From Paris Texas to the Road Warrior: Computer Aided Landscapes and the Road Movie, AKA, Content, Form, and Film Media within Architectural Education

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In recent years the development of computer aided design technologies has offered designers greater opportunity for the thorough investigation of space. While a level of competence has been demonstrated by the architectural profession in the creation of static perspective presentations, a lack of knowledge has led to moving image presentations being treated in a relatively unsophisticated manner. To confront this problem there may be a pedagogical justification for the introduction of film studies and computer aided design as a hybrid design course. In the computer aided design of landscape, the critique of film media may be considered useful both in terms of the form and in terms of the content that it offers the student designer.
Introduction

New developments in computer-aided design technologies, especially three-dimensional modelling and animation, have offered designers greater opportunity for the thorough investigation of space, together with the ability to easily visualise, create and present a multitude of images from different viewpoints. This ability is important for architectural design, and especially important for the design of landscape architecture because of its reliance on the visual to produce landscape experiences (Riley, 1997). Landscape experience is the realm in which visual stimulus goes beyond perception and cognition into affect, evaluation and meaning which are crucial components of a phenomenological design process. A problem exists, however, with the rapid emergence of moving image media as a design and presentation tool for the production of landscape architecture.

While a level of competence has been demonstrated by the architectural professions in the creation of static perspective presentations, their use of computer animation technologies in many cases appears relatively unsophisticated, with presentations most often taking the form of the fly-through or fly-around. This unsophisticated imagery appears to have a reduced facility for cultivating landscape experience (Appleton, 1996). In contrast, other media have become more sophisticated in their presentation of visual imagery. Television advertising, for example, presents images and sound bites in a selective, legible and seductive manner.

Of course, fundamental differences exist between advertising presentations and architectural visualisation. For example, at least three differences between advertising images and architectural images are highlighted by Gillette’s ‘Mach III’ advertising campaign for a new safety razor. Firstly, the client is unlikely to provide a budget in the tens of millions for the architect’s preliminary design fee to produce 60 seconds of animated visuals. Secondly, the message that the architect has to deliver in his or her presentation is likely to be more complex than ‘buy this razor’, and less concerned with connoted meanings such as ‘using this razor will turn you into an airforce hunk’. Most significantly, there is a marked difference between the advertiser’s emphasis, which is on the image of the product rather than the product itself, as opposed to the architect’s focus which is likely to be on the purposeful quality of the architecture rather than its presentation image. Architecture is a social art related to the creation of artefacts rather than an art with its basis in marketing architectural imagery (Oakley, 1970). Notwithstanding the existence of these disparities between non-architectural moving-image media and the architectural image, this paper contends that computer graphics for landscape architecture must incorporate many of the ideas developed within media studies if the animated image of landscape is to be infused with a facility to generate landscape experiences.

Traditional approaches to architectural education have focused on the creation of static perspectives and model-making as the primary means of representing spatial aesthetics. Over the last five centuries the architectural profession has mastered the static perspective. Historically, representing objects using static perspectives was first developed during the Italian Renaissance, with Brunelleschi first discovering the mathematical laws of perspective which allowed for the illusions of great spatial depth in paintings of that period. Alberti then developed this knowledge further (Edgerton, 1975). The work of these great men can be recognised to be about more than just drawing pictures. Rather, what they produced can be considered treatises on the representation of spatial aesthetics which are essentially linked to the worldview of their period. Edgerton (1975) states that: “each historical period in Western civilisation had its own special ‘perspective’, a particular symbolic form.... Thus linear perspective was the peculiar answer of the Renaissance period to the problem of representing space... In the 15th century, there emerged mathematically ordered ‘mechanical’ space, infinite, homogeneous, and isotropic, making possible the advent of linear perspective... linear perspective, whether ‘truth’ or not, became the symbolic form of the Italian Renaissance because it reflected the general world view of the Italian
people at this particular moment in history.

Half a millennium on, given the shift in our constellation of concepts, beliefs and institutions, (including such things as the theory of relativity, complexity theory and the connectedness inherent within global ecological models (Capra, 1982), instantaneous worldwide communication, and the United Nations) our emergent worldview clearly suggests a different means of representation to the static perspectives of the Renaissance. Accordingly, the animated age of multi-dimensional interactivity in imagery-information has arrived to meet the requirements of this altered worldview. Stafford (1997) is conspicuous in her use of ecological-systems terminology in remarking on this shift in representation. She states that “today’s instructional landscape must inevitably evolve or die, like biological species, since its environment is being radically altered by volatile visualisation technologies. This ongoing displacement of fixed, monochromatic type by interactive, multi-dimensional graphics is a tumultuous process. In the realm of the artificial, as in nature, extinction occurs when there is no accommodation.”

