PAN-ORAO AND HISTORICAL NECESSITY

Adjusted Frames and Optical Settlement

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B. Arch. Cornell University, Ithaca, New York 1992

Submitted to the Department of Architecture, School of Architecture and Planning at MIT, in Partial Fulfillment of the Requirements for the degree of

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ABSTRACT

Large horizontally formatted images have frequently been preferred for urban portraiture. Totalizing and comprehensive such compositions depict an environment as landscape or prospect. In rendering an all-encompassing view they attempt an expansive topographic virtuality that warrants participation. As a fictive world modeled on a surface they allow the perceiving faculties to enter places where our bodies cannot follow. By securing and seaming the edges of multiple frames, by engaging peripheral vision, they extend the limits of normal vision.

This thesis has chosen to study such images giving them the title *Pan Orao*. By considering them a phenomenon it invests them partially the status of a mode of expression and at same time acknowledges their role as apparatus. The latter also suggests that they serve as mechanical requisites, as machinery for viewing the expansive condition of urban portraiture.

The research cuts are taken across boundaries of place, time, medium and type to speak of unbroken views or serial images passing before the mind and the eye. Distinctions of 'high' and 'low' old and new therefore are not entertained. Rather a wider scaffold is suggested. The project sustains two broad conceptual themes; *immersion* and *mobility*, which are used to organise the material which ranges from Wide Screen 3D Cinema to 17th century urban views . Detailed discussion of particular cases occurs with a simultaneous interest in the technology of the changing view, its sociological and cultural impact, and the spatial-visual component of the media and their role in providing immersive environments.

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Acknowledgement

Adjusted Frames and Optical Settlement

I. [Abstract/ Plan of the work]

Image making is not an innocent act. For the maker and the viewer it is about a way of seeing and understanding by locating a subject visually as spatial and temporal information. The most simple images therefore require an act of entering and crossing over to a place and to a time. Beyond what is immediately visible as lines, shapes and colour, it is this spatio-temporal aspect of the image which become the terms of image. Submitted to these conditions, the viewer no longer sees it as a window for viewing but a door which opens up distant places, literal or metaphoric. It is a space where one may navigate with freedom, choosing paths and moments of rest. A portrait of a city might become a bridge to an entire epoch made available for an experience.

Within the large field of pictorial descriptions large horizontally formatted images have frequently been preferred for urban portraiture. Totalizing and comprehensive such a composition depicts an environment as landscape or prospect. In rendering an all-encompassing view it attempts an expansive topographic virtuality that warrants participation. As a fictive world modeled on a surface it allows the perceiving faculties to enter places where our bodies cannot follow. By securing and seaming the edges of multiple frames, by engaging peripheral vision, it extends the limits of normal vision.

This thesis has chosen disparate cases to study a phenomenon to which it has given the title *Pan Orao*. To consider it as a phenomenon, invests it partially the status of a mode of expression and at same time acknowledges its role as apparatus. The latter also suggests that it is a mechanical requisite, a machinery for viewing that is set up given the expansive condition of urban portraiture. The preference for the Greek original and the disinclination for the commonly used term 'panorama' makes the charting of this project a scopic and wide enterprise. One that goes well beyond the common discussion

of the panorama as a nineteenth century topic limited to the arcades in Paris. One in which cuts are taken across boundaries of place, time, medium and type to speak of unbroken views or serial images passing before the mind and the eye. Such a way of organising a body of work diverts from any traditional categories that limit the discussion of these objects in specific cultural or geographic domains. These are crucial contexts to establish, but the safety of such boundaries has reverted to essentialism at the expense of larger concepts and extended meanings. The framing of a discourse no doubt affects how it is understood. This project attempts to establish a wider scaffold, one on which the marginal, ingenuous and popular may be appended as consequential. Distinctions of 'high' and 'low' therefore are not entertained. Rather an effort has been made to address the diverging cultural and social strata from which an object might have emerged.

II.

This project sustains two broad conceptual themes; *immersion* and *mobility*. The first implies a plunging of the senses into a medium. With all its Archemedian connotations intact, the concept acknowledges the relocation of a state physical or imaginary to another medium. The second suggests the ability to navigate, freely in this new environment, for the sake of experience. The act of viewing, is one negotiated during the topographic cruising that takes place in this space. The two concepts, are not seen as entirely exclusive, when addressing the principle objects of study, i.e. 'panoramic' urban views. Indeed overlaps are visible. The two themes did permit some degree of authorial control over the material considered by allowing intentionally structural juxtaposition and permitting cross readings while still avoiding direct correlations. Each section is written as an almost autonomous essay detaching a case, and then threading it into the larger rubric. The essays therefore maybe seen as creating a constellation, as a set of ordered parts without an explicit teleology. The task here is to identify the semblances and contrarieties in diverse views and to try and understand what constitutes a synoptic description. Some depend on a 'stretched format' to 'narrate' a city's topography like an event from beginning to end, yet others rely on multiple views that permit disjunction. And still others incorporate

more than just the two dimensional visual stimulant to convey a 'panoramic' experience. They claim the status of three dimensional objects. Questioning the primacy of the eye, they integrate the senses, engage their architectural surround, creating a sensuous saturating environment.

This investigation also proposes that the view might function as a reconfigured- map. That it shifted from, might even have been cultivated from that earlier two dimensional surface, as an attempt towards making geographical information more visual. The study will consider the inventions that were required in producing such a map which approximates reality. This will lead to questions of method, accuracy, and truth. Did for instance the new map make alterations and for what purpose? What did it take from the previous map and what did it leave out? What was the rhetoric in the new image? It will also bring up questions of audience. When does the panorama become co-opted by cultural practices like travel, amusement and entertainment? Is the image intended for the native or the visitor and how did this affect its content?

Some semantic clarifications are necessary. *Pan Orao* is often substituted for other terms such as prospect, view, landscape, or aerial view when discussing particular cases. This acknowledges where objects are housed presently, and suggestive of how an extended meaning might be granted to them. The use of the term thus fluctuates between the literal and the metaphoric. The German term 'bilder' might help in understanding how descriptions work in a metaphoric sense. This term, beyond its reference to images describes how pictures serve as figurations. It refers to realities or falsifications beyond or behind what is represented. In this sense a description populates the visual realm with traces and invisible connections. It provokes imaginings and remembrances, and intimations of things lost or unrealized. These operate for the viewer by association, linking that what is immediately visible with what is inarticulated. This investigation will also consider what is concealed, and what might be read behind the immediately discernible map.[1]

III.

An anonymous verse of the mid 18th century written in response to the camera obscura goes as follows:

' So the wide World's vast Volume, here we see To Miniature reduc'd and just Epitome'.
Earlier in the same century Gerard de Laresse, seeing direction lines in prospects and landscapes, as a means of reinforcing the idea of spiritual release. wrote, ' Because the soul pent up in a Dungeon, calls for Enlargement..... what is more acceptable than shady groves open Parks, clear Water, Rocks, Fountains, high Mountains and deep misty Valleys. All these we can see at once; and how relieving must the sight be to the most melancholy Temper.[2]

Real life landscape, be they urban or rural scenery, provoke the formal and pictorial unities imposed by artists on enclosed objects and interior space. They provide extended forms that could can be used to experience visual release. Both the eye and the imagination can travel and explore freely the direction lines of landscape. [3]
The first section presents the most contemporary landscape portrayals in wide format cinema. In a complex culture of consumption and entertainment the eye filling, thrilling experience of Imax is discussed. [4] These more recent phenomenon are understood as an extension of the earlier *Cinerama..* The section focuses on the technology of the changing view, and also its sociological and cultural features. In the same section I also discuss the spatial - visual component of the media and their role in providing immersive environments. From the discussion of media, the digitized image is specifically addressed given its capability of securing effectively the panoramic experience, using animation, graphics, and sound. But while the emerging technologies have achieved remarkable commercial success, their negligence towards testing established modes of representation remains a concern. A historical piece on anamorphosis is placed here as a example of a representational mode that provoked the assumptions of perspective which remains the dominant paradigm in present-day digitized graphics. The classic

example of Holbein's *Ambassadors* lays the ground for a wider discussion on systems of monocular and binocular vision, subjective vision and the gaze.

A shift is required a this point and the text using 'mobility' takes an alternate look at what it considers 'panoramic maps' . What follows at first is a historical account of the large painted urban views of Robert Barker, a panorama artist in late 18th century England. The discussion here focuses on the exhibition spaces built for these canvases, their geometries and the architectural experience of the rotundas. There is considerable emphasis here on the technique and making of an accurate representation which requires surveying techniques. 'Arm Chair' traveling already introduced in the case of the Cinerama is reconsidered using the English panoramas.
Sightseeing, travel and the cultural practice of the Grande Tour contextualize this and the next topic, a Roman engraved panorama of the mid 1700' by Giuseppe Vasi. Here a map-view and a detailed textual guide were combined to produce an encyclopedic inventory of Rome. 200 engravings were first assembled in a set of ten volumes. This accumulated information was then used to generate a prospect.

But both the previous examples leave unaddressed the ability of *Pan Orao* to provide representations beyond the visible. We return to the cinematic medium, and to mobility, space and time as being integral to these images. The first case discussed is the cinematic urbanism of *Der Himmel Uber Berlin*, a film by Wim Wenders, which rendered a superimposed view of post world war Berlin. A space-time continuum fused past and present, boundaries of thought and space were permeated to make a panorama of a corporeal and imaginary landscape. Such transcending of time and space is seen even more dramatically in the most recent example of 'Salient Stills', a digitized, manipulated image that lies between still photographic image and moving frames of cinema.

Exhibited in galleries, in theatres, or published as printed or televised media *Pan Orao* a mode of viewing, a method of organising information then enters a larger imagination It is not without cultural and social implications. It images more than reality. The picture becomes a setting of larger realm, reduced and made manageable by framing it with an intelligible order. [5] Without

necessarily offering any particular spectacle, the urban landscape provides the creative and pleasurable framework for such an experience.[6]

IV.

Total Immersion [Picturing, Conserving and Experiencing: *Spectacles within doors*]

Moody Gardens. A 40,000 sqft glass pyramid built in Galveston, Texas. Designed and planned as a simulated ecosystem, the exhibit tries hard to recreate the environment of a tropical forest. It is no simple chain- link fence and rock garden zoo-enclosure. Here the exhibit creates a scaled live landscape in a glass case for living beasts. Florida grown rainforest vegetation provides a setting and the means of passive education about the animal and plant species of the world's dwindling jungles. Divided into seamless yet distinct sections representing the continents, the pyramid's contents are detailed down to the colour of rocks. For a six dollar ticket visitors have access to the simulated rain forest, to a three dimensional movie on the same topic and free parking as well. [7]In this post modern reworking of Paxton's 19th century Crystal Palace, nature has shifted to an alternate and smaller scale. On this minuscule, quaint island of Galveston, a visitor can see African Pygmy geese, amidst name tagged plants, and indigenous birds and fish. Within moments the visitor can fly over Canada with a Canadian Goose in an adjacent facility comprising a 400 seat 3D cinema. The sophisticated theatre, equipped with a single projector system, the only one of its kind in the world, provides a sensational and thrilling ride through otherwise inaccessible landscapes. Viewers wear polarized glasses that render virtually solid the 'furry critters' on the screen. Like stunt pilots the audience plummets deep into gorges, and soars high over open prairie land, at one moment trailing Amazonian ants, at another galloping with a herd of buffalo. From Africa to North America terrain is mapped, topography is narrated, like an event from end to end. The periphery of frame is engaged attempting a close -to- 360' view. Moody gardens has expanded itself, symbolically at least to the far ends of earth. It tries to show all that can be visible. [8]

Taman Mini Indonesia . A futuristic looking 'Museum of Information' and a miniaturized Indonesia. An archipelago extending 3000 miles is conserved in a theme park that covers 720 acres. The project was opened in 1975, with the intention of showing to a passing tourist with limited time, the cultural diversity of a country. But equally important is the educational use of the park to the natives of Indonesia itself. Each of the country's 27 provinces are displayed in pavilions which use the dominant architectural characteristics of their respective region. Beyond these intentions of national unification and 'conserving and preserving the national cultural heritage', [9] Mini Indonesia is also a conventional theme park. It offers aerial tram car rides, a water play area with paddle boats, a bird park, a sports museum, an armed services museum and a smaller version of Sea World. Its most spectacular feature however is the hi-tech entertainment experience par excellence. Taman offers the worlds largest, 758 seat 3 D theatre. Like the Xerox machine two decades ago Imax is here a displaced yet appropriated technology clearly put to ideological use, conserving heritage and making a comprehensive bundle of history, and national identity.[10]

Electronic Post Cards. Yung Hee is invited to the Savuti Plain in Africa to see wild animals by a boy called Sachaba. A shot is set up at a water hole with 25 bull elephants occupying 300 to 270 degrees of the frame. The same section of the film, includes shots of the cheetahs, giraffes, and ostriches with some of them arranged in 360 degrees while others set up as triptychs. The plot is a simple one. A young girl, Yung Hee is in her bedroom using her computer to befriend people her age around the world. Her 'electronic pen pals' reply from around the world sending her spectacular images of themselves and their homelands in the form of 360 degree e-mail movies that surrounded her.

Post Cards: Touring the world debuted at Expo '93 in Taejon, Korea. The film was part of an exposition titled " The challenge of a New Road of Development." produced by BRC Imagination Art, a film company which included architect and the visual effects cameraman, Karl Hermann from earlier Hollywood productions such as *E.T, Aligator* and *The Right Stuff*. In Hermann's view the most interesting scene was one involving zebras which he describes as follows[11]

' we had the camera mounted in the land cruiser. and there were people in the shot including Sachaba. We wanted to get him into the environment of the animals, but the animals would drift off, and with 32m lens they were little specks. Near one location was a herd of about 200 zebras I asked Craig who was hiding out below the camera, if we could get closer to the zebras. The driver heard me and he suddenly took off across the country at 35 or 40 miles an hour with his 600 pound camera rig in the back. He went

right for the herd and they started to scatter in different directions. I was screaming in to the walkie talkie, " Roll camera ! having no idea what it would look like. Its the most incredible piece of film! You see zebras literally 360 degrees around all running at full speed their stripes emphasizing the motion, and dust flying everywhere. You also see Sachaba, who is smiling and having a great time. .... There's a sense of motion there a completely different feel. that you don't really get from hanging on a helicopter or riding the Footsmobile.' [12]

Post Cards had developed a 360 degree camera prototype. Nine 35mm cameras were mounted vertically on a central column. Each camera was then pointed into an adjustable mirror which gave the impression of shooting the scene from a single nodal point. This created a full 360 degree view. Hence 40 degrees were covered by each camera. But realizing that a different image in each panel would be too much information, and require too fast a turning of the head, Hermann was careful in composing longer 'panel' views seaming the multiple frames. [13]

V.

Although located in widely different cultural and programmatic contexts, *Moody Gardens, Taman* and *Electronic Post Cards* are not conceptually or technically distant. They resort to a single medium as the most effective mode for conveying their respective messages. An ecological agenda, a political devise for patriotism, and a sample of techno-mass-entertainment at a world trade fair. They typify a popular visual pleasure of contemporary living. Eliciting a set of emotions in a short lived moment, petrifying and magnifying a fleeting experience, wide cinematic views in all three have reconfigured, nature, history and culture. They have fabricated for the viewer a convincing

and involving simulation. After the contents of its climate controlled green house have been studied, *Moody Gardens* supplements the tactile with an enthralling visual close up of botanical and zoological details. Cinema combined with the thrill of discovery under a microscope. Indeed like that 19th century invention, 360 degree cinema in bringing close to view and touch the minuscule details of an inaccessible and threatened environment, combines education with theme park carousal. *Taman*, for all its 'tackiness' serves as caveat for national integrity. And Yung Hee, in her bedroom, represents the facility of travel, and the availability of images to the cybergeneration. If early cinema had 'unlocked the metropolitan resident from taverns, offices and railroad stations and factories and allowed calm and adventurous traveling' as Walter Benjamin had noted, then 360- degree cinema went a step further and wrapped its audience in the event putting them in the picture. [14]

VI.

