Herding Cats to Infinity

Peter Richardson

Director Visual Effects Research Lab, Duncan of Jordanstone College of Art & Design, Dundee University, UK p.richardson@dundee.ac.uk

Summary

This paper outlines and contextualises some current findings of an on-going investigation begun in 2009 at the Visual Effects Research Lab (VERL). The three-year project links the worlds of film, art, technology and computer science. In sharing methodologies and promoting cross-, trans- and inter-disciplinary understanding the project is beginning to challenge established notions of visual thought. The paper explores the issues surrounding the creation of four new high resolution [1] moving image works by contemporary artists. Working in collaboration with VERL the artists were invited to push the lab's state of the art visual effects facilities and team to their limits. The projects proposed envisioned: impossible ornithological stunts, buildings rising from burning embers, real and imagined robots and visceral fantasy worlds. Towards some initial conclusions the paper explores three questions: 1. In conceiving the works would any coherent themes emerge? 2. Would working with the Lab allow greater flexibility for the artists to create and experiment? 3. Would the potentially oppositional paradigms of film and art be challenged?

From Signal to Noise

The first turnkey digital effects system was brought to market by UK technology company Quantel in 1978. Over the next ten years Quantel continued to work with artists and designers to perfect their product. By the mid 1980s the paintbox system was the mainstay of television motion graphics. In 1985 artists David Hockney and Richard Hamilton were invited by Quantel to experience the Paintbox system. Hockney is reputed to have worked for 8 hours nonstop creating artworks with the tablet and pen set up. He described the experience as "painting with light."

In the spirit of Quantel's project, VERL and Creative Scotland invited artists to propose fantastical moving image projects un-realizable with incumbent technology. Four proposals from Scottish based artists Colin Andrews, Rachel McLean, Wendy McMurdo and Rory Middleton were commissioned. VERL collaborated with the selected artists to produce the works in high resolution with post-production using Nuke and Maya. (Whilst technologically advanced cinematic tools are at the centre of the project it is important to note that the content and context of the works proposed by the artists are the main focus of this paper.) The works are ultimately intended for cinematic exhibition and are shot in High Definition (1920 x 1080 pixels) as the lowest resolution and 4K (4096 x 2304 pixels) as the highest - roughly 32 times that of standard televisual definition. Andrews's "The Return" and McMurdo's "Olympia" will be discussed in detail whilst McLean's and Middleton's works will be described.

Cinematic visual effects tools such as Nuke, Inferno and Maya are ubiquitous in the creation of visual effects shots in Hollywood style feature films. The integration of live action footage with computer generated and enhanced imagery is a prerequisite of most adventure, science fiction and fantasy genre films. (The Harry Potter franchise, Lord of The Rings, Batman, and Inception exemplify this trend.) The VFX industry claims to "Bring together creative and technology specialists" [2]. A survey of the VFX sector carried out by NESTA questioned 84 VFX Companies and found that "40% of respondents currently working in the industry are CG (computer graphic) artists" [3]. Obviously the term "artist" here is applied in its loosest sense. This data provides an insight into not just nomenclature, but also into the potential creative allegiance of the industry to the artists and not the designer that it could be argued would be the more appropriate term. Skills and training in technology currently outweigh all other considerations for the VFX houses who habitually employ CG artists for their technological capabilities rather than their conceptual talents. The VERL seeks to reverse this situation. VERL puts the tools of high-end digital creativity into the hands of the trained artist (mediated by artist-operators). It commissions works that are challenging conceptually and technologically. The creative imperative thus outweighs the technological: the notions of making and remaking become central to a de-objectification of the technological tool.

The Artworks

Colin Andrews
'The Return' is both inspired by, and a reference to, the penultimate scene in Andrei Tarkovsky's feature film 'The Sacrifice'. In the scene the principle character Alexander, a distinguished theatre director, burns down his house to fulfill a pre-nuclear apocalyptic vow. Early during the filming of the 5¾ minutes scene Tarkovsky's camera jammed and the fire destroyed the house before the shot was achieved. Tarkovsky insisted that the house be rebuilt and re-burnt in order to shoot the scene a second time. This repetition along with the symbolism of fire, and the philosophical notion of the eternal return, are the inspiration and context for the work. The final film is a single screen work consisting of a 360-degree track around a burning facsimile of Tarkovsky's wooden house. The camera completes one 360-degree circle round the house and the fire slowly ignites. The tracking shot continues at a constant speed and on the same path until the building is completely burned and no trace of its existence remains. The footage then reverses and the house is reformed from the embers, fully forming again and returning us to the starting point (the installed work repeats from this point.) Andrews proposes an infinite making / remaking, he imagines and reimagines Tarkovsky's film: "The idea of infinity cannot be expressed in words or even described, but it can be apprehended through art, which makes infinity tangible. The absolute is only attainable through faith and in the creative act." [4] In Sculpting in Time Tarkovsky analyses cinema itself in terms of a physical making and remaking process. (His insistence on re-filming after technical difficulties exemplifies this notion in a practical way.) The notion of "Depicting Time" (the literal translation of Tarkovsky's book title) is central to this work and to the VERL project.