To put it very simply, in terms of architectural graphics, the landscape can no longer be considered as a still life and nor can it be adequately represented by such. Accordingly, given the currency of computer animation, cinema and multimedia, new knowledge or perhaps different knowledge will be required by architects and students of architecture if they are to adequately represent their designs using moving image media. To confront the new societal demands for sophisticated multimedia representations of (design) ideas, and to counter the inadequacy of landscape architects and students in the production computer animated presentations, a hybrid course incorporating film studies and computer aided design has been introduced to the studio. The course was introduced based on the hypothesis that the critique of film media would assist the computer aided design of landscape architecture in two principal ways:

- In terms of the content (and context) that it
  offers the student designer.
- In terms of the form* that it offers the student designer. (*media 'form' rather than architectural form)

This distinction between form and content is derived from media theory. Lacey (1996) states that when analysing images from various media, including advertisements, films, television, and so on, it is common to distinguish between their form and their content. Form refers to how an image was created, including the position of the camera, or the position an artist takes in relation to the subject of an image. The content is simply what is in the image. This distinction can be applied to any text, whether it is an image based text, a written one or a combination of the two. In this case we are applying the it to the imagery of landscape architecture. This paper sets out to briefly explore these two ideas and their implications for landscape architecture, architectural education, and the production of landscape experiences.

The content of moving-image media and landscape architecture

The development of critical discourse related to the content of moving image media offers landscape students the means by which they can investigate the (re)presentation of popular landscape ideas. Of the various types moving image media those related to virtual environments, video gaming, internet art have been discussed most in relation to computer graphic technologies (Stafford, 1997), with television and film being discussed to a lesser extent. With respect to landscape architecture, discussion of film and landscape, and the presentation of landscape within film (Baudrillard, 1986; Wenders, 1984, 1987), and more recently the discussion of virtual-vacuous environments, has become both prevalent and popular (Heim 1998; Riley, 1997). While both film and virtual reality offer vacuous landscape experiences, it must be noted that film media and virtual environments differ significantly from each other in that virtual environments act as scenes or experiences with which participants interact using computer-controlled input-output devices.
(Heim; 1998), whereas film is not user-interactive and is a highly controlled medium (Anheim, 1958; Burch and Thompson, 1997). This is not to suggest however, that landscape architecture cannot use these two distinct media in tandem as design generators/outcomes. Fused together as Stafford (1999) suggests to create an "unstable patchwork of video, audio, text, animation, and graphics".

Following the logic of a paradigm shift in representation, the different "truths" related to landscape design are most likely to occur in the creation landscapes of the mind - within virtual reality. Heim (1998) for example, has already demonstrated a metaphorical connection between nature and virtual reality, relating the virtual environment to Larson's features of nature itself - cyberspace being infinite, inaccessible, overwhelming in power, fearsome, wild, and primal. While these may be considered rich metaphors for the experienced designer, it was considered that an investigation of virtual landscapes per se, would present a too open-ended a challenge for the student designer. Because of the accessibility of film media, and its well understood portrayal of common landscapes, film and video were selected as the basis for the design course.

To limit the content and context to an even more manageable level, only one film genre was selected for examination - that of the road movie. The road movie was identified as having the ideal content for landscape architecture students to critique due to its representation of exterior space and place, the normal and the exotic, human mobility, and cultural geography. Students were asked to familiarise themselves with recent publications on road movie genre, while at the same time adopting a cautious stance as to the relevance of post-structural discourses to the design of landscapes. While the academic rigour of media studies texts are beyond question, in many cases extreme yet untestable critiques relating to the road movie are apparent. For example, the Mad Max (The Road Warrior) Trilogy was described primarily as representing the Australian road's "liberation from the colonial narratives of empire and the absorption into a deregulated postcolonial spatiality ... [reflecting at shift in the discourses of Australian nationalism during the 1970s and 1980s]" (Falconer, 1997). An even more peculiar reading was given of Paris Texas, My Own Private Idaho, and The Adventures of Priscilla Queen of the Desert revealing them as being underpinned by notions of patriarchal gaze and male hysteria (that is, fear of castration) arising out of the hegemonic norm that requires men to stay at home to take responsibility for their families. Aitken et al. (1997) state that "the enduring contradiction between emancipation and emasculation - from the myths of Daniel Boone, Davey Crockett, and Ned Kelly to those of contemporary road warriors - juxtaposes a supposed external flight to freedom and a call from a scale beyond the family with the more subtle forms of internal disfigurement seemingly acquired by staying at home."