[*fashioning a work to nature's circumambient scenery* :
Wide Screen Views in 3D and IMAX/ OMNIMAX Cinemas]

The cinema was born out of these various obsessions, that is to say out of a myth, the myth of total cinema.
Andre Bazin The Myth of Total Cinema Critique 1934

360 degree cinema began at Expo '67 in Montreal Canada. Multi-screen films were then the biggest hit. A group of Canadian filmakers and entrepreneurs encouraged by this public response to multiple screens designed a new single projector system. Three years later a Canadian Company introduced a motion picture system called IMAX/OMNIMAX. It's first production, a special 70mm system film, *Tiger Child*, was a film about cultural diversity. It premiered at the '70 World's Fair in Osaka Japan at the Fuji Pavilion. Press response to the new medium was overwhelmingly positive. The Toronto Star called it a ' panorama of sound and colour.' Closer to Hollywood, the Los Angeles Times rated it 'a mind

rocking avant-garde system'. Three years later Newsweek referred to it as ' the ultimate trip'.[15]

The originators of Imax were Roman Kroitor of the Canadian Film Board, and independent film makers, Graeme Ferguson and Robert Kerr. They received State patronage through the Canadian Department of Industry, Trade and Commerce.[17]A specialized camera was developed by a Norwegian designer of film equipment and an invitation to the Osaka Exposition by Fuji brought together a somewhat hurried production team.[18]

There were several unique features of this process and with developing technologies they have received predictable upgrading. The most basic change was and continues to be in the choice of 'aspect ratios'. This term refers to the proportions of the picture frame. 35 mm film has an aspect ratio of 4:3. This dimension, which had resulted by simply splitting 70mm film in the early days of cinema, and was determined as a standard the time of Thomas Edison. Hollywood since then has conformed to that standard. The dimensions of Imax are 10 times the size of the standard 35mm film and three times the typical size of the 70mm frame. [fig. 1] This naturally has caused substantial changes in the structure, size and weight of camera and projection equipment. The newest camera weighs 240lb which is considered a remarkable achievement given that early Imax cameras were 350 lbs heavier, making outdoor shooting a formidable and athletic task. [19]

Another critical feature that continues is a mechanism called the 'rolling loop' which allows the film to travel horizontally through the camera. Fixed registration pins, hold each frame and a vacuum pushes the film against the rear element of the lens. Large millstone size reels are used to maintain the film. Theses are placed at a distance form the projector, and are changed using a fork lift. The film strip suspended in mid air feeds into the projector via a pulley system. By reducing physical contact this maintains the quality of the print.[20]

The quality of image and sound shows improvement as well. Higher image focus and increased picture brightness are ensured by a shutter which permits more light. The lamps in the most recent projectors are 1500 watt

xennon arc lamps. These were developed by NASA to illuminate the space shuttle for night time launches. [The happy transfer of technology makes perfect sense. NASA has consistently used widescreen for its own publicity.] The lamps require a cooling mechanism that operates with giant hoses. [21] Sound was enhanced at first by introducing a six track stereo sound system which was arranged strategically in the space of the theatre.[22] The most recent advancement in sound technology however, has been in head sets that are provided to the audience. They work with the architectural space of the theatre. Infra red transmitters located on the walls send electronic signals to receivers placed in the head sets. In simple terms the system is not dissimilar from the remote controls of home televisions and VCRs . Three receptors, one infront and two on the sides ensure that viewers do not lose signals when they turn their heads. This has the potential of making sound in films more sophisticated and three dimensional than merely stereo. The audio component can be integrated with the visual. The same transmitters also activate the liquid crystal lenses that are perched on the viewers nose. These lenses flicker alternately, with the duration of a signal which lasts one ninety sixth of a second. These rapid signals respond to the capacity of the human optical-neurological system to retain images. A continuously projected moving image is read, with an added 3D binocular effect.[23] to They Two types of projection spaces were devised.[fig 2, 3] The prototype developed for the Omnimax theatre was an auditorium space with steep seating directed towards a domed screen not unlike a planetarium. The projection booth was located in the centre of the seating area and images were projected using a fish eye lens. Unlike the Omnimax theatre, the Imax Screen was basically a conventional motion picture screen, curved and increased to gigantic proportions.

fig. 1

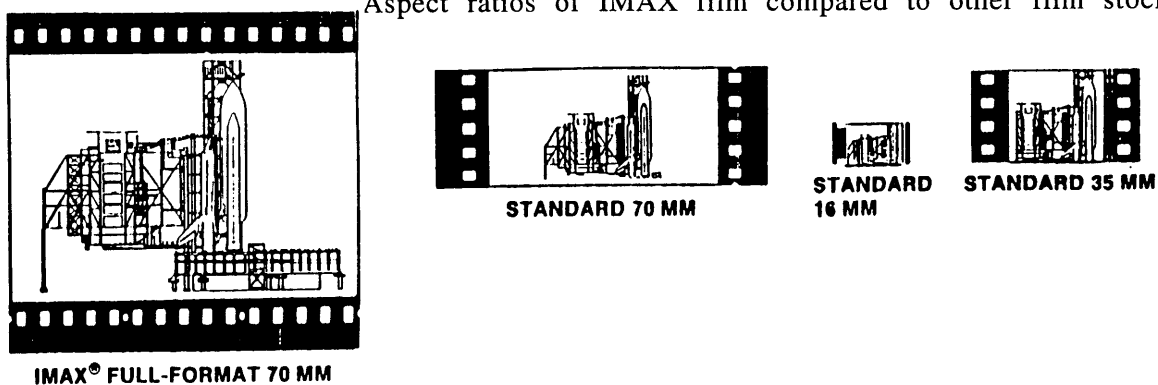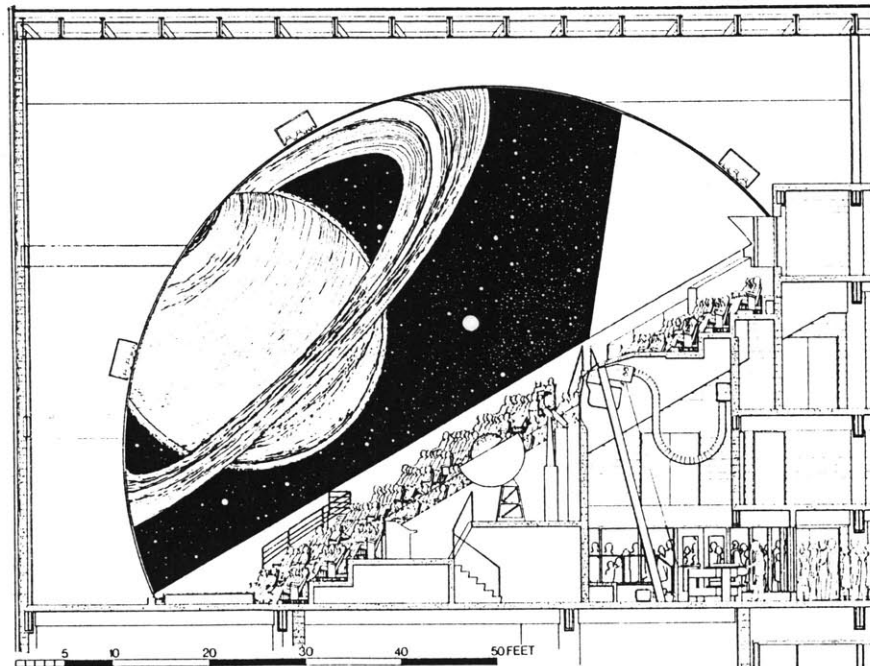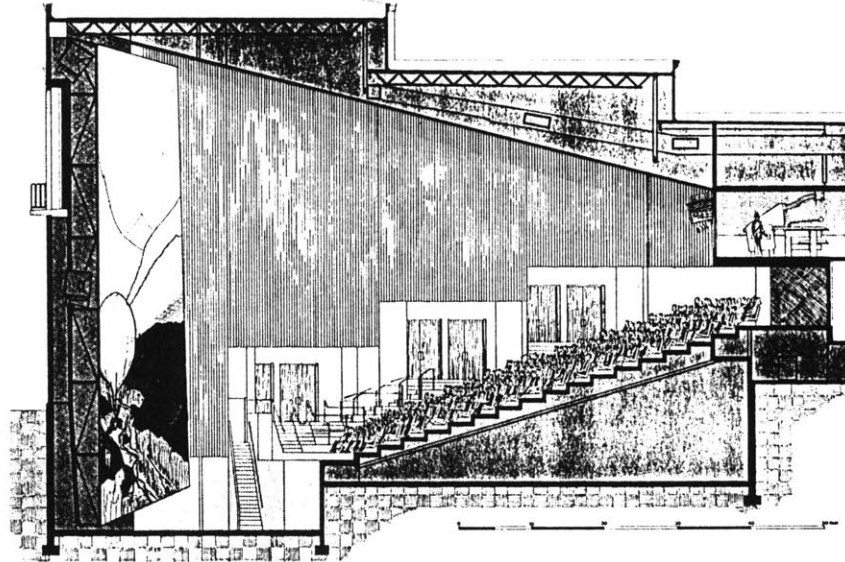Aspect ratios of IMAX film compared to other film stocks

STANDARD 70 MM

STANDARD 16 MM   STANDARD 35 MM

IMAX® FULL-FORMAT 70 MM

Typical IMAX and OMNIMAX theatres in section

The most recent example of the 3D Imax space with a screen the equivalent of an eight story building opened at the Imax/ Sony Corporation Complex at Lincoln Square on Manhattan's Upper West Side in New York City in November 1994. [24] Sony Corporation claims that the new technology will make 3D an alluring form of entertainment and will bring people out of their homes, back into theatres. Furthermore, a recent film which opened at the same complex indicates the move towards fiction and narrative using well known directors and film stars. The film titled *Wings of Courage* is a 40-minute historical drama about French aviators who flew postal routes between South America and France. Directed by Jean-Jacques Annaud, it stars Craig Sheffer, Elizabeth McGovern, Tom Hulce and Val Kilmer.[25] Mr Annaud, commented that the medium of Imax and 3D would die if it continued to show rivers mountains and planets. [26] Film makers feel convinced that in the future all films will be made in 3D. No doubt the films these directors have in mind are more in the line of *Jurassic Park* and not *My Dinner with Andre*. The spatial and thrilling possibilities in the former; giant dinosaurs in theme parks far exceed those of the latter where a three person cast engaged in a tight poignant conversation over a single meal.

Replicating the thrill of a joyride, widescreen cinema has become the largest audience gatherer in recent years,[27] giving viewers the impression of being in a scene. Today, in Natural History and Science Museums, where the film shows are coordinated with special exhibits, the 360 degree theatre has become the single largest revenue generating source. The 'Imax' or 'Omnimax' might have begun as a trend, but it has reached a phenomenal level of enthusiasm and participation, precedented at a smaller scale in film history only by 'Cinerama' of the 1950's. Its success stories span the globe. The attendance at Taman Indonesia reached 5.7 million,[28] the Samuel P Langley Theatre at the Air and Space Museum in Washington boasted 10 million visitors.[29]

The Sony Complex a day before it opened had sold 13,000 tickets at $ 10 dollars a piece by telephone. By the ed of a three day opening weekend 33,000 people had passed through its doors. Records were broken for three day opening receipts with $202,000 dollars. The highest opening weekend grosses were posted for *Star Trek Generations* (Paramount Pictures $ 100,000) and *The Professional* (Columbia Pictures $46,000).[30] Big money is at stake here. And

tempted by such attendance and the attractive gross figures, it is not unlikely that the medium will be considered by other institutions for publicity and profit making. The use of the medium will no longer be retricted to Science or even Art Museums. A much more politicized appropration by State ideologies cannot be disregarded.

VII.

[Imax. Politics, Subjects and Techniques of Representation]

The technical development of the motion picture will soon carry the mechanical imitation of nature to an extreme.
Rudolph Arnheim in Film as Art 1957

Imax claims to make educational films that are entertaining. The term passive entertainment is one commonly used. Indeed since the start of Imax the attendance at planetariums has dropped significantly. School groups and families much prefer the 3D cinema with its 'bigger, louder bang for the same buck'. The Sony Complex's film *Into the Deep*, an oceanographic documentary was seen by 75,000 school children as part of their curriculum. [31] It typifies the claim of Imax that it has made accessible the 'hidden natural wonders of nature, the inside of atoms, or the magic of space'. Most recently films have celebrated the plains of Africa in *Serengeti*, reported on ecological issues in *Rainforest* or better still commented on ecological disasters of the Gulf War in *Fires of Kuwait*. Deep sea scubatography has gone *In search of the sharks* and on a mission to document a sunken ocean liner in *Titanica*. If the topic allows expansive spectacular, cinematography it has pretty much met the criteria of the medium. Indeed, in its innocent attempts at a convincing, close to real if not larger than life spectacle, Imax has eyed not just landscape but history as well. Here lies its ideological potential. Passive learning made exciting, and passive political views implanted in landscape. *Wonders of China* hence appeared at a time when that country had been won over as a US political ally, and NASA supported *The Dream is Alive* at a time when the space program was already in jeopardy.[32] Space shuttle flights in the last few years have taken

16

9000 lbs of 3D camera equipment on board, attached it to a robotic to document the shuttle in space for future Imax productions.[33]

The do's and don'ts of making successful 360 formats reveals the extent of editorial decision making . Two simple rules of thumb that are visible in almost all productions are the absence of high contrast images unless they appear at the convergence plane, and the avoidance of close objects from borders. Since the frame provides the critical solid reference for the eye in space, objects can come close to this border only if they are not cropped.[fig 1b] This also means that objects cannot reach out into the audience, fade out of the edge of the edge of the screen, or abruptly change into a different scene. [34] Such careful construction precedes any representation before it is presented to an audience. An army of Amazonian ants, or Canadian Geese don't really make the perfect entries and exits shown on screen. The drama of these images is choreographed to the smallest detail.

The anatomy of the human eye and its abilities and limitations are fully exploited using rudimentary optical principles. Scale changes can be implied by increasing or decreasing the inter-ocular distance, the space between a pair of eyes. This normally measures two and one half inches for most people. For normal scale in the final image, a telephoto lens is used which increases the distance. Wide angle lenses require the opposite adjustment. Hence Adrian Warren maker of Gorillas in the Mist, and Mountain Gorillas, writes, ' with Imax you have to put your action right at the bottom centre of frame. The rest of it is really only peripheral; it's just sky and fill-in which gives the audience that sense of being pulled into the picture. You can't get too close either, because wide angles constitute closeups when they're projected in Imax. "[35] Warren also claims that Imax makers and viewers have come a along way from the early fixation on joyrides:

'In the early Imax films, there was a need for the roller coaster shot to give the audience a thrill.... The gorilla film was very different. Its a very peaceful, secret, intimate look at gorilla behavior. I think people come out of the theater with a greater understanding of gorillas and the realization of why they are endangered and why it's important to ensure their survival. I think Imax natural history films really have a place. I see these films as a tool to

raise the audience's awareness of and enthusiasm through visual stimuli, and make them want to find out more about the subject. If we can do that, we've won something." [36]

Yet, when a fuzzy creature came out into the space of the theatre during a Michael Jackson film shown at Disneyland in 1986, its reception was pretty clamorous. Here the 3D movie requires us to perform an optical task we would normally never do. The crystalline lenses supplied by the cinema focus on the movie screen, while our vision converges at a point infront or behind the screen. Under normal vision a pair of eyes converge on the same plane. Since the human eye is performing something beyond what its musculature permits, filmakers 'move' these objects slowly deluding the eye into focusing and converging at two separate locations in space. Convergence between shots must be matched as well since normally, human eyes converge from near to far using what is described as a sliding function.[37]

The inability of the right and left eye to do independent vertical tracking is another issue confronted by the 3D filmmaker. Except horizontal parallax there can be no difference between right and left eye images. Any vertical adjustments would cause immediate headaches. Hence attention is given to camera, beam splitter and projector alignment. In a multi camera 360 degree format a series of lock projectors that are positioned between the screen dividers.[38]

VIII.

[Beyond the theatre, CD Roms, *wy-doh terabi*, head mounted turbochargers]

Passive education for 6- 8 year olds. History and geography embedded like a nasty pill in a tasty snack. Maybe the only way a child will swallow this stuff? The impact and experience of Imax continues beyond the theatre. A California Company has tried to increase the interactive experience of the film. They have reduced the film to a 5 inch screen on a computer monitor. But loss of size

has been compensated the company claims by the level of interaction that is now possible giving the film a new dimension.

Knowledge Adventure Inc. has made a $ 79.95 CD ROM of the film *The Discoverers*. [39] The 3D film is based on the historian Daniel J. Boorstien's book, *The Discoverers: A history of Man's search to know the world and himself*. The same historian who reacted vehemently against a Smithsonian Institution Exhibition of 1991, *The West as America: Reinterpreting Images of the Frontier*. Boorstein called it perverse, historically inaccurate and destructive'.[40] Strangely enough, Boorstein's work in the hands of a software artist, has taken his own history book on a ride. As a viewer watches the reduced version of the film, little balloons appear on different sections of the image. Pointing and clicking, at the mercy of a mouse and pad, a young viewer 'explores' what is worth learning. The exploration of course is limited within a database of accumulated information, that can now be accessed at random. Knowledge Adventure believes that these 'authorial controls' invested in the hand of the viewer, make the film as wide as the imagination. Infact the imaginative process here is so much determined by distraction and daydreaming that the latter are risen to positive, productive states of mind, which provide the cues to keep the show running. And in this random browsing, valuable information might be acquired through personalized paths.

The buzz word for all this is *Hypertext*. Or alternatively 'hot - linking'. Clicking on a word or picture and arriving at a store house to be deluged by information on the topic. Charts, pictures, sounds, graphs, video clips, the storehouse allows all these to be maintained. They have all been digitized to participate in a multi media show and tell. Isaac Newton someone very different than what was entered in the encyclopedia Britannnica makes an appearance. A seance of Film clips, sound bytes and animations describe his work with light and colour, the workings of prisms, and the principles of the visible spectrum. The panorama is no longer one that is seamed as adjacent images. Nor is it stacked like a pile of prints or index cards. It is produced on call, and the path followed by no two users will be the same. On a neatly organized screen divided into quadrants holding maps, pictures, text and a list of command icons,

narratives are constructed by associative linking. These links takes place almost entirely by sequence and juxtaposition of ideas and reveries of the mind and stimulants from the screen. An image connects with a thought, a momentary reverie stimulates the next query, a word pops up, and some sense clicks in the mind.

CD ROMs are not the only performers outside the theatre supporting the Imax experience. HDTV has been successfully marketed. With its wider screens and higher resolution 1,5 million *wy doh terabi* were sold in Japan last year.[41] 'It's more natural for human eyes to view a wide scene' said Tadao Kubodera, general manager of the Japan TV department for the Sony Corporation. Yoichi Morishita, the president of Matsushita Electric Industrial Company has predicted that wide-screen television sets will eventually become commonplace in the home. And executives of the Sanyo Electric Company forecast that 15 percent of Japanese homes will have wide-screen television sets by the end of this year. They expect that by the year 2000 eighty percent of Japanese homes will have wide screen televisions. The prices for wide-screen sets presently range from about $600 for a small, basic model to $4,000 for a large, deluxe model. High-definition sets cost over $6,000.[42] These price offer screen shapes that matches those of movie frames, so that films can be shown without clipping off the edges, as happens on conventional TV screens. The wider picture fills the field of vision more completely, 'giving the viewer a sense of being on the sidelines of a sporting event.' [43] Sony, which has introduced a video camera in the wide format, to promote the sale of these televisions. The wider screens stretch the video image so the game characters cover more ground and seem to move faster across the screen. The HDTV system unfortunately faces a limited future technologically because it uses an older analog transmission system, rather than the computer-like digital technology being developed in the United States.