Wendy McMurdo
12.30pm The Robotics Lab is closed, the lights are off. The doors swing open. We wander along the corridor. We pass whiteboards straining with formula and equations. The camera tracks through the empty lab to the aria Les Oiseaux Dans la Charmille from Les Contes d'Hoffmann by Jacques Offenbach. In her film "Olympia" Wendy Mucmurdo's camera stalks the robotics lab seeking out signs of life. Like a technological art school the scientists inhabit small studio spaces, partitioned and personalised, littered with the tools of the trade: aluminium tubes, carbon fibre panels, precision engineered forms, circuit boards and of course gonks. As we travel through this human free scene the robots flicker to life. A remote arm attached to a desk moves through a ballet of pre-programmed moves, a 'helper robot' glides past a series of wax finger moulds. We are climbing the hill towards a summit that in turn leads us into a valley. The aria builds, the robots are now human like. A disembodied hand flexes, its black rubber fingertips glisten: with sweat? But don't shake the familiar hand, people, because if we do we will be surprised: "surprised by the lack of soft tissue and cold temperature. In this case, there is no longer a sense of familiarity. It is uncanny". [5] We are nearly there. Now, the descent into the valley. McMurdo's journey ends with 'Jules'. He doesn't see us coming; he cant, he isn't human. Jules enjoys the aria, his head inclines towards the music, relishing each note. As the camera tracks, the back of his skull spews cables and flickering leads. That's it, we've arrived…. In his 1970 paper Masahiro Mori's gave a description of "strangeness", strangeness represented by the "negative familiarity of a human observing an android" [6] he then coined the term "Uncanny Valley". "Climbing a mountain is an example of a function that does not increase continuously: a person's altitude y does not always increase as the distance from the summit decreases owing to the intervening hills and valleys. I have noticed that, as robots appear more humanlike, our sense of their familiarity increases until we come to a valley. I call this relation the uncanny valley." [7]

Rachel McLean
"My work slips inside and outside of history and into imagined futures, presenting a hyper-glowing, artificially saturated surface that is both nauseatingly positive and cheerfully grotesque." [8] Rachel McLean worked with the team to develop her previous Britney Spears / Mary Queen of Scots personas (from works such as 'Going Bananas' 2009). Each character (portrayed by McLean herself) is given Sisyphean tasks to perform; they are composited into

an infinite high resolution mindscape. The resulting Technicolor mash up of performance and fairytale is as I write over 30 minutes long: this particular cat has yet to be herded.

Rory Middleton
A modernist house (aged concrete and glass) sits on the edge of a Glen. In the sky a Golden Eagle - a Scottish archetype of strength and beauty - tracks through the highland landscape. The Eagle flies almost at ground level, the wind keeps her low. She rises on a thermal, turns into the sun then bears down on the camera, crashing sickeningly through an unseen window. In slow motion, glass splinters towards us. The bird of prey continues straight through the house. Time is suspended, she makes an unseen exit seconds later. In Middleton's vision of nature verses humankind the Eagle emerges unscathed from its encounter with C.G.I. brutalist architecture. In placing the camera inside the C.G.I. house the notion of distance in its simplest form (the distance of people from nature) and of framing and depth of field are playfully rearranged. Safe inside the house, nature is kept at bay. The intrusion leads us to question the very existence of the building in this landscape, a line has been crossed and time and place are questioned. Simon Unwin discusses the notion in his book on doorways: "Entrance is not always a clear cut matter of crossing a distinct and incontrovertible line. Sometimes the transition from clearly being outside to clearly being inside is not the matter of a moment, but drawn out taking time." [9] At the end of the work the Eagle lands in a tree. She casually glances back at the building as if contemplating its very existence. Finally we move into a close up: there is no house reflected in her eye.

A-N-T avoidance
And so to Actor-Network-Theory. Latour's critique of his own terms are apt here; even though our artists are linked by their proximity they are as similar / dissimilar as Latour and his neighbour: "I can be one metre away from someone in the next telephone booth, and be nevertheless more closely connected to my mother 6000 miles away" [10]. The connections made under the disguise of this paper then are merely alternate narrative strategies: the lab itself is a room full of computers not a network. The ideas generated are the sole property of the artists but are shared. The images created are merely data yet beautiful. The artists are unconnected yet connected and the artist-operators are productive yet creatively mediated. VERL as Actor Network: yes, but: it is the shift from technology to ideas and back, from distance to infinity, from data to shape, that characterize our current work, not the network / mesh of ideas itself. As Law says: "If it is now time to abandon stories that tell of straining towards the center then this is because doing so has helped to perform alternative narrative strategies. Strategies that are not always narratives. Narratives that are not necessarily strategic. Alternatives that are about the making of objects and subjects. That are ontological. Alternatives that have generated the possibility of an ontological politics where objects may be made and remade, remade in different images." [11] So let's avoid A-N-T till next time and head out of the valley towards the frontier.