Critique of the film Bonnie and Clyde, and the more recent movie Natural Born Killers, was accorded a similar treatment, both films being identified as "representation solutions to the dilemmas of popular political and cultural expression by working - and middle-class, people who desire liberation but are not willing to abandon their faith in family, upward mobility, and nation." The Bonnie-and-Clyde genre was summarised as making reference to the solutions of: "first, heterosexuality as potentially spawning a pervasively portable domestic sphere; second, cinematic crime and violence as a narrative and stylistic strategy that disrupts the flow of the traditional romance and amplifies its intensity; and third, the road as a final site where the promises of twentieth century capitalism and fantasies of prosperity are temporarily realised." (Leong et al., 1997)

The use of poststructural critique in the production of images must be challenged (Stafford, 1998), especially if it makes landscape design and the landscape itself 'problematic'. An alternative approach was proposed in contradiction to that of the post-structural. A return to a phenomenological approach using real experiences on the road offered a more transparent design process, one which was rooted in existing
architectural theory rather than media theory. Road experiences are for example comparable with ‘site’ experiences-investigations, and arguably the site is the most significant design-determinant within architectural decision-making (Rudolph, 1956).

While media studies texts relegate the motivating themes within road movie genre to series of fables, namely real objectives such as a drive for pleasure, adventure, escape (from the oppression of capitalist dominance), resignation, thrill seeking or merely the urge to get out of the class-room and away from the computer screen should not be overlooked as content for the design of landscapes.

The form of moving-image media and landscape architecture

Further to the implications offered to landscape architecture by the content of film and television media, and the critical discourses or phenomenological analysis of the same, it was considered that the study of cinematic form might improve student architects’ dexterous appreciation of moving image media. In particular, their comprehension of graphical codes and connotative signification in presentations, and the presentation of design ideas using moving images, and their production of coherent space. It was also considered that a greater awareness of digital image media might also enhance students’ studio presentations. Comer (1998) for example, notes the range of representational types and forms used in the media arts. Compared to the relatively small number of techniques used in the landscape, architectural, and planning arts, he calls for designers to urgently augment and redevelop their palettes with respect to ‘analyses of image construction’ and examine great works of art - including maps, paintings, collage, performance arts, or cinematic and digital media’ (Comer, 1998).

The comprehension of image codes, and their connotations, is fundamental to the general study of media graphics (Bordwell & Thompson, 1997; Lacey, 1998). Developing the architecture student’s understanding of image form and its relationship to conventional meanings appears similarly fundamental for the creation of high quality computer graphic presentations, especially if the student wishes to convey subtle ideas and meanings within their work.

The codes and connotations developed by Lacey (1998) in the field of media studies can be used to build systems of graphical conventions appropriate to landscape architecture. The student must learn about the conventions of the media used to achieve a consistency between meaning and image, the designer must attend to all aspects of an image’s construction. For example:

- Selecting a high or low angle of shot may suggest a subversive position, or a position of power between the designer and the viewer.

- Distance within the frame - which facilitates the setting of the scene - may set a level of intimacy or disengagement with the designed scene.

- Composition within the frame, can be asymmetrical and dynamic, further enhancing presentations of expressionist architecture opposed to being symmetrical and calm - which may be more useful when attempting to convey a sense of the serene within a picturesque setting.

- A shallow depth of field can be used to indicate what is important within the scene, or a soft focus may be used to emphasise the romance of landscape.

- Lighting within the scene may be better understood by the computer aided designer. However, the controlled use of lighting may be able to be expanded beyond Le Corbusier (1931) ‘the play of light over architectural forms’. For example, technical accurate animated daylighting studies. Instead, designed virtual landscapes may be rendered using more of a cinematic approach to lighting associated with particular emotions, ranging from sombre to optimistic; or film genres such as ‘film noir’ to ‘family fantasy musical’.

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Developing the design students’ recognition of the film-maker’s controlled presentation of ideas through staged scenes, is likely to assist in the selectivity of their own presentation of design ideas. For example the concept of the mise-en-scene (stage set) could potentially be translated into the design and creation of incomplete three-dimensional computer models, models which illustrate only the most important aspects of a design. Thus rather than building complete models, if the design is to be presented on screen, students may be able to construct only the elements required by the storyboard - consequently placing the idea/image ahead of the designed landscape. In terms of architectural practice - given the limited fees for preliminary design and the competition for work from other architects, it may be possible to sell the design idea with sophisticated (albeit incomplete design) presentations, rather than complete designs with less sophisticated graphics. This raises a fundamental question that the architect has to consider, ‘When does the content of the message become more important than its delivery?’ In design competitions, and during preliminary design, the delivery may outweigh the message, whereas during the developed design stage it is imperative that the designed object is considered completely. In relation to the issue of landscape architecture, if an animated visual is incapable of producing landscape experience - either during the design process, or at the end of the studio programme - then more attention should perhaps have been given to the ‘form’ of its image.