Finally, *Head Mounted Turbo Chargers.* An April 1995 advertisement in *Wired* magazine shows a close up of a young man head, his teeth clenching his lower lip, in joyful terror. The page is entirely red, there is a lightening bolt on the top right, his hand holds a joy stick, the thumb turning a knob. He must be perspiring. 'Virtual I-O i glasses', are the worlds first home use, ultra light weight pair of eye wear that can be used with personal computers, and

electronic gaming platforms.[44] These, glasses render three dimensional a n otherwise 'bland' screen. Combined with widescreen TV, this recent product hopes to enhance living room viewing. Beyond the suggested use by the manufacturers the comments of media critics and aesthetic theorists on recent televised wars come to mind. What until now was only real time televising, has been given three dimensional garnishing for a voracious viewer.[45]

IX.
[Background. Before Imax, Traveling in Wider Screens with Cinerama]

Contrary to expectations the wide screen was not an invention of Walt Disney. Interest and Experimentation with screen dimensions begun almost simultaneously with the beginnings of cinema itself. The typical size of the early nickleodeon around 1903 was between 10 and 15 feet. And the proscenium of the 1920's and 1930's at the two famous theatres of New York City, Roxy and Radio City Hall, occupied only a portion of the screen. After a typical floor show, when the space was set up for the film this decrease in size was specially visible. Early wide screen films were developed in response to this diminished effect. Eidoloscopes, (making an obvious reference to the eighteenth century entertainment 'cabinet' the Eidophusicon) were created at that time. Their projection technology was based on the magic lantern shows and the type of film stock used was based on one developed by the film maker Edison.[46]

In 1926 Paramount installed an over size screen at New York's Rivoli Theatre, and the scene projected was the naval battleship the USS Constitution which sailed towards the camera. Such tactics of movement towards the audience and the image being brought closer to the viewer anticipates the ' participation techniques of the Cinerama and 3 D in the 1950's) also recalls the earlier Vitascope wave idea. [47] Subject matter was diverse. Widescreen was applied to the filming of Broadway stage shows, and also exterior films such as westerns or newsreels showing sporting events. Press reaction was as follows:
' not only is the man carrying the ball shown in relation to the other players with a field of view that permits the play to be followed, but also there need be

no jerky shifting of the camera field in attempting to keep the player i n frame.' [48]

Within a year widescreen was being publicized as three dimensional cinema. An advertisement in Variety claimed that, ' by this process the performers seem as if to step from the screen to greet the audience.... the figures take o n depth and become life like.....the picture starts with the screen and extends into the background ..... retaining the natural perspective of all objects photographed.' [49] By filling the field of vision widescreen was transforming spectator-screen relationship. Passive distractions were being reconfigured as engrossing attractions. Studio publicists also tried to market the wide screen as producing 3D effects and a program of the 1929 Fox Movie Ten Follies wrote that the picture produced stereoscopic effects otherwise known as the third dimension. [50]

Not unlike Imax and 3D cinema the public nature of widescreen can be traced to World Trade Fairs and Expositions. It was Edison's Kinetoscope at the World Columbian Exhibition at Chicago in 1893 that first addressed this potential. Wide screen shows were also included in the Paris Universal Exposition of 1900. Aerial shots were taken from a hot air balloon over Paris using a ten camera system.[51] [fig4] The audience, seated in a large gondola was then presented this expansive cinematic view juxtaposing it with the real experience of the city.[52] This ' cinepanorama ' also referred to as Raoul Grimoin- Sanson's Cineorama featured specifically a balloon ride over the Tuileries which descended finally at the Grande Place de Bruxelles. The inclusion of an airshipman pointing out monuments and sites, visible from the aerial vantage point brought the experience even closer to reality. Another attraction of the exposition was the show set up by the Lumiere brothers. This was installed in the Galerie des Machines for an audience of 5,000 people. A 400 square metre screen soaked in water to make it translucent was viewed form both sides.[53]

One common feature of the 1900 Paris Fair was its preoccupation with touring devices. It featured a moving sidewalk or *trattoir roulant* that operated at three speeds. On this conveyor belt spectators could be transported through the exhibition grounds and their various pavilions efficiently and tirelessly. A

moving panorama was thus created by mobilizing a stationary viewer. This mode of viewing deserves comparison with the railroad, an invention of the time, which unfolded scenic landscapes on a linear track for a traveling bourgeoisie. Infact as part of the Russian exhibition, visitors did take a simulated train journey on the Trans Siberian Railroad. A fourteen day trip was reduced to 45 minutes, with views from Moscow to Peking rolling on giant canvasses, with spectators seated in seventy foot long train carriages replete with dining rooms bedrooms and smoking rooms. Trains were not the only mode of transportation coupled

with painted or filmed panoramas. The Lumiere brothers also created a *mareorama* in which the audience sat in the hull of a ship, and was shown *cinematographe actualites*

of a sea voyage from Nice to Venice. [54]

fig 4.

Ballooning and the Raoul Grimoin Sanson Cineorama at the Paris Exposition
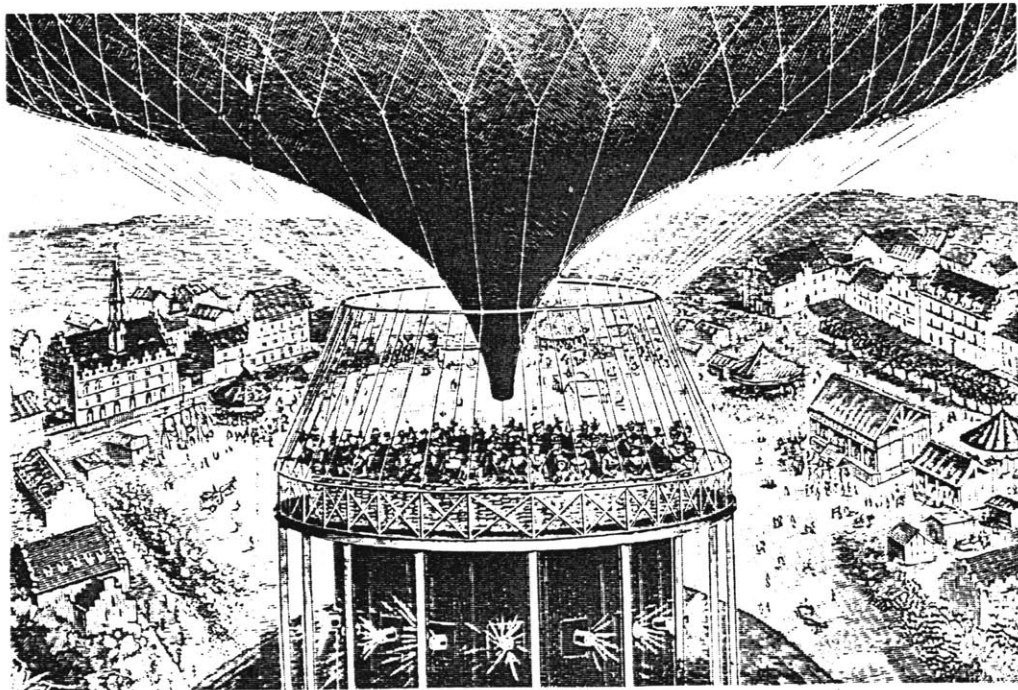
The size and format of the screen was of critical importance to the cineramist. Taking cues from nineteenth century panorama painters, wide screen cinema adopted the terms artists used when requesting their supplies. Artists referred to a vertical canvas as a 'portrait', a standard horizontal canvas as a 'landscape' while specially elongated formats were called 'marines'.[55] The French painter Claude Monet used the marine format for his landscapes to add scope to his views. Similarly, the painter James Whistler used the same format for his figurative paintings as well.[56] Conceptual links were maintained with the fine arts and a 'moving triptych' with blurred seams was attempted by using three screens and three projectors. It was precisely the liberation from the frame that was claimed by the early Cinerama producer as the big achievement. Hence a program booklet from 1952, begins with the following statement.

From the beginning pictures have been restricted in space. A painting is hemmed in by its frame .....Conventional motion pictures are confined to a narrow screen ..... Movies are like looking through a keyhole. Cinerama breaks out the sides of the ordinary screen, and presents very nearly the scope of normal vision and hearing' [57]

This claim was followed by the words Ladies and Gentlemen- *This is cinerama..................*
A red curtain slowly opened the panoramic screen at New York's Broadway Theatre to take the audience on the thrilling Rockaways Playland Atom-Smasher Roller Coaster ride. [fig 5,]

fig. 5
A Sept 1953 trade advertisement

CINERAMA...
one full year on Broadway, still
smashing box office records!

24

The amusement park as a subject is not entirely surprising. Wide screen's principle target was motion, travel and the pleasure associated with it. Hence an equally involving part of the same show was the scenic travelogue. *This is Cinerama* took the seated viewer on a spectacular tour of Europe. The trip began with a ballet at the Scala in Milan, a gondola ride on the canal in Venice, moved to a bull fight in Spain, bagpipers in Scotland, a boys choir in Vienna and concluded with a snippet of Verdi's Aida at the Scala. The second part of the same film comprised mainly American landscapes. Wheat fields, Canyons and National Parks were documented by the stunt pilot Paul Mantz in a B-52 Bomber. This evoked such patriotism that Mr. Eisenhower, president of the country was reported by the New York Times as singing aloud the words to 'America the Beautiful' and the 'Battle Hymn of the Republic' and General James Doolittle was seen clutching his chair when the pilot flew over the grand canyon. [58] Viewers finished the show only after doses of Dramamine. Lowell Thomas the producer expressed his impression as follows:
I thought I had seen every thing there was to see across America... but Cinerama changed my mind...Here is America as no one has seen it... Here is America that only Cinerama can picture and bring to you.) [59]

This is Cinerama was followed by another film in the mid 50's called *Cinerama Holiday*. Once again aerial footage provided a cinematic vacation of European and American cities. Its travel package in this case included bobsledding in St. Moritz, gambling in Las Vegas, depiction of modern Apache Native Americans in Arizona, a fourth of July fireworks display intercut with views of the Bessemer furnace at the Bethlehem Steel Company in Pennsylvania. [60]

Once enough material had been produced Lowell also arranged a *Best of Cinerama* show. The 'greatest thrills' claimed the advertisement, would make the audience 'jump at the sight' of the pound pulsating dances of the African Watsui, or 'live their dreams' in the beauty of Mt. Fujiyama in Japan or 'gasp' at a mongoose and cobra fight in native packed streets of India. A fantastic trip around a spectacle studded world, was more an act of ethnography and stereotyping. [fig 6] [61]

fig 6.

A   researved   seat   order   form   for   a   special   show

TO: LIBERTY MUTUAL Employees, Families and Friends
Announcing SPECIAL PRICES for YOU on
NOVEMBER 21 at 8 PM and NOVEMBER 24 at 2 PM

FOR THE FIRST TIME CINERAMA'S GREATEST THRILLS TOGETHER IN ONE BREATHTAKING ENTERTAINMENT!

From The History-Making Roller-Coaster Ride To The Sultry South Seas...From A Hurtling Bob-Sled Ride To The Pounding Pulse-Dances Of The African Watusi...YOU Are There...Swept Into The Picture...You Live...Breathe Your Every Wildest Dream In A Fantastic Trip Around A Spectacle-Studded World!

CINERAMA INC. Presents

THE BEST OF CINERAMA

A DECADE OF THE WORLD'S GREATEST ENTERTAINMENT

TECHNICOLOR®

YOU JUMP with the giant Hambus... savages the world has forgotten... in a death-defying leap into space!

YOU LIVE a thousand dreams as the serene beauty of Japan's Mt. Fujiyama and Cherry Blossom Dances transport you to a world of ancient traditions!

Now You Are Catapulted Across Five Continents and 100 Centuries!

YOU GASP at the fight to death between a cobra and a mongoose in India's colorful native-packed streets!

YOU SHOOT the surf in a Pacific Paradise and dare the racing breakers that crash around you!

YOU ZOOM into space at the controls of a jet plane as it is catapulted from a carrier!

IMITATIONS COME AND GO BUT ONLY CINERAMA PUTS YOU IN THE PICTURE!

Martin CINERAMA
583 PEACHTREE STREET N.E.
ATLANTA 8, GA. - DIAL 875-6605

This anthology co-produced by MERIAN C. COOPER - THOMAS CONROY - Narration by LOWELL THOMAS.
Produced by LOWELL THOMAS, MERIAN C. COOPER, ROBERT BENDICK, LOUIS De ROCHEMONT and CARL DUDLEY

TICKETS AVAILABLE FROM YOUR CLUB REPRESENATIVE

THURS.NOV. 21 at 8 PM_____   ORCHESTRA RESERVED SEAT ..$1.80 (reg.$2.20)_____
SUN. NOV. 24 at 2 PM_____   BALCONY RESERVED SEAT.....$1.40 (reg.$1.75)_____
                                 CHILDREN under 12, ANY SEAT......$1.00 ... _____

Inclosed is my remittance in the amount of $_____

Make checks payable to Martin CINERAMA Theater   ORDERS IN BY NOVEMBER 20th
                                                                 or
                                                         NOON,NOVEMBER 22nd

A reserved seat order form for The Best of Cinerama. *Note the ticket prices.*

X.

[Cinerama's Context. A Giddy Constituency]

Early Cinerama was mainly an American pastime. (Vistarama, a deep curve screen was installed in select cinemas in Europe, India, South Africa and Australia) These after all were the post war golden years of the American economy, when leisure activities were high on a list of cultural demands by an urban working class which now had a 45 hour work week, ten hours less than in 1910. Already by 1934, a suburban study on leisure activities noted that

'spontaneous and informal neighbourhood life ...... a chief form of leisure,.... disappeared as a result of the tremendous mobility of modern urban society.... and occupation tended to supplant geographic location as a basis of fellow feeling and association. Congested living quarters and the disappearance of the yard and other outdoor facilities .... further shifted recreation to the school, the club and the commercial recreation place. '[62]

Mobility, granted by the automobile had alot to do with this 'new way of life'. By 1953 83% of all domestic vacations were taken by automobiles. By 1960 86% American owned at least one car. Many lived in track housing developed by William Levitt, who had sold 1,4 million homes in 1950 and earned a portrait on that year's cover of Time magazine. Levitt's housing schemes, near urban centres, plugged with uniform houses, equipped with domestic appliances were the comfort homes of reduced chores and increased leisure time. Televison soaked up most of the leisure time made available by these appliances. [63]

But leisure activities were not restricted to passive home entertainment. Fortune Magazine in 1955 noted that ' the sharpest fact about the post war leisure market was the growing preference for active fun rather than mere onlooking. " ($ 30 billion were spent for fun). [64] Indeed leisure expenditures were up for domestic and foreign travel, dining out, and sport supplies. A distinction here should be made between entertainment and recreation. If the former was amusement someone provided, then the latter referred to something in which participation was a prerequisite.

Given this participatory urge of the cultural mass widescreen and 3D emerged as such a recreation space. It surpassed passive entertainment and offered immersive recreation. In the giddiness of such pleasure this audience endorsed blatant acts of ethnography and reductionism. People, Architectural monuments and sites were included in films as 'requisite items', like an itinerary prepared by a travel agent and experienced with the disposability of a picture post card image. 'Package deals' of monuments were assembled in wide screen films such as ' The Seven Wonders of the World ' in which the Taj Mahal, St. Peters, the pyramids, Mt. Sinai, the Hoover Dam, the Parthenon, Niagara Falls, the Grand Canyon and the Sphinx all appeared as a compendium of exotic places.[65] Ironically in this filmic experience it was not the monument, or the place which was of interest. It was rather the simulated visit, and the consumption of the experience that gained importance. Detached from its place a monument was (mis)understood if not appropriated.

Cinerama Holiday', mentioned earlier consciously played up the ravenous sightseeing agenda of John and Betty Marsh of Kansas City in Europe and Fred and Beatrice Toller who represented a European view of America.[66] The film was calculated to the extent that the actors chosen were ' representative types' from the American Mid West. They had experienced neither New York City, nor Cinerama. The climax of the film shows both couples in New York City at their first Cinerama experience. The relationship between cinerama as an experience reserved for the ' real actors' for the purposes of a filmic narrative testifies to the relationships between the illusion and the living out of the fantasy of traveling in cities. [67] The basic idea underlying tourism going back to Thomas Cooks' code of middle class traveling: ' The world is yours'. It offered the globe as wrapped like a package full of holiday sites. And even when cinema was taken over by feature films, the interest in the episodic journeys to inaccessible cities persisted. [fig7] [68]

fig. 7

1851 Thomas Cook's Excursionist advertisement
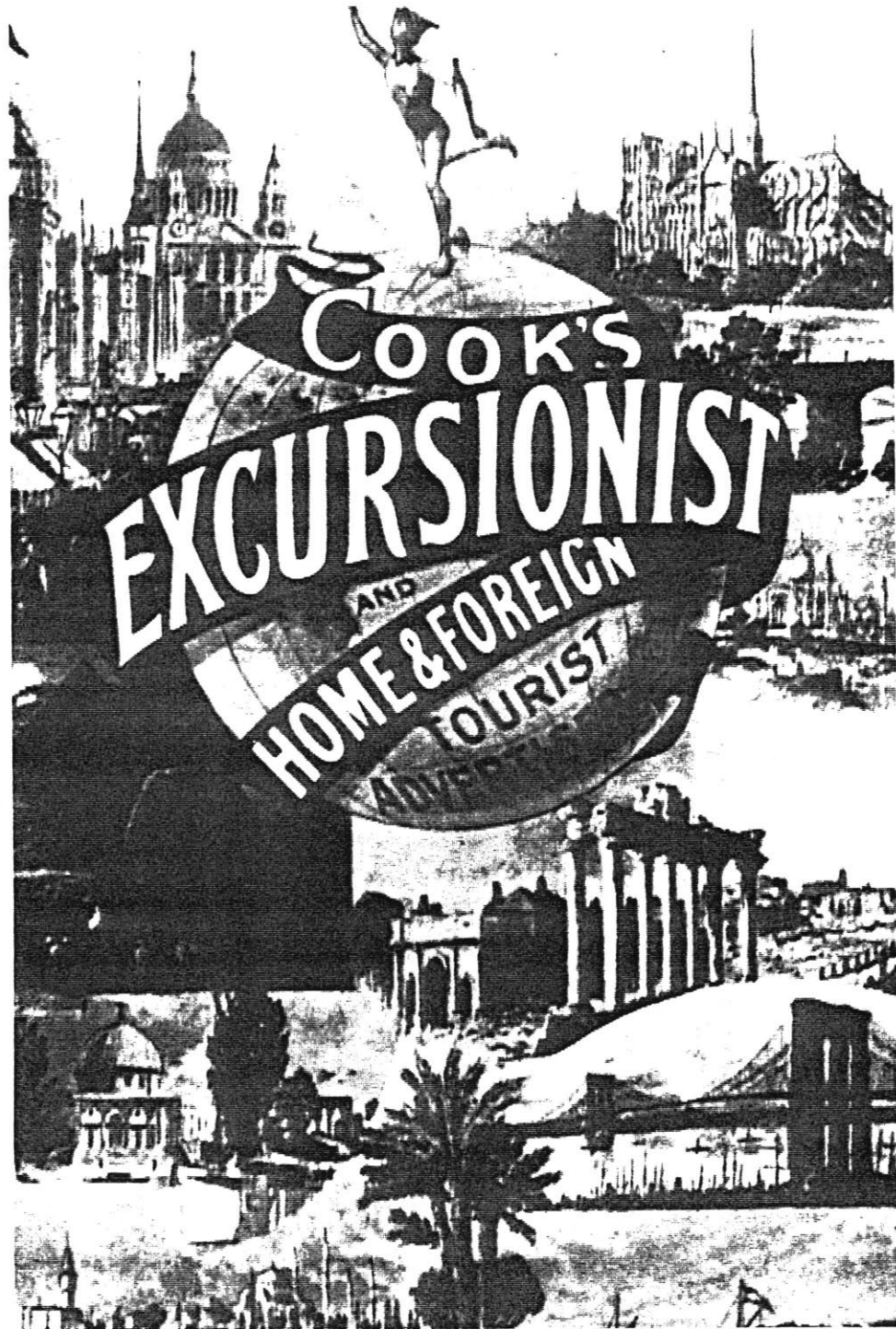
The medium made no effort to deny that it was beyond plot, character and narrative. These it claimed had been ' replaced by audience envelopment '[69] ' the excitement of going places and participating in adventure' was seen as being the main idea, and widescreen film makers felt, that they were portraying something larger than life and bigger than people'. The same news paper reports that almost immediately after the New York premier Transcontinental Airlines began to report request for flights that would " go over those canyons " seen in Cinerama. The British Travel Bureau was flooded with inquiries about the date of the Rally of Pipers, which featured in the film. So many people asked State Tourist Office of Italy about the festival of Venice that a painting depicting the scene was installed in the office window. Closer to home the roller coaster at Rockaway' Playland, which provided the first sensation in the film, did the record breaking business all last winter, when amusement parks are generally deserted and a huge bill board proclaiming it as the star of the Cinerama helped make it the most popular attraction on the midway. Cypress Gardens in Florida..... reported that a number of visitors jumped 40 percent after Cinerama was released.[70]