At the Digital Frontier? Initial conclusions
1. In conceiving the works would any coherent themes emerge?
As I have discussed, the themes of: depicting time, distance / infinity and the uncanny valley dominated the works. The prevalence of hybridized notions of depth of field is also obvious. However it could well be argued that: by definition, depth of field is thematic to lens based media. Deleuze argues that: "The big screen and depth of field in particular have allowed the multiplication of independent data to the point where a secondary scene appears in the foreground while the main one happens in the background, or where you can no longer even distinguish between the principal and the secondary." [12] Middleton in particular perplexes us with his main focus: the Eagle giving way to the secondary scene; the building when the real story is humankind and its place in the landscape.
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2. Would working with the Lab allow greater flexibility for the artists to create and experiment?
High-resolution artworks are not restricted to the digital artist's practice. Artists have habitually sought the highest resolution to depict the real and hypothetical. The very early (1504) still-life painting by Jacopo de' Barbari "Partridge, Gauntlets, and Crossbow Bolt" [13] is often cited as the first small scale trompe l'oeil painting since antiquity. (Paint as a high-resolution

technology?) The painted panoramas of the late eighteenth century gave us Louis Daguerre's Diorama, a lit scene in a huge room, where manipulation of backlight through enormous paintings convinces viewers they are looking at a natural scene (a high resolution installation?). Which takes us to the spectacle of the Lumiere brothers' cinematic projections. People did not flee the cinema in terror but were nonetheless 'disturbed' (cinematic visual effects in an immersive high resolution installation?) With the experiment he VERL artists were able to create experimental cinematic artworks on a scale that wouldn't have been possible without the network. McMurdo's and McLean's works are cinematic (neither had worked with cinema technologies before) but designed for single screen viewing, whilst Middleton and in particular Andrews produced high resolution artworks with a durational / immersive element that are challenging to stage in any gallery. □

3. Would the potentially oppositional paradigms of film and art be challenged? The primacy of of the 'artwork' is obvious throughout these projects. Each of the selected artists proposed their works mindful of the facilities on offer. VERL organized, filmed, edited and post produced using the traditional film methods but at no time did the working methods of film take primacy over the iterative / intuitive methods preferred by visual artists. The crews were without exception used to working on traditional film projects and looked to the 'Director' for instructions. The artist directors, unused to this method were forced to share and explain their vision with the crews. This led to a near unique (for filmmakers) situation of on set discussion and inclusion which aided the ideas development of each artwork. All of the final pieces benefited from this unusual (for film) working method.

The title of this paper is obviously mischievous. Why would embarking on a project of this scale be as pointless as 'herding cats'? From the beginning the artists were completely open to the sometimes rigid methods required to 'shoot for post'. They understood that decisions had to be made in advance of the shoots in order to maximize the potential of the high resolution technology on offer. They were patient during the post process making good Together the Visual Effects Research Lab and its commissioned artists have produced four stunning films

[1] The term high resolution will be used throughout the paper but philosophically, 'higher resolution' may be a more appropriate but clunky term.

[2] Ian Livingstone and Alex Hope, *Next Gen. Transforming the UK into the world's leading talent hub for the video games and visual effects industries*. NESTA report, Feb 2011

[3] ibid

[4] Andrey Tarkovsky *Sculpting in Time: Reflections on the Cinema,* 2nd edition, 1987

[5] Masahiro Mori, *The Uncanny Valley*, 1970 Energy, 7(4) Trans. Karl F. MacDorman and Takashi Minato

[6], [7] ibid

[8] Quoted in The Skinny
 http://www.theskinny.co.uk/art/features/44929-the_skinny_showcase_rachel_maclean

[9] Simon Unwin, *Doorway* (Abingdon, Routledge: 2007), 198.

[10]Bruno Latour *Reassembling the Social: An Introduction to Actor–Network–Theory* (O.U.P, 2005)

[11] John Law, *Traduction/Trahison: Notes On ANT* (Department of Sociology Lancaster University) http://www.lancaster.ac.uk/sociology/stslaw2.html

[12] Gilles Deleuze, *Cinema 1: The Movement-Image*, Trans. Hugh Tomlinson and Barbara Habberjam. Minneapolis: University of Minnesota Press, 1986.

[13] In the Alte Pinakothek gallery, Munich, Germany