, specular and specular parameters, often.

Chroma has a slightly blue colour with high (90%) reflection.

The key to making metal believable will be in the specular parameter, reduce the mode to Metal. Then make the width very thin (0.1%) and the height extremely high (90%). This gives the material an intense, shiny highlight.

Change the specular colour parameter to something with a little blue and your metal is almost. If you wanted a brushed brass effect activate Colour, Reflection, Bump, Specular and Specular color parameters. Give the material a golden-brown colour. Change the reflection colour yellow and import a bump map into texture image. Turn the yellow specular parameter to metal mode with a low width (0.1%) and very high height (90%).

Chroma Picked Speed Low affecting just the specular map and light cast at this time. Set Bump map to 0 and 0.5 Width and add 10% to the object. Make a metallic material as above. Then do a copy of Specification. Activate the Alpha parameter and place an image map of any desired pattern. You can also use the Diffuse channel to apply the metal of a bit.
MAKING MATERIAL PATTERN CORRECT SCALE

Often when you apply a material pattern to a 3D model, it doesn't look quite right because the size of the pattern is too large. In this case, you can change the scale of the pattern by adjusting the scale slider in the Object Manager. However, if the pattern is too small, you can adjust the scale slider to make it larger.

To change the size of the pattern, you need to select the object in question and open the Object Manager. Once there, locate the pattern and select it. You can then adjust the scale slider to make it larger or smaller. Once you have made your adjustments, you can apply the changes to the object by clicking the Apply button in the Object Manager.

Another method of adjusting the size of the pattern is to use the Transform tool. To do this, simply select the object you want to edit and then use the Transform tool to adjust the size of the pattern.

TEXTURING OBJECTS

Texturing objects in 3D modeling software can be a challenging task, especially when trying to create realistic textures for your models. In this section, we will explore some techniques for texturing objects in 3D modeling software.

STEP ONE

Open the material and select the material you want to use for the object. You can then apply the material to the object by clicking on the material in the Object Manager and dragging it to the object in the viewport. You can also apply the material to the object by clicking on the material in the Object Manager and then simply clicking on the object in the viewport to apply the material.

STEP TWO

Apply the material to the object by selecting the object in the viewport and then selecting the material in the Material Manager. You can then apply the material to the object by dragging the material from the Material Manager to the object in the viewport.

STEP THREE

Once the material has been applied to the object, you can then adjust the material settings to achieve the desired effect. You can also adjust the material settings by selecting the material in the viewport and then adjusting the settings in the Material Manager.

For more advanced texturing techniques, refer to the online manual located on the CD included with this book. The manual contains detailed instructions on how to create realistic textures for your 3D models.

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programme material manager capabilities, I now want to outline some fundamentals on the camera object.

**Camera Object**

When you start a new scene, the viewports initially use the editor camera - an internal camera that you can move in to the object manager. You can use one of your own cameras and then switch to the editor camera by simply selecting Camera in the viewport menu for which brings up the sub-menu and then clicks on Editor Camera.

The Editor Camera simply shows the current viewport you are in and use of the shortcut only keys 1, 2 and 3 will allow you to manipulate around the different viewports of the viewport scene.

If you want to create a particular object placed in the viewport scene then bring the additional camera objects in order to display the camera view from the viewports Camera > Scene Camera menu.

**Target Camera**

This is absolutely vital to have as a target camera always focuses on an object in your scene and when the object moves the target camera.

When you select a target camera, a camera object and a camera target always focus on the object you can then in Fig. 2 below.

![Fig. 2](image)

In Fig. 2 you drop the camera target into the space object and make it a child of the sphere.

In Fig. 3 you can lock to the camera object and change the lighting and set the scene in the viewport camera the target camera.

In Fig. 3 the camera is in a new settingViewport.

In Fig. 4 I have added a light in the scene, just a cube over the sphere and rendered the scene of I have to move the camera around the scene camera would track it and the camera target inside the object.

**Back into the reflection**

I did some exercises in animation that I do not want to go into here because it is all 20 years back, then had it move around on a roller-coaster type. The structure in Live does not necessarily mean that it is the idea of getting an animated avatar to walk inside the object of Fig. 2. It is a huge area figuring Embodiment on another stage. However, many times after doing out the computer interface I ask myself why the hell I decided to get into computer-mediated image making (which) was wandering the real streets of the city with analogue camera on request, totally by itself and capturing an extraordinary and obscure urban territory, along with these stages. So whenever I am about to work under the strain of 200 negotiations I shut and go into Greggs writing. Whatever... now! I reflect back on the last few weeks as being stressful but productive. I completed a big section on embodiment and art practice in the physical world, shift into sub-headings to include "Defining Body", "The Embodied Thing?", "The Non-Fictional Physical World and Art Practice", and the implications of the sense. I decided after this time I had to take a break before starting on the next big section. Embodiment and Art Practice in the Virtual Environment. Naturally I also decided in between writing because I sometimes need to get around a theoretical position in order to adjust it in some degree of understanding. Then there comes to grips with the sheer volume of academic literatures and there are deals with any usage of Embodiment, but above virtual embodiment. Most of the time I feel awash with all the theory and forget half of it as soon as I read an article or book that enough work that I can reach into a relevant space or relocate you abroad...