For all the fun associated with it, Cinerama was not without political intention. Lowell Thomas, the producer of *This is Cinerama* was acute enough to predict its use in American propaganda. In 1955 a newspaper reported that Cinerama had been entered in the Congressional Record as a tool for illustrating the 'American way of life' to the rest of the world. In its attempts to combat communism Cinerama shows were organised by the State Department in Damascus, Syria and Bangkok, Thailand. At the time the Soviet Union was producing its own ' Kinopanorama' a landscape epic film titled ' Great is my Country '. [71]

appendix [World trades fairs were an important location for presenting new wide screen technologies. And Cinepanorama offered entertainment consistently using urban imagery, making the viewing of a city into a glamorous, involving, and total experience. Each trade show offered a perfection on the previous panorama, achieving views of greater similitude. Disney's early attempt with the medium began with Circarama at the Brussels World Fair of 1958. Then in 1962, the golden year of the Space Program, the Seattle Fair featured Spacearium a 70mm Cinerama in which images were shot with fish eye lens. and

projected onto huge curved domes. the angle of view was 360 x 160 degrees. Given this background, the early and still popular The Dream is Alive, the first Imax film seen by 37 million people in 11 languages, can only been seen as the predictable technological perfection of Cinerama. The names of its various systems are not entirely arbitrary either. Imax Solido was a full colour wrap around 3D 70mm system, rendering the scenes virtually three dimensional. Magic Carpet was a system which by using two projectors and two Imax screens, one located infront of the audience and the other on a transparent floor underneath, provided an illusion of floating in space not unlike a magical flying carpet. [72]

XI.
[Making, Oblique Frames and Cyclopean Views]

Works which, considered from a favourable viewing- point, resemble the beautiful but which properly examined, no longer offer the resemblance they promised, are phantoms. (Plato in The Sophist)

Artistic visions are linked to material and making. When the contemporary sculpture Richard Serra made a list of verbs as a working notation for himself, he identified not simply the action but also suggested the kinds of material that certain operations could take place upon. Serra's list comprised transitive actions such as to roll, to crease, to fold, to bend etc. All of them determine the properties of a material and what it was going to be subjected to by the author. A work of art determined *a priori.* [73]

The process of making is integral to content. This applies to production beyond the realm of sculpture. One might argue that artistic production has been in essence the possibilities of human performance on media. And that these media may be cross bred, to yield a new set of issues to exploit for purposes artistic or otherwise. Here a distinction must be made between 'technological media' such as photography, cinematography, audio and video recordings and traditional media such as stone, or paint. If the latter are considered as related to 'physical' or bodily interaction involving a degree of 'technique' the former might be considered a step removed form the physical

body, and dependent a set of operations that occur as autonomous technological functions that the body solicits from machines.[74]

Making must be tied to framing and consequently viewing. The object to be modeled on a surface, or in space, must be regulated in a mechanical and visual framework that operates as a statute. It is not surprising that this choice of how vision is delineated on a surface or in space should be a debatable and contested issue.

One example of such a tussle was between anamorphic art and linear perspective. Both began in the fifteenth century when mathematical theory, provided an order for pictorial space. Practitioners of architecture and art of the Italian Renaissance such as Piero della Francesca [1420-1492] , Filipo Brunelleschi [1377-1446] and Leon Battista Alberti [1404-1472] became strong proponents for linear perspective as method of accurate representation. Yet others from the same circle of Humanist scholarship deviated, and questioned the growing norm. It was Leonardo da Vinci [1452-1519] who first studied such peculiarities of vision. In his studies of a child's head, he produced a series of drawings that distorted that figure, and required of the observer an oblique angle of view. The drawing appears in his Codex Atlanticus, at the Bibleoteca Ambrosiana in Milan along side a smaller drawing of a human eye also drawn in anamorphosis. Both drawings are constructed to be viewed from the right of the sheet, with a single eye held about an inch from the surface. [75] Seen from this location the two drawings seem to detach themselves from the surface and appear suspended, hovering above the sheet of paper.

Leonardo's drawing was not a casual incident in his copious sketch books . Influenced by his companion Luca Pacioli, a mathematician and knowing the work of the theoretician Giovanni Paolo Lomazzo, who had written of it in his treatise on art of 1584, he had applied mathematical theory to his representational techniques. In his treatise Lomazzo had described ' a method of making an inverted perspective that looks correct when it is observed through a single peep hole'.[76] Leonardo appears to have developed this form of drawing with substantial success. Written accounts by Francesco Melzi his pupil relate a drawing of a dragon and lion in the same manner as well as other drawings of horses which he produced for the king of France, Francis I.

The classic definition of anamorphosis was inscribed during this period of western art. As a challenge to the Albertian idea of looking frontally into a window, from a range of prescribed angles, anamorphic art sought to disrupt and stretch the image. Yet its own means of construction and a discussion of it necessarily reverted to linear perspective, the dominant paradigm . After all such a 'perspectival distortion' was rooted in the foundations of even earlier Euclidean paradigms. [77] Light still traveled in a straight line, reflected from an object, and intersected on a flat surface. Where it did divert was in the position of the infamous 'gridded velo' of Alberti; a screen placed infront of an object and used as the drawing surface. The screen was no longer perpendicular to the ground plane. In addition the position of the observer's eye, could now be at a location in space neither directly infront nor viewed with binocular vision. Infact this monocular viewing became characteristic of such art as well making the physical act of viewing no longer a passive one for the observer. A certain amount of gymnastics in space and problem solving for image decipherment was expected making the visual experience entertaining and interactive. The traditional centric vantage point of the observer was relinquished, and self awareness of the visual experience was encouraged.[78]

In his book *The Power of the Centre*, Rudolph Arnheim observes that in perceptual terms a viewer considers him or herself as occupying the centre of the world. Regardless of movement, the viewer maintains this privileged centre and regards all surrounding objects as 'secondary' and 'eccentric' . Hence a sculpture requires the emission of a vector in its direction, making its viewing a manipulation controlled by the subject. Arnheim also acknowledges that the work of art emits its own vectors, which attract and affect the viewer-to the extent that at a certain point it might take over as the centre and start to govern its structure [and one might add content], no longer requiring the viewer who is at this point totally immersed, oblivious of any outer existence suspended in a visual experience. Arnheim lays great emphasis on this state of 'oblivion' or being 'ec-centric' at the expense of the act of viewing which constitutes the aesthetic object. This subordinates the complex interaction that occurs both in physical and psychological terms between the subject and the object. Surely the extent of negotiation between the viewer and the object

involves more than just an optical adjustment. It requires a active, conscious participation. [79]

Anamorphic images raise more than just psychoanalytic questions they also address the mechanics of vision.[80] In such images observer must occupy a position that is neither perpendicular to the picture plane, nor can the comfort of binocular vision be sustained. A trapezoidal frame must be reconciled physically and the object transformed using this non-uniform focal plane.

XII.
[The Ambassadors]

Two men stand in a space that brings to mind both a 19th century photographers studio and a carefully arranged Dutch still life. [fig. 8] A mosaic *cosmati* floor provides a foreground. A heavy curtain hangs behind them as a back drop. Embossed with a floral pattern, it is a deep green, satiny damask. A shelved furniture piece provides the prop upon which they may lean. The shelves are replete with objects selected specially for this portrait. The top shelf, covered with a deep burgundy kilm holds astronomical and mathematical objects. Earthly objects occupy the lower shelf. There is a lute, and a music book, flutes and a terrestrial globe, and a book on arithmetic by Petrus Apianus.

Holbein's subjects are the French ambassadors to the English Court of Henry VIII. Jean de Dinteville (1504-1565) and his friend George de Selve. (1509-- 1542). Dinteville's belongings are on the top shelf. At 29 years of age, he represents the active life , of worldly affairs, travel and diplomacy. He dresses lavishly in furs, wears a medallion of the St. Michael order and holds a decorated scabbard and dagger in his hand. (His age is engraved on his scabbard) In contrast, de Selve, soberly attired in a bishops robe represents the contemplative life. His arm rests on a book, which in all probability is the bible. On the same book his age is inscribed. He is twenty five. de Selve's his interests are displayed on the lower shelf. Yet, neither the Ambassadors, nor their biographical belongings on the shelves occupy the centre of the

painting. A strange, tilted, elliptical, unfocused shape takes the central position on the floor. Deformed and distorted, it challenges what everything else in the painting allowed to escape from vision.[81] If geometrical perspective had mapped out the space of the studio, then this object maps out ' sight ' as a temporal function. [82] To reveal its form, this ellipse, demands the participation of the viewer.

Speaking on the mapping of images and their role in determining relationships in space, in his lecture titled Anamorphosis, Lacan writes,
" Vision is ordered according to a mode that may generally be called the function of images. This function is defined by a point by point correspondence of two unities in space. Whatever optical intermediaries may be used to establish their relation, whether their image is virtual, or real, the point by point correspondence is essential. That which is the mode of the image in the field of vision is therefore reducible to the simple schema that enables us to establish anamorphosis, that is to say the relation of an image, in so far as it is linked to the surface, with a certain point that we shall call the 'geometrical' point. [83]

fig. 8

Hans Holbein, The Ambasadors 1533, National Gallery London

Lacan identifies not only the straight lines and paths that are projected, plotted and constructed he also suggested that this is the process required to reconstitute the image. So where and how must we locate his 'geometrical point' in Holbein's painting. The snare is established, the viewer is captivated, curiosity is aroused, and some spatio-temporal adjustments must be made to decipher the object. The French Ambassadors is not a small painting. Its sheer dimensions, 6feet x 6feet, and the precise detailing of forms, textures bring this painting closer to the trompe 'oeil. The lavish accouterments are not smaller than life-size either. Their scales are believable, indeed occupiable. In this larger space of painting and its outside, the viewer must negotiate physical space with motor-muscular consciousness. The painting hangs on a wall, and the viewer must walk around in the space of the gallery and determine the spot, from which the object is visible. Complete, unstretched and unskewed. A human skull.

XIII.
[Gazing, Subjective Vision and Sight Lines]

Anamorphosis was included in a group of lectures by Jacques Lacan on the topic of the Gaze (*le regard*). The term appears in Lacan's work via Sartre who mentions it in his Being and Nothingness. It has since become an important concept in contemporary discussions of vision, visuality and representation. Lacan's concerns with the ability of inanimate objects ' to look ' back at a viewer, not unlike Arnheim is illustrated by him with an anecdote from Britanny, where he is told by a fisherman that an empty sardine can, visible to him does not return his look. Lacan had found this somewhat simple remark troubling. For him the subject, engages in a complex encounter with an object, and is 'caught' 'manipulated' and 'captured' in the field of vision "[84] This issue of vision is further problematised by acknowledging the social dimensions of the visual act. Hence an individual must conform to an existing system of visual discourse that is considered a cultural construct; a screen or 'net' of signifiers that cast their shadows and affect signification.

Regardless of where the gaze is concieved it occupies a space that has architectural dimensions. Nor is it without scale. The everyday act of staring

takes vision beyond the viewing of an object. As a temporal experience that when prolonged, makes oblivious both the object and the subject, making more tangible the space in-between. Visual experience thus goes beyond collective acts of submitting retinal experiences to the ' socially agreed descriptions of an intelligible world.' Vision is depersonalized and social constructions of visual reality then emerge as deceptive hallucinations. [85]

Holbein's Ambassadors, representative of the active and the contemplative life, who possess knowledge of the sciences and the arts, who participate in a complex political and social environment are unable to engage the de-centered object. Their engagement is limited to the painter and us; their audience in a measurable architectural space. The skull, solicits independent attention. In pictorial terms it refer us to that same screen, of Alberti, with a focal point geometrically determined and located as a spot on a gallery floor occurring tangentially in an expanded architectural field. Here viewing and the privilege of vantage point is addressed. The spatial architectonics of the gaze are made tangible. The optical and spatial mechanics viewing are manifested. Active and conscious immersion in a pictorial game are prerequisites.

XIV.
[Gestures, Marks, Erasure and Surface]

Medium makes contact with surfaces. It may be encaustic, tempera or graphite, it might be viscous or powdery. It can be a mouse and pad. But when it comes into contact with surface it erases. The surface of the picture plane must be worked. An act of subtraction must take place. The first mark on the surface invites a second, which obliterates it. Each mark defaces its predecessor. In representing the three dimensional world on two dimensional surfaces the artist, cartographer, draftsman or photographer resorts to dimensionality, colour or linearity. Surfaces are used for communication, reproduction, for visual memory, and for transporting.

The presence of the 'body as a site of the image' may be illustrated using the example of Chinese painting which in its finished form illustrates the location

37

of the artist's 'utterance' and the authorial decisions which preceded it. But before proceeding to Chinese painting, a discussion of a linguistic concept, called *deitic* needs clarification. It was Norman Bryson who in his *Vision and Painting* used this model for art historical study. He points out that contrary to the division of the tenses into past, present and future his interest lies in the derivations from them, and distinctions between action related phrases such as 'he ran' versus 'he has run'. For him, the latter refers to a situation in which ' he is now at this moment of speaking, in a state of having run'. This, Bryson argues is closer to the diectic class of tenses that refer to their own perspective, spatial location, making these factors a part of the content an are conveyed as information. In so doing deixis becomes 'utterance in carnal form'. [86]

Bryson then takes his readers on a detailed tour of Chinese painting. He argues that in its persistent choice of subject matter- 'foliage, bamboo, ridges of boulder, mountain formations , fur, feathers, reeds, branches,' the Chinese artist has given visibility to the brush stroke. Even in its rendering of mist, waterfall and aerial distance it manages to express the fluidity and flow of ink. The subject of the painting must be therefore be reconsidered. It is both the landscape that is rendered, but it is equally the labour of the brush, in real time, and the body that held it. 89 Here the painting comes closer to performance art, where both work and content are inseparable. 92 The body of the painter is understood. It becomes the object of a Gaze, which is locked in a complex visual and imaginative experience' [87]

The finished piece in any performance work must necessarily include with it, its own history of making. And Chinese silk is able to record the traces and marks that acknowledge both the space of landscape and more importantly the space of the painter. [88] To Bryon's astute observation must be added a somewhat obvious but yet neglected point: the relationship between the mark, be it calligraphic or painterly and gesture. Chinese painting although representation and image must be considered as script as well. Ornamented script, where each letter is a symbol, a pictogram of sorts, that must be laboured over. It is this relation of script and image that goes unmentioned.

XV.

[China]

Xie He was a meticulous portrait painter in 5th Century China. He was also the author of *Guhua pinlu*, the earliest surviving treatise on Chinese painting. In this academic enterprise, Xie He outlined six rules for painting. These were as follows: [89]

1. In the harmony of breadth the movement of life
2. Use the brush in the manner of bone [*gufa*]
3. In conformity of objects represent forms
4. In conformity of the nature of objects apply colours
5. Place the elements in the composition [of the work]
6. Transmit models by copying

A commentary on each principle is not within the scope here. What must be emphasized how ever is the importance that Xie He gives to technique, material, and format. He also considers a ' spiritual rhythm' that as a prerequisite for painting. *Qiyun,* the breadth of life was to be found in rhythms present in universal life. Influenced by Taoist philosophy, which housed wisdom in landscape forms the pictorial genre responded to these beliefs. [90] What was expected of painting was not the fixing of outlines, walls, mountains or hills. Its greater task was to bring out of chaos, out of great masses, a world in which elements intercommunicate. Hence a single stroke might suffice an entire mountain range or adequately convey physiognomic information.

Painting in China was well established as a expressive narrative mode during the Han Dynasty. With calligraphy and eulogies, painting was part of the *san mei* or 'Three Marvels', and occupied space on scrolls in which text and image coexisted. The Emperor Ling [168- 189] had commissioned Cai Yong [133- 192] to portray in visually and in text, five generations of the Generals and Ministers of State of the family of the Marquis of Chiquan. [91] Nature's forms had already gained allegorical status and in the late 3rd century landscape even became was an autonomous topic for a treatise. At that time, Zong Big [375- 443] produced *Hua Shanshui Xu* [Introduction to Landscape Painting]. These

principles are visible in cscrols such as such as the 'Prosperous Suzhou' scroll, of 1751 which depicts a city and an Emperors Itinerary. Here the Chinese painting defies western definitions of frame and picture. At the will of its reader-viewer, it can be rolled backwards and forwards. The edges of a description therefore are pliant. Context and detail are therefore mutually dependent.

fig. 9
Chinese scroll by Dai Jin c 1500 detail
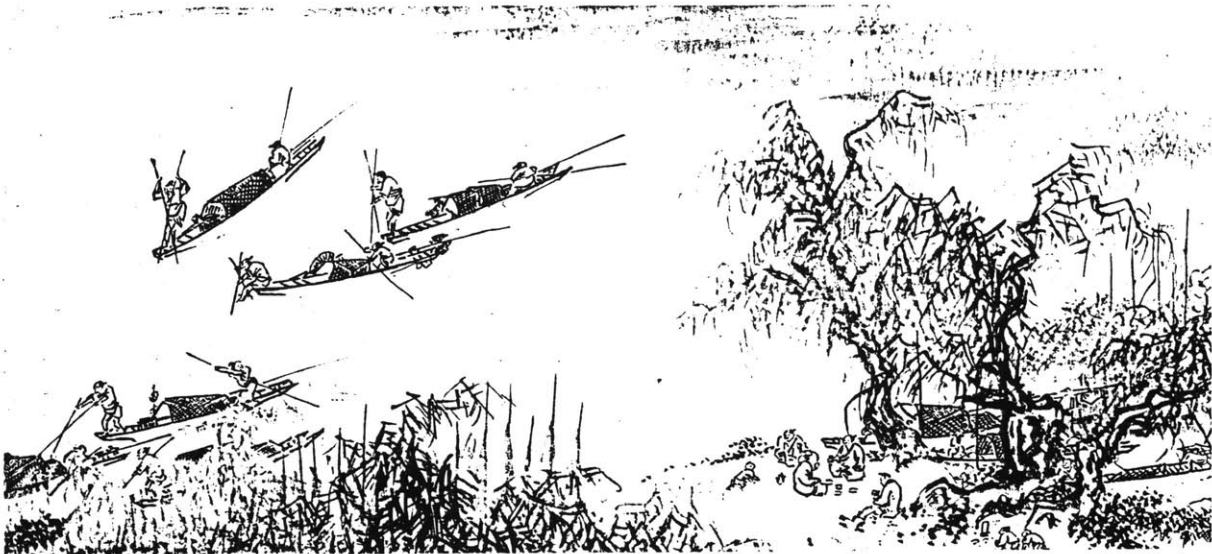
XVI.