The single most important aspect of incorporating moving image media studies into the architectural design studio is to develop the students’ creation of coherent space. The use of the animated fly-around or fly-through while having a modicum of novelty some years ago (when desktop computing power was somewhat challenged) presents visual imagery in an unsophisticated manner, imagery which is likely to detract from the spatial quality of a design. A poor visual image will be incapable of conveying landscape experience. The use of continuity editing techniques (such as the use of long and medium shots to establish scenes), obeying the basic principles of camera pan, tilt and tracking (so the viewer does not feel bumblebee-like), and the use of camera positions that follow the 180 degree rule, are all fundamental to the presentation of coherent space on screen. (Bordwell & Thomson, 1997; American Society of Cinematographers, 1970). (It should be noted however, that technological advances in virtual realism may in the future offer a different set of representational options and strategies to that of cinematographic creation of animated scenes (Heilm, 1998). In contrast to the production of animated screen images, VR will remain inaccessorous to the design practitioner in the short to medium term due to its high costs and high complexity.)

Despite a current lack of technical proficiency, the employment of the moving image by landscape architects seems very appropriate to the design of built form, given that built form is often spatially structured and functionally driven by flows of human movement (Hillier, 1996). Time is clearly a fundamental element within spatial design, a dimension that the moving frame has ability to reveal.

Developing students’ awareness of digital image media graphics is likely to improve the overall quality of their studio presentations. For example, through the use of appropriate transitions for rhythm and speed, or the use of appropriate filters to create a sense of clarity or dynamism. Also, the use of transparency or a split screen could be used to present multiple overlaid images. For example, GIS analyses, topographic maps, topographical models, drawn contexts and locations, together with the overall landscape design. This could be implemented in either an interactive sense using a browser window or in a non-interactive sense being directed in the form of an edited movie or a sequence of slides. The juxtaposition of ideas and images may also be useful in developing associations/contexts between/for a student’s ideas and another architect’s. Finally, the inclusion of ideas in the form of textual anchors and soundtrack may commit students to the linkage of textual content (idea) and image, thus creating stronger, more integrated and consistent presentations (consequently avoiding the production of separate (post-hoc) written discours-
Pedagogical Process and Summary

The pedagogical process that was followed in the film and computer graphics studio was relatively straightforward. After developing a basic understanding of image analysis, storyboarding and film form, students were asked to shoot and edit a video sequence showing a way of getting from the computer studio to the café on campus. Following these preliminary exercises which sought to enhance students in the basics of media studies, road movie genre was critically discussed. Students were then required to take undertake a road trip to selected small-towns and/or urban sites to shoot video footage appropriate for each of their landscape designs.

The design brief called for the serial redevelopment of petrol station forecourts into a distinctive look of landscape and/or urban space to be experienced from a moving vehicle. An element of futurism was added to the brief, requiring students to address the potential demise or reinvention of the petrol station for the year 2030. Animated sequences of each student’s virtual design were to be montaged with real footage shot during the road trip, then digitally edited to produce a short film. Students modelled their landscape designs using ArchiSite/ArchiCAD 6.0 and Strata StudioPro 2.5.3. These were then rendered/animated using Strata StudioPro. Subsequently animated sequences of each student’s virtual design were montaged with real footage shot during the road trip (or borrowed from other video sources) and then digitally edited to produce a series of short films using Adobe Premier 5.1. A montage of these disparate vignettes is included with the public presentation of this paper. Still out-takes of these moving images are illustrated below. (They are naturally of low resolution - 640x480 pixels - due to their intended output to video rather than print).

In conclusion, it became clear that by cultivating students’ knowledge of cinematographic form and content, their representation of landscape design ideas using computer animation techniques became more selective, and altogether more sophisticated. As predicted above, the overall consistency and standard of presentation increased markedly with the inclusion of ideas in the form of textual anchors and soundtracks which successfully committed students to the linkage of textual content (idea) and image.

The most obvious aspect of the students short films was their presentation imagery completely overwhelmed the design model. In part this can be attributed to a disparity in difficulty of interface between software packages that students had to familiarise themselves with. Namely, students found it easier to edit clips together in Premiere than create Models in Strata StudioPro. Consequently the delivery (image) outweighed the message (model). Nevertheless all of the students successfully generated presentations that elicited landscape experience, experiences considerably stronger than much of the two dimensional hardcopy that they presented for studies that were running parallel with this course. In some cases the designs did appear more spatially coherent, but this was difficult to judge given the emphasis on image rather than designed object.

On the basis of comparison between this year’s student work to that of last year’s, the incorporation of media-studies theory into the computer design course has been invaluable, providing students with the necessary skills to the create visual media with the capacity to elicit landscape experience. On, it should also be emphasised that watching road movies during class and cruising beyond the city limits was a real blast. As the soundtrack of Easy Rider howls...

"Get your motor running...
Head out on the highway...
Looking for adventure...
And whatever comes our way..."
Video Out-takes from Student Work

Illustrations 1 & 2 by Rebecca Namitz

Illustrations 3 & 4 by Britta Steitz

Illustrations 2

Illustrations 4
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