[Unlimiting the bounds of Painting, Picturesque views]

The Panorama

At leisure let us view from day to day,
As they present themselves the *spectacles*
Within doors: troops of wild beast, bird and beasts
Of every nature from all climes convened,
And next to these *those mimic sights that ape*
The absolute presence of reality
Expressing as in mirror sea and land,
And what earth is and what she hath to shew-
I do not here *allude to subtlest craft,*
By means refined attaining purest ends,
But imitations fondly made in plain
Confession of man's weakness and his loves.
Whether the painter- *fashioning a work*
To nature's circumambient scenery

William Wordsworth, description of London Panoramas in 1805, from Prelude
Seventh Book lines 244-257 [emphasis added [92]

Mr. Barker's interesting and novel view of the city and castle of Edinburgh,
and the whole adjacent and surrounding country .
March 14, 1787 in London a show opens with the above title. Robert Barker, a n
Irish born artist, working in Edinburgh seems to have invented a 360' view. As
an optical refinement of perspective, he presents it on the inside of a
cylindrical building designed specifically for this purpose. It seems he also
coins the term 'panorama' for such 'all encompassing views' and the buildings
in which they were contained. The same year three months later, on the 19th
of June, Barker establishes a patent which gives him rights to this invention

for the next fourteen years. And for the next seventy year or so, this building called the London Strand Panorama remains an institution hosting several such large paintings.[93]

A place of bourgeois entertainment, that displays a low art form. Such was the response of the London gentry. Barker tried hard to present it as otherwise, b y making explicit public statements describing the construction of the views:

There is no deception of glasses, or any other whatsoever, the view being only a fair sketch displaying at once a circle of very extraordinary extent, the same as if on the spot; forming perhaps one of the most picturesque views of Europe. The idea is entirely new, and the effect produced by fair perspective, a proper point of view, and unlimiting the bounds of the Arts of Painting [94]

Such statements defended not only the veracity of these constructions, he also felt that he had offered to the discipline an entirely new formula for perspectival image making. Thus he tried hard to gain the consent of the already established Academy which at this time was characterized by figure and history painting, and somewhat hostile to solely landscape depiction. The president of the Academy at the time was the favourite portrait painter of the aristocracy, Joshua Reynolds (1723- 1792) . In his effort to cater to such a sophisticated audience, Barker began making public statements in the popular press. In the Morning Chronicle and London Advertiser of March 14 1789, he appealed that

his improvement is genuine, ...it may not be understood as an exhibition merely for emulment, but being the result of minute investigation of the principles of art, it is intended chiefly for the criticism of artists and admirers of painting in general [95]

Such invocations did have some results and significant artists and scholars of the time did visit the Panorama. [96] Joshua Reynolds the president of the Academy was approached for his expert endorsement. Barker's son Henry Aston Barker who continued his fathers work wrote the following:

The view was very successful. Even Sir Joshua Reynolds came to see it and gratified my father much, when taking him by the hand, he said, ' I find I was in error in supposing your invention could never succeed, for the present exhibition proves it is capable of producing effects, and representing nature in a manner far superior to the limited scale of pictures in general '[97]

Reynolds was referring to the first sketches of the view form Calton Hill in Edinburgh, which Barker had shown to him. At that time the former had discouraged the project, suggesting that it be abandoned . Barker's enthusiasm was not curbed, he returned to the spot with his twelve year old son, who assisted him in redrawing and correcting his first sketches. The statement made by Barker's son is supported by James Northcote's biography of Joshua Reynolds as well:

He [Reynolds] was a prodigious admirer of the invention and striking effect of the panorama in Leicester fields, and went repeatedly to see it. He was the first person who mentioned it to me, and earnestly recommended me to go also, saying it would surprise me more than anything of the kind I had ever seen in my life; and I confess I found myself it to be as he had said. [98]

But all artists were not as congenial in their response. John Constable, (1776-1837) at the time well established as a landscape painter, also visited the Panorama. He wrote
' great principles are neither expected nor looked for in this mode of representing nature......it is without the pale of art because its object is deception. - Claude's never was - nor any other great landscape painter's. [99] Constable's reference is to Claude Lorrain (1600 -1682) the French painter, who was a model for painters of natural scenes. And at another instance Constable wrote that the panoramist's view of nature was 'minute and cunning, lacking greatness and breadth'. Yet Constable's own friend and biographer Charles Robert Leslie wrote the following in a letter of 1812,

I have been to see Mr. Barker's panoramas, the Seige of Flushing and Bay of Messina. they are so well painted as to be quite deception, particularly the latter one, as they extend in a circular form all round the rooms and the spectators are placed in the centre, the effect is very astonishing. I actually

put on my hat imagining myself to be in open air. These pictures exhibit both branches of perspective in perfection, for I was so far deceived that I had no idea how far the canvas was from my eye, in one spot it appears thirty miles off and in another not so many feet, such is the astonishing effect that can be produced by a strict adherence to nature. [100]

Barker tried several tactics for an effective show. He realized that his audience was impressed with size, thus in his view of London, he opted for a half circle and hence a larger painting. The work was advertised with its dimensions of 1, 479 square feet emphasized. The success of this show can be assessed by its three year duration until 1794. Another painting, the ' Grand Fleet at Spithead ' of 1791 was painted on 10,000 square feet of canvas. [111]

XVII.
[Accuracy, Illusion, Viewing Apparatus]

Barker's patent referred to the exhibition as ' la nature a coup d'oeil' or 'nature at a glance'. This reference to the 'coup d'oeil' of course made his work somewhat paradoxical, since it shifted between illusion and accuracy. In fact the 1824 edition of the Encyclopedia Britannica cited illusionistic perspective paintings of the Renaissance such as Giulio Romano's Sala dei Giganti at Palazzo del Te as precursors of Barker's invention.[112] The earlier 1801 edition of the same encyclopedia included the patent, with its details on rigorous technique of construction. implying that a panorama was an accurate representation. : 'the painter or drawer must fix his station, and must delineate correctly and connectedly every object which presents itself to his view as he turns around, concluding his drawings by a connection with where he began'. Instructions also included careful study of atmospheric conditions: 'he must observe the lights and shadows, how they fall, and perfect his piece to the best of his abilities.'But no details were included about movable framing devices, supposedly used for drawing on site. Nor was any information given on how straight lines would be transferred onto a curved canvas. [113]

Topographical accuracy is an important point to stress. To combat any criticism, on his Edinburgh view, Barker had the Lord Provost of Edinburgh give him a statement that said ' it is a most accurate and just representation, of

the city and its environs to the fullest extent of the horizon in every direction. [114] Advertisements included the information that the panorama was an original constructed from sketches made specially for its construction. [115] The need and desire to provide accurate views was such that the title artist substituted for surveyor. A panorama of New Zealand displayed in London in 1849, was referred to as ' not the work of a mere artist, but of a surveyor, whose business was to explore and set down with topographical accuracy, the natural features of the colony.' [116]

The exhibition space received considerable attention as well . Barker, gave information on the circular framing of the painting, its top lighting, the central viewing platform which ensured physical separation between the view and the spectator. He also addressed prosaic issues such as ventilation. [117] But the kind of space Barker envisioned was far from achieved by the patent. His first view of Edinburgh was exhibited in a circular space so small that it was seen by parties of six at one time. The distance between the painting and the viewer, which was such an important concern in the effect, thus could not have been more than ten feet either. The glazed dome that Barker had desired was not possible at the time and the space was lit by lamps.[118]

In 1801, when his patent expired, several panorama buildings went up. One such building was designed by the architect Robert Mitchell at Leicester Square. This building shows how complex the structure had gotten in a decade. Circulation was carefully controlled not only with respect to the direction of movement, it was also strategically illuminated to create a more dramatic effect of the panorama. Visitors would descend into a passage, then climb up emerging head first in a large space. Such contrivances contributed to the spatial expanse sought by the artist. Incidentally, Barker's panorama of London painted from the roof of the Albion Mill in 1792, was included in the section drawing of this Panorama. [fig 10]

fig. 10

Section through Robert Mitchell's Panorma Building of 1801
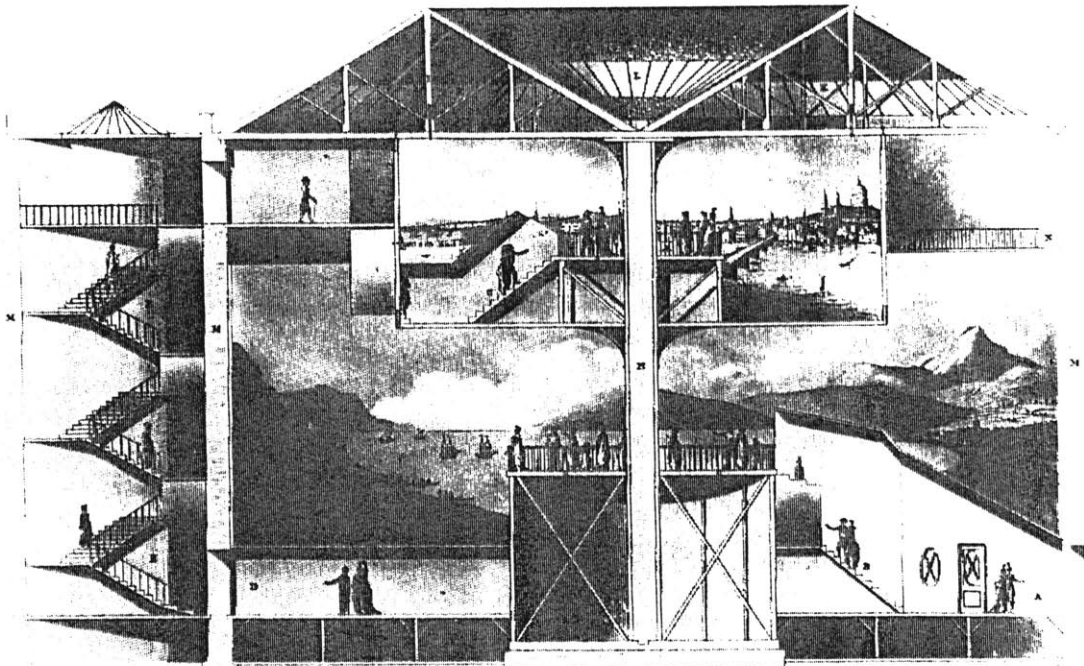
68. Schnitt durch Barkers doppelstöckige Panoramarotunde am Leicester Square um 1798 (Mitchell).

The design of the London Panoramas coincided with the prototype designs by Jeremy Bentham for prisons and penitentiary facilities. Bentham's Panopticon was clearly a 'Machine of the Visible' to be used as an architectural devise that would sustain relationships of power and surveillance by jailers on inmates. A central tower, in the section of the building provided the jailer a panoramic view of separate prison cells. [119] If this layout is compared to Barker's central pavilion, then an analogy might be drawn with the exercising of visual power over a geographic, terrain. In both cases it was not the provision of physical mobility that was achieved. Virtual spatial and temporal mobility was instead afforded to the stationary but strategically positioned viewer. Judgments of distance and time were made unclear, and in a controlled self contained environment virtual figures and landscapes were illusively presented as real. A paradoxical situation emerges where the confines of a place allow the possibility of travel. [120] [fig 11]

fig 11

Plan and Section of Betham's Panopticon, 1791
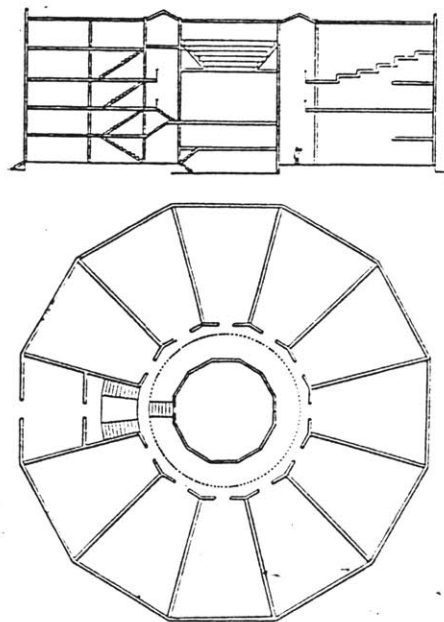
XVIII.

[Instruction tool and Travel Contrivance]

A characteristic of the Enlightenment, and in particular of the Victorian period was the commitment to popular instruction. [121] The Panorama fulfilled this requirement by acting as a 'quasi-cultural institution'. [122] Thus John Ruskin lamented the loss of the panorama as an educational tool for the layperson. He saw it as providing 'material facts' about the world, 'like a school both in physical geography and art. [123] Paying his tribute to the panorama, while writing on his visit to Milan, he wrote ' I had been partly prepared for this view by the admirable presentment of it in London, a year or two before, in an exhibition, of which the vanishing has been in later life, a greatly felt loss to me- Burford's panorama in Leicester Square which was an educational institution of the highest and purest value, and ought to have been supported by the government as one of the most beneficial school instruments in London.[124]

The same educational view of the panorama is found expressed by a character in Charles Dickens, *Household Works*, where a Mr. Booley, a sixty-five year old bank clerk, spoke of his overseas voyages only to reveal in the end that he had infact made his travels on gigantic moving panoramas:

It is a delightful characteristic of these times , that new and cheap means are continually being devised, for conveying the results of actual experience, to those who are unable to obtain such experiences for themselves, and to bring them within the reach of the people- emphatically of the people; for it is they at large who are addressed in these endeavours, and not exclusive audiences. Hence if I see a run on idea, like the panorama one, it awakens no ill humour within me, but gives me pleasant thoughts. Some of the best results of actual travel are suggested by such means to those who lot it is to stay home. New worlds open out to them, beyond their little worlds, and widen their range of reflection, information, sympathy and interest. the more man knows of man, the better for the common brotherhood of us all. [125]

The education imparted by the painted scenes was supplemented by a six pence booklet which was designed as a guide, since there was no instructor. This

souvenir was intended to be shelved as part of ones general reading material. The booklets contained outlined sketches of the paintings, about a dozen pages of text which provided the visitor with some history, and the current interest in the place depicted. The drawing also included an inventory of known monuments labeled by numbers which were to be identified in the paintings.[126]

The wish to provide novelty, and the desire to document distant lands, and the increased competition in the trade, made Barker and his son make several trips abroad:

determined to spare no expense or trouble to bring forward scenes of useful information, as well as gratifying amusement; and the public may expect to have the most interesting Views and the most noticed cities in Europe, in due time laid before them. [127]
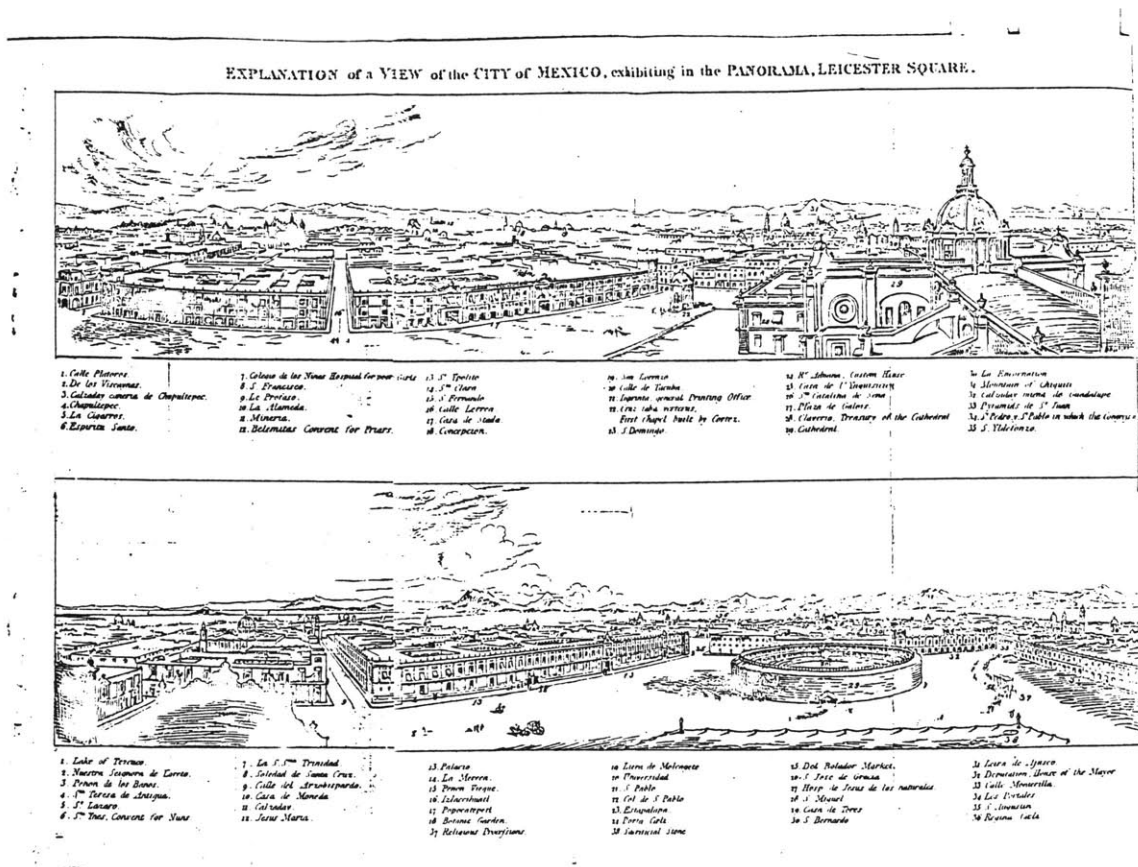
The first foreign city to be presented at Leicester Street was Constantinople. This was followed by a barrage of other cities (Athens, Algiers, Venice, Lisbon. Victoria. Bern, Spitzbergen, City of Mexico, Modern Mexico, Badajoz, Rio de Janeiro) [26] Descriptive booklets were also sold at the same price with these views with objects of interest marked out by on a key. The new booklets however contained anthropological information on native costume, habits, and anecdotes as well. Introductions to the paintings included lengthy accounts on the identity of the author of an image, where he was situated and how a particular point of view was determined. Barker's introduction to the Panorama of Jerusalem is as follows: [fig 12, 13]

Description of a Painting of Jerusalem and the surrounding country as it appears at this time from the Mount of Olives. Painted by E. Donovan F.L.S.W.S.
The original drawn by his son, Mr. J. Donovan & M. Pierre Jacques.
The View taken in the year 1811-1812. The picture is painted in oil upon canvas, exceeding one hundred feet in length and eighteen in height & will remain open to inspection in the saloon of the great apartment of the London Museum, Fleet Street.[128]

A large sheet that unfolds form the booklet shows a chart with concentric squares, densely marked with numbers. These numbers correspond to a Key on the same sheet which gives the names of monuments. All monuments identified are with respect to Christian places of worship with two references made to 'strange' Jewish practices, but no monuments of any other faith were identified. This preference suggests that the panorama was providing more than just information, it was becoming a surrogate for the Christian Pilgrammage.[129]

fig 12

Barker's plans and legend for City of Mexico Painting

EXPLANATION of a VIEW of the CITY of MEXICO, exhibiting in the PANORAMA, LEICESTER SQUARE.

fig. 13 a

Barker's plan for the Jerusalem Painting

EAST VIEW.

Shewing the vast Range of the Mount of Olives, rising in the Front of Jerusalem. On this Mount are many Spots very highly venerated for their Connection with the Events and Miracles recorded both in the Old and New Testament: on the Middle Summit is the Place of the Ascension of our Saviour. There are also seen the Roads leading across the Mountain to the River Jordan, the great Desert, that of Bethany, and the Route along the Valley towards the Dead Sea.

The Spectator is supposed to be placed upon an Eminence of the Mount of Olives, which equally commands the Site of the City and the surrounding Country in the Front and the towering Elevations of the Mount behind him. The Figures are those of Pilgrims, of various Countries, collected together to commemorate the Passion of our Saviour, and the Easter.

SCHEDULE
of
A PAINTING
of
JERUSALEM,
AND THE
SURROUNDING COUNTRY,
AS IT APPEARS AT THIS TIME FROM THE
Mount of Olives.

Painted by E. DONOVAN, F.L.S. W.S. &c.
From the Original Drawings of his Son, Mr. J. Donovan, and M. Pierre Jarques, of Malta.
The View taken in the Year 1811 & 1812.
☞ This Picture is painted in Oil, upon Canvas, considerably exceeding 100 Feet in Length and 18 in Height.

NORTH VIEW.

On this Side is the Valley of the ancient Gardens which extends to a considerable Distance, contiguous to the Base of the Rock on which the North Wall is built. This is the most vulnerable Part of the City: it was on this Side the City was taken by Titus, in the dreadful Siege of Jerusalem described by Josephus. This Part is also memorable for the Attack made on it in earlier Times by the Assyrians, by the Pretence of Alexander the Great, and at a later Period by the Victory of the Christian Crusaders over the Saracens, and Reduction of the City. The Mountains of Samaria; the Routes towards Nazareth, Galilee, and Damascus: the sumptuous Burial Places of the Kings of Juda, and the Rocks among which Jeremiah wrote his Lamentations over the Ruins of Jerusalem.

SOUTH VIEW.

Although this Side exhibits a less considerable Number of interesting Points than either of the rest, it is extremely worthy of Contemplation. It includes the Declivities of the Mount of Olives towards the Valley of the Dead Sea, through which the River Kedron flows, and that Part of the Valley in which the cursed Fig Tree grew. The Mount of Offence, upon the Summit of which Solomon erected the Palace of his Strange Wives. The Hill upon which the Jews sacrificed to Chemosh and Molech, and afterwards called the Hill of Evil Counsel, as the Jewish Spies were stationed there to observe our Saviour and the Multitude in coming from Bethany. The Field of Aceldama, bought with the Thirty Pieces of Money for which Christ was betrayed by Judas: the Lands bounding the Valley of Rephaim, and in the Distance the Mountains of Bethlehem, the Place of our Saviour's Nativity.

WEST VIEW.

Among the principal Objects in this View are Mount Sion, and the Gates of the Site of the Palace and City of David is disclosed completely in this Prospect: on the South of Mount Sion is the Valley of Hell, called also Tophet and Gehinnon, and on the East, the Valley of the Desert of the People, and the Burial-Places of the Israelites opposite the foot of Sion, and about Siloam. To the North of Sion is presented a general View of the City built on Mount Acra and Bezeta: the Region of Death, Mount Goreb, and Mount Calvary, with the Hill of Gihon beyond the City to the Southward. Immediately in Front is the Site of the ancient Temple of Jerusalem, seated upon the Level Summit of Mount Moria.

As it is entirely impossible, within the space of the present Sheet, to point out more than a few of the leading Objects in this extensive Picture, the Observer is requested to consider it as a Sheet of Reference only, and to advert from hence, for the more minute Details, to the explanatory Tables which are placed opposite the most interesting Situations in the following Order:

1. General Explanation of the EAST VIEW.	**5.** Explanatory Table, in which the more important Places on the EAST SIDE, connected with the memorable Events of the Old Testament, are ascertained, and the Passages referred to.	**9.** Explanatory Table of the Situations of the EAST SIDE, in which the more important Incidents recorded in the New Testament are ascertained to have occurred, and the Passages referred to.	**14.** PASSION OF CHRIST. An Explanatory Table, appropriated to shew the several Places through which our Saviour was conveyed, from the Time of being betrayed till his arrival at Mount Calvary.
2. Ditto SOUTH VIEW.			
3. Ditto WEST VIEW.	**6.** Ditto SOUTH SIDE.	**10.** Ditto SOUTH SIDE.	**15.** An Outline of Mount Calvary, and of the Edifice erected on the Spot.
4. Ditto NORTH VIEW.	**7.** Ditto WEST SIDE.	**11.** Ditto WEST SIDE.	**16.** General Table illustrating ancient History.
	8. Ditto NORTH SIDE.	**12.** Ditto NORTH SIDE.	**17.** General Table illustrating modern History.
		13. Ground Plan of the ancient Temple of Jerusalem compared with the Spot.	**18.** General Description of the Pilgrims, Arabs, and other Figures.

Printed by the Philanthropic Society, St. George's Fields.

fig. 13 b

Barker's legend for the Jerusalem Painting

EXPLANATION
OF THE FIGURES INSERTED IN THE
SCHEDULE OF REFERENCE.

EAST VIEW.

1. Center elevation of the Mount of Olives.
2. North Pinnacle, upon which the early Christians erected a Tower to commemorate the Appearance of Two Angels to the Apostles, called *Viri Galilei!*
3. South Pinnacle of the Mount.
4. Road conducting towards Jericho, the Jordan River, and the Desert.
5. One Road to Bethany and Bethphage.
6. Lower Road to Bethany, along the Valley of the cursed Fig Tree.
7. Site of the Garden of Gethsemane.
8. Ancient Chapel, denominated the Sepulchre of the Virgin Mary.
9. The Place in which Christ prayed at the Time of the Passion.
10. The ancient Monument called the Pillar of Absalom, lies in the Valley at the Foot of the Mountain under this Projection.
11. Ditto the Tomb of Zachary.
12. Sepulchres on the upper Part of the Mount of Olives, called the Tombs of the Prophets.
13. The Spot where Christ wept over the City of Jerusalem, and denounced the Ruin of the Temple.
14. Here the Apostles composed the Creed.
15. Where Christ taught the Lord's Prayer.
16. The Place where Christ foretold the general Judgment.
17. An ancient Chapel, erected on the Spot from whence Christ in the midst of his Apostles ascended into Heaven.

. The Groupes of Pilgrims, of various Nations, assembled on the Mount to commemorate the Ceremony of Palming, &c. are separately described.

SOUTH VIEW.

18. Mountains of Judea.
19. Mountains of Bethlehem, the Birth-place of our Saviour.
20. Valley of Rephaim, in which the mighty Army of Sennacarib perished. The Road from Jerusalem to Bethlehem lies in this Route.
21. The range of high Lands, consecrated by Solomon to the fiery Orgies of Moloch, and the Groves of Idolatry destroyed by Josiah, called by the Christians the Hill of Evil Counsel, because it was on this Hill the Jews placed their Spies to watch the Acts of our Saviour and the Multitude coming down the Mount of Olives at the Time of strewing the way with Palms, and entering into the Temple; commemorated by our *Palm Sunday*. This was also the favorite Walk of the ancient Jews of Jerusalem on the Sabbath-day.
22. Aceldama, or Field of Blood, so called from having been purchased as a Burial-place for Strangers with the Thirty Pieces of Money for which Christ was betrayed by Judas.
23. A Cave in the Rock, consisting of several Cells, in which Six of the Apostles were concealed during the Time of the Crucifixion.
24. From a Pit near this Spot the sacred Fire of the Temple, which had been concealed during the Captivity in Babylon, was taken by Nehemiah on the re-building Jerusalem.
25. A remarkable Rock, upon the Summit of which some Ruins are yet extant which mark the Situation of a Palace built by Solomon for his Wives.
26. Valley of Kedron, along which the River of that Name bends its Course towards the Dead Sea.
27. In a Line nearly due East from the End of this Valley are the Ruins of the Two destroyed Cities named in Genesis.
28. River Kedron. Along this Part and on the contiguous Side of the Mount of Olives, are the Burial-places of the Jews; and here, at a considerable Expense, they are permitted to deposit the Bones of Jews brought from Foreign Countries for Interment in the Sepulchres of their Forefathers.
29. The King's Pleasure Grounds were situated in this Plain.

WEST VIEW.

30. Mount Sion.
31. Valley of Hell.
32. Desert of the People.
33. Summit of Mount Sion.
34. Gates of Sion.

There is not, perhaps, a more sublimely impressive feature of the whole Scene than this: Sion, before whose holy Name every knee is bent, and every Head is bowed in Reverence! Cold, indeed, must be the Heart of him, and feeble his Imagination, who can stand unmoved while he recalls to memory the emphatic Imagery of the Sage enwrapt in Prophecy, and proclaiming to a trembling World the sounding of the last Trump upon the Hill of Sion! Of him who has pronounced the prophetic Sentence, "And I heard a Voice from Heaven saying, arise ye unto Judgment." That awe inspiring source of Hope, which, like the Sun bursts through the stormy clouds of death, to cheer the last sad Duties due to our mortality, and scatter flowers upon the borders of the grave!

35. Reputed Burial-place of David and Solomon. There is an ancient Edifice, formerly a Convent, on this Spot.
36. Ruins of the Palace of David.
37. In the Valley behind this Part of the Mount is the supposed Site of the Gardens of Uriah. An ancient Cistern on the Spot retains the Name of the "Pool of Bathsheba."

38. The supposed Site of the Stairs upon which St. Paul preached.
39. According to the early Christians the last Supper was eaten, the Sacrament instituted, on Mount Sion, near this Spot.
40. Reputed the last Meeting-place of the Apostles previous to the Separation over the World to preach the Doctrine of Christianity.
41. Site of the ancient Millo.
42. Pool of Siloam.
43. Dung Gate.
44. Site of the Palace of Annas, the High Priest, before whom Christ was carried.
45. Hospital.
46. Place in which James, the Apostle, suffered Martyrdom. Building on the Spot was erected by the Armenians.
47. The Castle built by the Crusaders: it is ascertained to stand on the Foundation of a Fortress erected by David: indeed the Line of Fortifications along the West-side of ancient Jerusalem may be traced southward from this Spot as far as Mount Sion; and thence again by the Ruins in the Valley of Tophet.
48. Gate of Bethlehem, a remain of the ancient Ruins.
49. Tower of Zebedee, erected on the Spot on which that Apostle lives.
50. Convent of the Latins.
51. Tower of Pilate, being Part of the Remains of the Palace of Pilate.
52. The Arch of Pilate, at the Window of which our Saviour was shewn to the People, and rejected, in favor of Barabas.
53. Site of the Palace of Herod.
54. Route along which Christ was conveyed from the Palace to the Place of Crucifixion.
55. Gate of Justice through which they passed, a Fragment of the old Wall yet remaining
56. Church of the Holy Sepulchre, erected upon Mount Calvary; a. Building, including the Place of Crucifixion; b. the Dome, under the Center of which is the Tomb of our Saviour; c. the ancient stupendous Tower, erected to the Honor of all the Saints, formerly a most sumptuous Building, now reduced to the Height of the first Story.
57. Scite of the ancient Temple of Jerusalem.
58. The South Court of the ancient Temple.
59. Ancient Cathedral Church, called the "Church of the Purification of the Holy Virgin."
60. North Court of the ancient Temple. These stand upon an immense Level hewn in the solid Rock, upon the Summit of Mount Moria.
61. Pool of Bethesda, contiguous to the North Court.
62. Golden Gate of the Temple, one of the most curious Fragments of the ancient Jerusalem extant. It was at this Gate our Saviour entered with the Multitude and overthrew the Money-changers in the Temple.
63. Remains of the last Wall repaired by the Saracens.
64. The mural Front of the Rock of Moria, sustaining the Platform of the Temple. The Steepness into the Valley is still considerable, though greatly diminished by being covered with the Ruins of the Temple of Jerusalem, which lie in immense Banks in the Front covered with earth at this day.
65. Valley of Jehosaphat. The Kedron River runs along this Valley in a narrow rocky Course, but this, as well as the great depth of the Valley, is concealed from the eye of the Spectator by the projecting Rocks of the Mount of Olives.
66. Sheep Gate of the ancient City, called by the Christians the Gate of St. Stephen, in Honor of that Apostle, who fell the first Martyr to the Cause of Christianity, at a short Distance without the Gate.
67. The Spot on which St. Stephen suffered Martyrdom.

NORTH VIEW.

68. Mountains of Samaria.
69. Lands towards Joppa, Lydda, and Nazareth.
70. Country towards the Sea of Galilee.
71. Mount Quarantania, where Christ was tempted by the Devil, is situated in this Direction.
72. Foot of the Mount of Olives.
73. Situation of the Sepulchres of the Kings of Judah.
74. Range of high Land that bounds the North Valley, or Valley of Gardens, reduced in height by the Army of Titus, in the memorable Siege of Jerusalem.
75. The Cavity of the Rock called the Cave of Jeremiah; the Place in which it is believed the Prophet wrote his Lamentations over Jerusalem.
76. Mount Elias.
77. The North Valley, or Valley of Gardens.
78. The North Wall. It is generally admitted that this is a Remain of the North Wall of ancient Jerusalem, but dismantled of the gigantic Towers with which that Side of the City was fortified, the following of the ancient Gates are yet extant.
79. Gate of Damascus. The Road leading towards Nazareth, Damascus, &c. shewn
80. Gate of Ephraim.
81. Walls rising upon and inclosed the Hill of Goreb.
82. Site of an ancient Aqueduct.

The panoramas also played a part in making history as it was happening. This is testified by the large number of naval and military encounter they represented and the views of battles or uprisings in the colonies.[130] If a n older event was of significance, then the panorama was used to reiterate it as well. Such was the case with Barker's painting done at the island of Elba, the place of Napoleon's exile, after his defeat by the English. Barker's description for his painting of Porto Ferrajo on the island of Elba begins as follows:

Mr. H. A. Barker respectfully informs the public that he took the view of Porto Ferrajo in the latter part of October and the beginning of November 1814.
As soon as his motive for visiting Elba was made known to Count Bertrand, to whom he had a letter of introduction, he immediately received permission, b y order from Count Druot (?), Governor of the Palace, to take his sketches from any point he thought most agreeable. The present point therefore was chosen, as it combined a better View of the Town and Bay, than any other station h e went to. [131]
But it is a small paragraph included with this introduction, which reveals the attempt at giving simple details for the largely uneducated audience:

Bonaparte's Flag at Elba was white, with a Red Stripe placed diagonally, upon which were three bees as represented above. [132]

The panorama had essentially for fifty years provided visual documentation of current events and places of interest before printed words and visual images came together in the Illustrated London News. A reference to the panorama also appeared in the first edition of that paper launching itself with the intention of providing ' continually before the eye of the world a living and moving panorama of all its actions and influences. ' [133]

Panoramas are among the happiest contrivances for saving time and expense in this age of contrivances. What cost a couple of hundred pounds and a half year a century ago, now costs a shilling and a quarter of an hour......The affair is settled in a summary manner. The mountain or the sea, the classic vale of the ancient city, is transported to us on the wings of the wind... If we have not the waters of the lake of Geneva, and the bricks and mortar of the little Greek town, tangible by our hands, we have them tangible by the eye- the fullest

impression that could be purchased, by our being purchased, passported, plundered, starved, and stenched, for 1200 miles east and by south, could not be fuller than the work of Messrs. Parkers(sic) and Burfords brushes. The scene is absolutely alive, vivid, and true; we feel all but the breeze, and hear all but the dashing of the wave. [134]

XIX.
[Travel, Mobility]

Travels With Samantha [http://www-swiss.ai.mit.edu/samantha] no heavy backpacks, metal mugs, hiking boots or Teva sandals. Rather the comfort of electronic globetrotting. Greespun maintains a world wide web site on which he posts his travel diary. One-hour only vacation photos digitized. Eleven chapters in plain text. The language not so different from what is found in a *Lets Go*, or a *Michlen guide*, but still somewhat personal, given it is the private prose of a young man's travel diary.

When Samuel Pepys left London on trip to Paris, he was advised by John Evelyn 'to climb the steeple of St. Jacques ' to take a synoptical prospect of that city, to consider ye situation, Extent and Approaches so as to be able to make comparisons with our London.' [135] Having taken this synoptical view to get a quick perusal, Pepys would have begun his systematic itinerary. Travel observations were being considered a disciplined pursuit. Through them history was clarified. Such views allowed a first hand account, and the traveler would then proceed to list along with 'noble' monuments, information on political institutions and social customs. A traveler was expected to return with useful information, which he shared with his fellow intellectuals. He also provided contacts necessary for the sale of publications. [136] Such travel was assisted by the Royal Academies of Europe which provided 'collegial support', in an institutionalized phenomenon referred to as the' Grand Tour' of the 17th century. Travel to Southern Europe was also recommended as a store of nostalgia accessible in old age:

It contents the mind with rare discourses we hear from learned men. It makes him [the traveler] sought after by his betters, and listened unto with admiration by his inferiors. It makes him sit still in his old age with

satisfaction; and travel over the world again in his chair and bed by discourse and thoughts.... In fine it's an excellent Commentary upon histories; and no man understands Livy and Cesar, Giucciardin and Monluc, like him who hath made exactly the Grande Tour of France and the giro of Italy' [136]

When speaking of early sightseeing, the ascendancy of the 'seen', the eyewitness account, versus hearsay must be mentioned .[137] This no doubt contributed to the increase in visual material, maps, views, etc. that a traveler in the 17th & 18th century could purchase. Travelers were given more authority if their accounts were supported by personal observation and by visual documentation. It was not uncommon for a traveler to hire an artist to accompany him on his journeys and produce illustrations for his notes. The preeminence of visual experience is testified by the opening of James Howell's *Instructions for forreine Travel* written in 1642:

To run over and traverse the world by Hearsay, and traditional relation, with other mens's eyes, and to take all things upon courtesie, is but a confused and imperfect kind of speculation, which leaveth but weake and distrustful notions behind it, in regard the Eare is not so authentique a witness as the Eye; because the Eye, by which as through a clear and cristall casement, we descerne the various works of Art and Nature and in one instant comprehend half the whole universe ...... I say the Eye.... taketh in farre deeper ideas, and so makes firmer and more lasting impressions.
And although one should reade all the Topographer that ever writ of, or anatomized a ..... Country, and mingle Disourse with the most exact observers.....
138]

A distinction should be made here between aesthetic interest in visual material for its own sake versus images that served as textual support or graphic evidence. Since maps and views assisted in describing a city it is simplistic to not see them as 'factual' material existing between geography and history as these disciplines were themselves being made. They were part of statistical material that involved measuring heights of mountains or towers, counting steps in palaces and trees in gardens, pacing courtyards and sketching fortification. Technical language, and the absence of 'personal romance and rhetorical flourish' were thus prerequisites. [139]

It is in such an environ of travel and description that the traveler might have bought the *Prospetto del' All'alma Citta di Roma dal Monte Gianicolo* done by Giuseppe Vasi in 1765. Comprising 12 sheets and measuring 102x262 cm. It provided a comprehensive all embracing view of the city of Rome taken form the casino of Palazzo Corsini on Monte Gianicolo. Vasi's intension was clearly to produce a tool for an audience unfamiliar to the city :

' anyone who has still to visit Rome, may see the whole city at a glance and then with the help of a system of numbers, locate the sites they have seen in books'. [140]

While some academic exposure to Rome was expected, and the plan-panorama woud aide further instruction. The above description also suggests how Vasi imagined the panorama to serve as not only a view, a 'prospetto' , but also a topographical plan- it is not by accident that it is referred to in almost all scholarly work as 'pianta'. Since the panorama was the culmination of a fourteen year project of compiling urban views a discussion of that work follows.

fig 14.

Views from the Magnificenze di Roma [1747-1761]

56
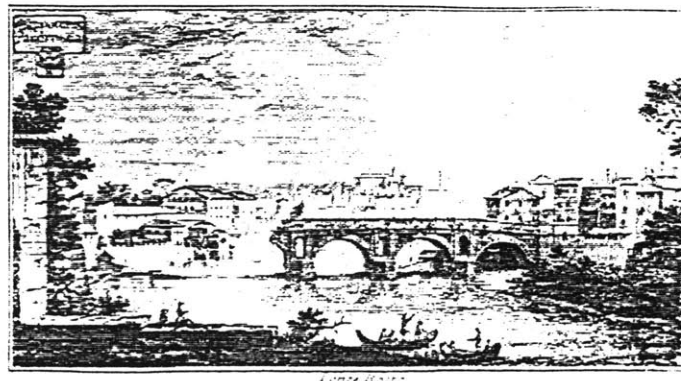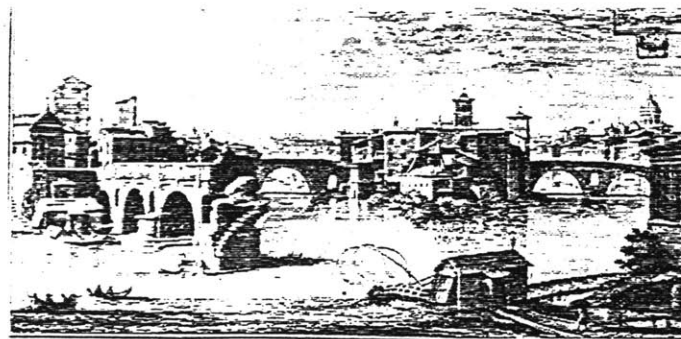
XX.

[Giuseppe Vasi, Mapping the Magnificence of Rome]

appendix [Giuseppe Agostino Pietro Vasi, the son of a potter, Maestro Placido and Caterina Pugliesi was born in Corleone, Sicily in 1710. He received his early education at the Collegio Carolino dei Gesuiti in Palermo. [141] In Sicily he worked with the engravers Antonino Bova, and Francesco Ciche, who did etching. [142] Vasi's first work that established his reputation was *La reggia in trinofo per l'acclamazione e coronazione della Scara Real Maesta di Carlo infante , re di Sicilia.* [43] In 1736 he moved to Rome, where he established a workshop. It was at this workshop that Giovan Battista Piranesi [1720-1778] worked as an apprentice. Within his first two years in Rome, Vasi produced the ' Veduta del Porto di Ancona e del Lazzaretto [1737-1738] based on the view done by Gaspar Vanvitelli, and several views of buildings constructed under the papacy of Clement XII. He also engraved the obsequies of Clement XII, who died in 1740, [they were designed by Ferdinando Fuga]. The same year he did engravings of the Arco Trionfale for the accession of Benedetto XIV. The years betweeen 1741 nd 1746 he published his view of the new facade of the Lateren [1741], a view of the church of Santa Maria Maggiore [1744] , the Villa at Caprarola in 5 rami [1746] , and the Campidoglio illuminated at night. [143]His engravings of the Chinea brought him close to the Bourbons. who in 1747, gave him the title of ' Incisore reale' and 'Guardaroba' of Palazzo Farnese which allowed him to transfer his workshop to that location [144] He also produced in Naples a volume illustrating the festivities on the birth of Filippo di Borbone. [145] A tradition of Spanish Vedutismo was well established in the south of Italy at this time. Panoramic views included the engraved birds-eye view of Naples done in 1629 by Alessandro Barratta [c1583-1629] and the oil painting of the bay of Naples by Didier Barra of 1647. [146] Exposure to this tradition might have attracted Vasi to the large scale urban views.]

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Vasi's fourteen year project of the *Magnificenze di Roma*, had been announced in 1746 in Florence in the ' Novelle Letterre ' under the title Vetreris et Novae Urbis Admiranda. [147] It represents the bulk of Vasi's work in ten volumes containing 200 odd engravings. These were separated into the following categories: gates, squares, basilicas, ancient churches, squares and streets, bridges and buildings on the Tiber, parish churches, convents, monasteries, colleges, hospitals, villas and gardens. The volumes appeared fairly consistently between 1747 and 1761. Dedications for the first five were related

to the Spanish monarchy, while books VI through X were dedicated to Roman patrons. Vasi intended the work as an encyclopedic inventory of Rome, to be used for instruction, but views were also available for single purchase. The efficient cataloguing of monuments under subject headings meant that users could find visual and textual documentation on specific buildings and sites.[148]

The making of the views in terms of format, composition and engraving techniques show several precedents. Vasi was exposed in Rome to various artists and architects such as Il Conca, Vanvitelli, Fuga, and under the patronage of Cardinal Corsini was also able to study the works of earlier engravers and painters who were part of the his collection [Ricci, Faldoni, Canaletto, Tiepolo and Stefano della Bella] Vasi must also have known the work of Antonio Tempesta who had produced in 1593-1606 a highly scientific and coherent topographical plan of Rome, and the work of Giovan Battista Falda who authored the three volumes titled Nouvo Teatro delle Fabriche et Edificii, in prospettiva di Roma Moderna [1665-1669].

Of these, the work of Gaspar Van Vitelli was specially inspirational for Vasi. Van Vitelli's work provided a solution to Vasi's search in merging pictures with maps, a feature attributed to his Dutch origins. Furthermore his taste for the quotidian also appealed to Vasi. Describing this Briganti notes that he was 'able to record not only the most noticeable contrast between the new and the old that he minimised by introducing it to everyday life that throbbed in every corner of the city, but also the contrast between the blackest poverty and the infiltration of pastoral life and countryside atmosphere an the prominent signs of exhibitionist wealth' [149]

Vasi is distinguished from his contemporaries, such as Piranesi for his concern of ' limpid optics' which rendered a view easily identifiable. He was careful in responding to atmospheric settings.[150] His depictions of architecture and urban space were precise and executed in measurable proportions and even figures included in his street views, were astute documentation of the social classes of Rome. Vasi's city was neither pastoral (Lorrian) nor dramatised (Piranesi). Instead he chose to showed Rome without transforming it. Thus regardless of subject matter, he moved from the Campo

Vaccino, to Monasteries and Convents, to the banks of the Tiber, recording without pomp, what he saw.

All the views were given identical formats with the base twice the height. This emphasis on the horizontal format has been attributed to his exposure to Giuseppe Zocchi, who in 1744, had published his *Vedute delle Ville, e d 'altri luoghi della Tosacana.* Several engravers had contributed to this work (including a view by Piranesi). Vasi had done a view of the Church of S. Gaetano for the Floretine engraver.[151]

XXI.
[A Prospect of Rome]

Having documented the city in such detail, Vasi's final work was a ' panoramic- perspective- plan which he called:

Prospetto dell'alma citta di Roma, visto dal monte Gianicolo e sotto gli auspici della S.R. Maesta cattolica di Carlo III re delle Spagne, pio, giusto e magnifico, promotore eccelso delle scienze e belle arti disegnato inciso e dedicato alla Maesta sua d Giuseppe Vasi Conte Palatino e Cav. dell'Aula Lateranense l'anno 1765.. [152]

Rome was documented from the Vatican to the fountain of the Acqua Felice from the vantage point of the gianicolo. This location recommended by the Latin poet Martial; 'Hinc septum videre montes et totam, licet, extimare, Romam was chosen by numerous draughtsman before Vasi. [153] [a Dutch work worth mentioning is the Panorama by Hendrick Hondius I done after Hendrick van Cleef of 1610, which is one of the earliest and largest of such prints done on 5 plates measuring 214cm] [154] Tribute was paid to the Corsini family, by locating their palace at the centre, directly behind a shield held by figures representing war and peace. The horizon line was lifted more than twothirds into the height of the frame to document the maximum number of building elevations. Vasi also included in the view, his typical 'burini', occupied in 'everyday' activities.

fig 15

Giuseppe Vasi, Prospect-plan of Rome, 1765

The prospect was intended as a visual aid to the viewing of both the real city and also a map for reading the *Magnificenze*. Vasi included with it an guide, which he called the

'Indici istorico de Gran Prospetto', which suggests such a use. The presence of 'facts' typical of a guidebook are to be found in the Magnificenze as well. Between the several 'erudite' pieces of information, it offered curiosities such as the circumference of the walls, (miglia 156 e mezzo, canne 42 e palmi 15 i n Index of Book I), the breadth of the courtyard of the Qurinale, the number of rooms in the Vatican Palace ('un dicimilacinquecento e fors' anche tredicimila, i venti due cortili, le venti scale nobili '). He even included the number of horses (42 al piano terra e ben 86 al primo piano) in the stables designed by Fuga. [155] These details were precisely what the traveler voraciously collected. In his forward written for Book I, Vasi proudly reaffirmed his intentions of providing information on the insides of monuments as well:

Prometto poi quanto prima di far vedere anche tutto l'intero di tal citta, e certo con piu esattezza di quello, che siasi fatto finora ..[156]

In the same forward Vasi also announced that a plan in 'propettiva' will be available for purchase with the final book. This no doubt referred to the panorama or 'Prospetto' as he called it, which he retained until his earlier works had been marketed. In the plan, a traveler could find, 'li proprj siti delle Vedute mostrate in ciascun Libro, per via d'una fedele numerazione'. Vasi also reiterated the ease with which this directory could be used; ' ad uan ad una esse Veduta... come in proverbio , a dito ' [157]

[Vasi's final project done after the Prospect testifies his attension to a specific audience. In 1763, the instructive character of the Magnificenze, and the Panorama, were categorically presented in his *Itinerario di Roma diviso in Otto Girnate di Cammino* . This was a guide book expressly for the use of sightseers, and was republished with modifications for the next sixty years by Vasi's son, Mariano, with the title, *Roma del Settecento, Itinerario istrutttivo di Roma di Mariano Vasi, romano con nota di Guglielmo Mathiae*. Mariano not only added the term instructive to the title, he also assured the traveler a guide formulated by a native Roman.158]

XXII. [Aerial Perspectives, Mobility, Space and Time, *The Sky over Berlin*]

The city dweller..... attempts to introduce the countryside into the city. In the panorama the city dilates to become a landscape, as it does in a subtler way for the flanuer.
Walter Benjamin in Paris Capital of the Nineteenth Century.

And if the eye which moves is no longer fettered by a body, by laws of matter and time, if there are no more assignable limits to its displacement- conditions fulfilled by the possibilities of shooting and of film- the world will be constituted not only by this eye but for it.
Jean Louis Baudry in Ideological Effects of the Basic Apparatus.

Der Himmel Uber Berlin. Derelict Spaces. Gaps in Berlin's physical and psychological topography. The Wall still standing. A panorama of its corporeal and imaginary landscape. Two angels, Damiel and Cassiel peruse the city's condition. [159] They enter the interior spaces, the perplexed minds of individuals and unfold the mental maps that are a means of generating an equally complex exterior vision of the city. The angels have an ability. They maintain a space-time continuum in which past and present are fused, where boundaries of inside and outside are permeable, and the landscape explicitly incorporates the ' everyday '. It is possible for them to describe a felt but still inarticulate condition of urban space. Their map of Berlin is a multidimensional superimposition of fragmented maps. If the cities first map was one transfigured by history, the map the angels produce opens wide the ruptures in the cities quotidian existence. It is a map of murmurs and silences, soliloquy and monologues. A map which discolours the obvious and is augmented with memory.

Peter Falk [Colombo] is seated in an aircraft preparing to land. After mumbling what his grandmother would say were she present, he continues '...Tokyo, Kyoto, Paris, London Trieste.... Berlin '. His last word, Berlin, said with finality becomes a cue to a romantic, German score. With that symphonic accompaniment, between prolonged atmospheric skyscapes, we see glimpses of the city, from the airplane's window. The intrusion in this precious upper

atmosphere of a radio tower emitting the transmission of the American Armed Forces Station, does not go unnoticed either. The view is expansive, reminiscent of 19th century views intended for fish-eye cabinets, which give the viewer a feeling of vertigo.

An angel stands still, on the ruined Kaiser Wilhelm Gedachtnis Kirche, his head is bent forward. His neck does not turn. He surveys only with his eyes presenting a flattened view of the city. His eye balls move slowly, viewing with patience, searching for details in a metropolitan expanse. Below, we see a busy street. A bicyclist's thoughts are amplified, but more importantly a child, the 'eternal believer of stories' in the carrier seat makes visual contact with the angel. The camera is now the eye of the child. It soars into the sky and meets the single bird which gracefully hovers in the only 'clear' space above.

Post World-War Berlin. In a condition where *every street has its borderline. Between each plot there is a strip of no mans's land disguised by a hedge or a ditch* [voice over] It is a city under surveillance, *where one might fall into a booby trap or be hit by laser rays, where the trout are really torpedoes, where every home owner or even tenant mails his name plate on the door, like a coat of arms and studies the morning paper like he were a world leader* [voice over]. Berlin has lost its innocence, it no longer has patience for the storyteller.

The camera turns the corners of nineteenth century apartment blocks. It renders wide and gaping the already open spaces left from bombardments. It performs 'bodily movements' of collapsing and streching space. It brings closer painted firewalls and makes tighter the elevated traffic systems. The panorama of the after-war includes Turkish immigrants as well. They listen to Koranic verses, their heads covered in scarves. They do their laundry or vacuum clean a library. It focuses on window displays of the Kurfurstendamm and Kreuzberg documenting a consumer oriented urban culture. It probes the city's nightlife as well, entering a cultic, steamy rock performance. In this club the angel Damiel finds his 'eternally repeated' wonder woman, a trapeze artist, Marion, who until now has been an artifact for his obsessive male voyeurism.

Recognizable structures like the Berlin wall and the invisible Potsdammerplatz become the necessary 'datums' to locate the lost denizen in an intensely fabricated landscape. Homer, the eternal storyteller is presented in the liturgical space of the Scharoun library. Amidst the silent tropes of angels and a jumbled mass of reading voices, Homer chooses to begin a book on photographed portraits. He opens it backwards and cues in the film footage of carnage in the Jewish ghettos by German Nazis. Homer's soliloquies evoke the activities on the Potsdamerplatz, with pathetic nostalgia. He recalls earlier modes of transportation: *cafes, trolley cars, horsedrawn omnibuses, and tow cars*. [voice over] He laments the present unfriendliness and antipathy of Berlin. Walking along the wall on Potsdamerplatz, accompanied by Cassiel, he reveals the bruises his consciousness has experienced. Dislocated, decrepit, lacking vitality and virtually lobotomized, unable to find the ground beneath his feet, not admitting the configuration of urban space, he finally collapses into an abandoned sofa, on a weedy Potsdamerplatz. Homer, the storyteller makes his role and his consternation's explicit [voice over] :

Now I think only day by day
My heroes are no longer warriors and kings
but things of peace each equally good
The drying onions being equal to the tree trunk that guides through the marsh
But so far no one has succeeded in singing an epic of peace
What is it about peace that keeps its inspiration from enduring
And makes it almost untellible
Should I now give up. If I do give up mankind will lose its story teller
And once mankind has lost its story teller then it will have lost its childhood.
Where are my heroes?
Where are you my children? Where are my own the dull witted
The first the original ones
Name me muse the immortal singer
Who abandoned by his mortal listeners lost his voice.
How from being the angel of story telling he became an organ grinder ignored or
Mocked outside on the threshold of no mans land
[voice over] 160

Wender's film provoked several questions, aimed specifically at the making of urban space under the Interntionale Bauausstellung (IBA). In the 1950's a new program of construction a new plan of construction had been launched in the city. This new plan emphasized the importance of the street, in the former Baroque city , and encouraged architectural expressiveness. The street plan was seen as a 'surviving urban imprint', that could be found, the IBA insisted. Hence the 'International Style' production that had taken place in the 1950's by architectural brains of renown such as Le Corbusier, Gropius, Alto and Niemeyer, in the Experimental district of Hansaviertel. The Berlin of the 80's became a testing ground for architectural statements by equally hermetic exercises by Rossi, Eisenman or Krier, all participating in an international show window. Wender's cinematic statement acknowledged a local climate, stressing the particularities of Place which he felt architects ignored. In 1992, while participating in the Berlin City Stadtforum, with Jacques Derrida, Kurt Forster and Akira Asada, Wenders pleaded for the open spaces, the derelict gaps of land, where the sky is visible. For him these spaces permit 'the fullness to exist in other places' [160] They also make visible the layers of history, offer a range of temporary uses, such as the circus in the film, and finally are literally opento the sky which united the two Berlins. Perhaps it is these conditions Homer describes as the entrances to city.

Only Roman roads still lead into the distance
Only the most ancient traces lead further
where is the top of the past here
even the flatland... even Berlin has its hidden passes
and its only there that my country begins
the country of story telling
why doesn't every one see from childhood on the passes
the doors and crevices on the ground and above in the sky
If every one saw them there would be a history without murder or war
[voice over]

[Homer's call, and Wenders' panorama is heard at least by the architect Daniel Libeskind who in the introduction to the 'Berlin Edge City' competition entry, speaks of architecture's role in the 'realignment of arbitrary points, disconnected lines and names

out of place along the axis of Universal Hope. 'Libeskind's project tries hard to explore the sky, which holds firmly its identity, adamant about its indeterminacy. For Libeskind, Berlin offers a non-equilibrium, from which freedom eternally departs and towards which it moves without home coming'. Like Wenders, here the city is described under various architectural programs and articulated with spatial gestures, which give effect to architectural oratory: 'The Fulcrum', ' Solid line: dwelling in its totality' , ' Erased line '[of which edge, limit and delusion are a part] or 'Final Point' [which is described as a condition where Walter Benjamin has an unexpected encounter in the clouds with a locomotive] . Incidentally, in the computer generated images of this 'Edge City', a southwest view includes an angel as well.] [162]

XXIV.

[*I do not here allude to subtlest craft By means refined attaining purest ends.*
Concealing Collapse. Space, Time and Salient Stills]

Salient Stills have emerged as a new medium. A hybrid-image that can exist between the single frame images associated with still photgraphy and a series of frames of moving pictures. What the art historian Panofsky had found so enticing about cinema: 'the dynamization of time, and the spatialization of time'[163] reaches a level of finesse that has made this a contested mode of representation. Salient Stills are capable of transforming the moving image into a single frame yet providing a temporal aggregate that acknowledged the multiple vantage points characteristic of temporal media such as film and video. They are preceded by an unprecedented level editotial supremacy. [164]

The emergience of Salient Stills is preceded by the digital revolution which radically changed information maintainence and allowed unprecedented integration of the media. [165] Unlike the simple combinations which transformed oils to encaustic, digital technology has provided a means of rearing the most unlikely hybrids. Articles of text can be embedded into images, the sounds from radio can become the narrative track for video. Pieces of images can be extracted and repasted into new scenes. These are all manipulations at the service and disposal of a human participant.

At the most rudimentary level, the Salient Still could be understood as a manipulated video footage produced for 'iconic representation, data compression, or for publication'[166] as a succinct synopsis of an event or place.

Video had already created a dissatisfaction with the still photographic image and also made obsolete the physical frame by frame viewing and editing performed on the traditional film strip . Its ability to record in temporal representations, a sequence of frames, made it a medium that recorded lived experience as electronic signals on a magnetic tape. A typical sequence of frames in a video comprise zooms, tilts or pans which allow variable fields of view, vantage points and percieved resolution.[167] Added to this were the numerous camera settings which permitted the viewer to move from one part of a scene to another. Taking a single frame from a string of video images however would yield only a single moment of time, a uniform orientation, and a single focal length. Also the space time component of moving images would be reduced to a still image that would convey none of the intended expression. Essentially one would return to the camera. a production system where an image is invariably created as a perspectivist view, that for decades had been considered a two dimensional reality. [168]

The Salient Still attemped to retain the contextual information of a moving image sequence and also the clarity of the picture. This transformation however causes the image to warp, and its aspect ratio, to be altered. Yet image resolution can be varied and multiple vantage points to be depicted. What results is an expansive view of a place or event. Its testing grounds have ranged from a classical music concert by Yo Yo Ma [see Teodosio] to urban representations of City Hall Plaza in Boston.

Innovation is at the crux of invention. Novelty pleases. But with each changing mode of viewing the question of *Pan Orao* as a vexed condition for urban portraiture persists. Does it begin with a wish? Is it a map, chalked out for a specific audience ? Is it possible or even valid to consider it beyond the original wish, the original intention of its author? How does one identify the psychological and the physical and where does the eye begin if ultimately it

serves physical perception? Does it supercede real landscape by permitting unfettered navigation and become a half-formed-ironic illusion? Can it be accurate? Does it gloss the borders between past and present [does it fragment-devitalize the original] These are only some question that emerge Within these must also be located more general questions regarding the history of views-experiences as changing technological-modes that satify more than physical and practical needs.

Salient Still, City Hall Plaza   Boston
[Michael Massey, MIT Media Lab]

NOTES

II.

1. The idea of pictures existing as 'figurations for something else', their ability to 'multiply, combine, dissolve and resynthesize' was one proposed by the art historian Erwin Panofsky with his iconological project. Contemporary philosopher have tried hard to understand cultural production using the pictorial realm. It was W.J.T. Mitchell, who identified the term 'pictorial turn' in the work of Richard Rorty. Rorty had observed that the history of philosophy had operated as 'turns' in which new problems replaced fading concerns. ' The picture of ancient and medieval philosophy as concerned with things, the philosophy of the seventeenth through nineteenth century with ideas and the enlightened contemporary philosophical science with words has considerable plausibility'. In article titled ' The Pictorial Turn ' Mitchell observes that both in the understanding and in the production of culture, a pictorial shift has occurred in the work of contemporary philosophers. He refers to Derrida, who attempted to make language visible, spatial and material, by treating it as writing rather than speech. He also associates with this shift the Frankfurt School's investigations of modernity and ' visual culture ' and with Foucault 's work on history and theory of power/knowledge and the role of the non discursive (the 'visible, seeable, and sayable'). Mitchell admits that at one level it is problematic to assume that there is a uniform problem behind all these philosophical encounters with visual representation , or as in his words " that all anxieties about the visual come to the same thing." Yet he suggests that the status of the picture in contemporary culture lies between "paradigm" and "anomaly". The picture has entered the human sciences in a manner similar to the way language once had i.e. by becoming a 'model' or 'figure' for other things. In the present age of cybernetics, computer aided design, computer animation, holography, robotic image recognition, interactive video, electronic reproduction and telematics for global networking, the image emerges as an object of its own 'figuration' or 'science'.

III.

2. ibid p. 7
3. ibid p. 8

4. Both IMAX and OMNIMAX are trademark terms of the IMAX Systems Coorporation.

Imax is an acronym for 'maximum image'

5. Gregory p. 34

6. Lefebvre p . 189

IV.

7. Carman Tim/ Houston Post/ March 21 1993 Denver Post June 16 1994 .

8. This is a rephrasing of Carman's opinion. see above.

The opening of Moody Garden's was not without celebrities. Environmental activist Robert F. Kennedy son of the late senator, Rythmn and Blues singer Delbert McClinton

were present. The occasion was IslandFest, a time of parades, and special events such as

the special meals prepared by the Garden Restaurant's Paris trained Chef.

9. These are the official words of the project managers. see

Sklarewitz Norman/ Amusement Business July 12 1992. p 16

The project at Taman was entirely patronised by a foundation that is under the State Secretariat. The chairperson of the Foundation is Tien Soenrart, the wife of the Indonesian President Suharto. Taman has also been assisted by several US Companies.

IBM was active in setting up a Science Centre.

10. Damiels intro. p 4-8

11.Turner George in   Post Cards : touring the world in 360 degrees (scenes from around the world) American Cinematographer   p. 46-50 Aug 93

12. ibid p 47

13. ibid p 47

V.

14. Benjamin Walter p 219 the entire quote is as follows,

By close ups of things around us, by focusing on hidden details of familiar objects, by exploring commonplace milieus under the ingenious guidance of the camera, the film, on the one hand, extends our comprehension of the necessities which rule our lives; on the other hand, it manage to assure us of an immense and unexpected field of action. Our taverns and our metropolitan streets, our offices and furnished rooms, our railroad stations and our factories

appeared to have locked us hopelessly. Then came film and burst this prison space asunder by he dynamite of a tenth of a second, so that now, in the midst of its far flung ruins and debris, we calmly and adventurously go traveling.

VI.

15. Fact sheet prepared by IMAX Corporation April 1994.

16. ibid

17. ibid

18. They were fortunate therefore to recieve both State and Coorporate patronage.

19. At the Shubert Theater in New York 'Across the Sea of Time,' a short 3-D feature film was shot recently using a manageable 240 pounds camera , fully loaded with film, and and used with conventional tripods and dollies.

20. See The Rolling Loop- A New Concept of Film Transport. Journal of S.M.P.T.E. janvier
1968 page 21

21. see Grimes NYT article

22. The system is therefore referred to as ' high fidelity ' picture systems.
Sound is carried on sprocketed magnetic tape on an interlocked dubber which operates at 27m pre second. see Douglas in Perforations. In a typical Imax theatre speakers are located in the audiences left and right rear, the screen centre, left and right, and screen top. Each sound channel is bi amplified and each channel is at least 100 watts. A sub woofer is also used to exaggerate the low bass.

23. Holusha/ Business TechA 3D Film gets its Broadway Review/ NYT Nov 16 1994

24. The complex is located on the site of a previous post office. It has stimulated a number of entertainment projects in the neighbourhood.

25. Grimes NYT Nov 13 1994

26. ibid.

27. Since the Sony Complex opened in November of 1994, every show has been a sellout. And the Imax fact sheet claims that more than 35 million people see the films in a single year. The British Film institute announced plans to build an Imax theatre in London's South Bank. Wide view and digital sound they said would produce the effect of being inside a picture. The success of an Imax

production at Bradford, on the Rolling Stones stimulated this 8 million pound project. [Pro sound News Europe June 1992 p.19]
In Chicago Sony has moved into Navy Pier, and proposed build with IMAX a $4 million dollar theatre complex. see Storch article in Chicago Herald Tribune.

28. Sklarewitz, Normanp 16
29. Danilov p 34
30. Grimes NYT article

VII.

31. Bloom NYT Nov 27 1994
32. The space suffered severe cut backs in the Reagan- Bush era.
33. see NASA Web Page
34. Harper p 53
35. Madgid in American Cinematographer p. 93
36. ibid
37. ibid 34
38. ibid.

VIII

39. see article in Chicago tribuneon Knowledge ad CD ROMs
40. Daniel intro p 2
41. see Pollack article on wide screen Tvs
42. ibid
43. ibid
44. 'Virtual io' are also referred to as *Personal* Display Systems. Single ownership, so important in personal computers and video games, contrasts with collective experience of cinema.
45. see Gulf War comments in Mitchell article The Pictorial Turn.

IX.

46. Belton p. 17
47. ibid
48. New York Times in 1929
49. Belton p. 89
50. ibid Belton
51. Friedburg p.83-84

52. ibid 50

53. ibid 50

54. Friedburg 84

55. Harper p. 50

56. ibid

57. Cinerama booklet

58. Belton p. 89

59. Belton p. 90

60. Belton p. 90

61. advertisement form widescreen with africans

X.

62. George Lundberg, Mirra Komorovsky and Mary McInery Leisure: A Subburban Study. Columbia Univ. Press NY 1934. quoted in Belton p. 64

63. Belton p. 72

64. Belton p. 77

65. Belton p. 88-90

66. Belton p. 91

67. ibid 91

68. Friedburg p. 84

69. almost all films are therefore travelogues

70. Belton p. 89

71. Belton 90 . Belton also observes that on the Russian Cinerama installations, Life Magazine on Jan 1955 wrote ' using the worlds trade fair to peddle its politics with exhibitions that are shrewd mixtures of commerce and propaganda'

72. IMAX fact sheet see above

XI.

73. Kraus p. 276 . The list is long it appears in its entirety in The New Avant-garde London Pall Mall 1972.

74. Costa 123

75. Leeman p.11

76. Giovanni Paolo L . Trattato dell'arte della pittura, Rome 1844 vol. 2 p. 174-175

77. Collins p. 73

78. ibid p. 73

79. Arnheim p?

80. Collins p. 74

XII.

81. Lacan p. 87

82. ibid p. 87

83. ibid p. 86

XIII.

84. ibid p. 92

85. Bryson p. 87

XIV.

86. ibid 89

87. ibid p 164

88. 163

XV.

89. Vandier Nicholas Nicole p 22

90. ibid p. 23

91. ibid p. 18

XVI.

92. quoted in Friedburg p. 20

93. 3. Wilcox in Hyde p. 13

94. ibid p. 24

95. ibid p. 24

96. John Ruskin made refernces to it in On the present State of Modern Art
Works of Ruskin, ed E.T. Cook and A.D. O. Wedderburn [London , 1902-1912] XIX
218 and Wordsworth mentions it in Book vii, of the prelude, (sweetman p. 9)

97. ibid. no 3. p16

98. ibid p. 25

Reynold was the leading portrait artist of the time, and had influence also as
the first president of the Royal Academy from 1768 until his death. In 1749-
1752 Reynolds had made a trip to Rome to study the 'grande style'.

99. In his last years Constable did attempt marketing his work with the print medium. David Lucas converted his drawings to mezzotints, for the book on English Lanscape Scenery. Constable saw this as an educational enterprize. p 181 dictionary of artists

The rise of the landscape art conveyed not only information about what was immediately infront, but also extended space. Landscape painting also addresses a subject which was not an enclosed object. In the desire for order, beyond a body that is enclosed,the painter attempt to 'regulate' the landscape as well, or was it treated as a world of release, which gave the eye an opportunity to explore, terrain, lines of direction, and the imagination could move freely in this topography.

Both landscape and the body offer a proliferation of forms.

101.Leslie to his brother Thomas J. Leslie, quoted in h. p.28

111. Hyde p. 20

XVII.

112. ibid p. 25

113. Hyde p.17

114. Lord Provosts statement also provided a state endorsement for the project

115. It was ensured by using devices such as the camera obscura. It has not been proven that the Barkers did infact employ such devices. (apparently the French did begin to use a pivoting camera obscura but that was not until the early 19th century. With photography, of course, even greater topographical accuracy was possible since the photos were projected onto the canvas and outlines drawn.

116. Wilcox. p37 The Times Dec 26 1849

117. Wilcox. p.17

118. ibid p.17

119. Friedburg p. 17

120. ibid p, 29

XVIII.

121. Altick intro p.3

122. ibid p. 174

123. ibid

124. Hyde p. 28

125. Dickens in Altick

126. Altick p. 174

127. Morning Chronicle April 21 1801. quoted in Hyde p. 36

128. Booklets published by Barker in Houghton Library Harvard University

129. ibid

130. ibid

131. Panoramas consistently 'narrated' the battle [I use the term to also locate something like Trajans column built in 112 -113 AD which narrates the victory over Datians] indicating for the most part the victory of the patron. The panorama also depicted the fall of Lucknow or Dehli, in India in the first war of independance in 1857, it documented the massacre of British officers in Kabul in a confrontation in Afganistan of 1881. These subject matters must have provoked enough political debate and public support for such missions. See Hyde

The military also realized that soldiers needed to be able to make maps when they were out on missions. Therfore artists such as Paul Sandby trained cadets at the Royal Military Academy. Later these trained officers would in their free time produce picturesque views which mapped Indian life . the same paintings were loaned or sold to panorama painters.

Natural subjects and circular rooms are an important genre of 18th century interior landscapes. Here one might mention the landscapes by Tiepolo at Villa Valmarana, and also those of Veronese at Maser. In 1777, a Sir George Beaumont commissioned Thomas Hearne to paint such a room, but this was never executed beyond the drawing, because the panorama genre had become commonplace.[Paul Sandby at Draklelow Hall]

131. ibid 28

132. ibid 28

133. llustrated LondonNews 14 may 1842 in Wilcox p. 38

134. Blackwood magazine in 1824 in ibid

XIX.

135 Marburg p. 47 in Adler

136. Adler p. 9

137. Richard Lassells' An Italian Voyage 1697 in Adler p.3

138. ibid no 35

139 James Howell's Instructions for forreine Travel written as early as 1642 in Adler p.3

140. Adler p.13

141. Cordaro p. 18

142. Scalabroni p.13

143. Bolaffi 261.

144. ibid 41

145. booklet

146. Bruno p. 210. This tradition was continued by Salvator Rosa [1616-1673] and Antoinio Joli [c 1700-1777]

147. Scalabroni 22

148. ibid

149. Briganti quoted in Cordaro

150. Cordaro p. 17

151. Sassoli p. 30

152. Vasi, in Le Magnificenze di Roma

153. Cordaro p.18

154. Orenstein Nadine p. 25

155. Sassoli p. 12

156. ibid p. 30

157. ibid p. 12

158. ibid p. 30

XXII.

159. Wings of Desire/ Der Himmel Uber Berlin/ Road Movies Gmbh BErlin Argos Films Paris.

160. Wender's narrative is indebted to the poet Rainer Maria Rilke [1875-1926] and was inspired specfically by the latters *Duino Elegies*.

161. Wenders comments in Berlin City Forum with Jacques Derrida and Kurt Forster. Architectural Design vol 62, Nov 1992

162. For Libeskind Edge City Project/ see Progessive Architecure June 1989 p. 93

XXIV.

163. Panofsky in Style and Medium in the Motion Pictures Critique1934

164. See Laura Teodosio Salient Stills

165. See Mitchell, The Reconfigured Eye: Visual Truth in the Postphotographic Era

166. Teodosio p. 5

167. Teodosio intro

168. ibid

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