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Out of Body Experiences: A practice-led evaluation of the
shifting boundaries shared by analogue films and their
digital counterparts

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Abstract

This thesis provides in-depth analysis of my practice-led PhD and the methods used to focus on key areas of research - namely exploring the shifting perceptual parameters revealed when analogue films are transferred to digital formats. With this process audio-visual content previously locked inside film's decaying form is resurrected as immaterial code within a malleable frame. My work utilised this spectral quality to examine different layers of film representation, observing its inner structure, while also stepping back to contemplate its content from a self-reflexive distance.

These multiple viewpoints introduced unique spaces within which to study the analogue past from a digital perspective:

The filmstrip's mechanically regulated motion seamlessly combines still images, sound and light into analogue interpretations of space-time. My work digitally desynchronised these elements, revealing the structural gaps between them while also suggesting their merger with a new perceptual model.

Moving beyond internal film worlds to the boundaries they share with the physical viewing space, another layer of disjointed separation was introduced by producing screens that struggled to contain film content within their frames.

Stepping back further, these screens occupied a space caught between the fixed viewpoint of a cinema and the multiple perspectives allowed by gallery-based installations. The shifting frame of these hybrid spaces created an oscillation between passive submersion within, and analytical distance from mediated worlds.

By unmooring and offsetting the precise alignment between film structure, screens and viewing spaces, my practice revealed overlapping edges and disjointed spaces within which media from different eras interacted. This opened up new areas of research that fed directly into my theoretical studies (the thesis layout itself shifts outwards, from media structures to viewing spaces). This approach enabled me to produce a substantial body of work,

offering an original contribution to this field.

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Introduction

1. Background & Aims

My practice-led research investigates the shifting of perceptual parameters that occur when media from different eras share the same representational space. Rather than focusing on the obsolescence of one technology and the increasing dominance of another, I examine how digital transfer allows qualities specific to 20th Century film to be reinterpreted from a 21st Century perspective, and how this interaction influences and distorts the relationship between film, screen and viewing space.

Digital technology has largely replaced film in little over a decade. Though clearly a dramatic change, such shifts have occurred throughout cinema's history; it has always been an amalgam of diverse technologies that abstract space and time in different ways. Technological innovations (such as the introduction of sound or colour) reconfigure cinema's established elements, creating layered and hybrid zones, which must be renegotiated by film characters and viewers.

Despite numerous such realignments, the filmstrip's basic structure remained almost unchanged throughout the 20th Century; film-reels steadily unspooled storylines to their predetermined endings, epitomizing the teleological outlook of modernity. This established order seems to be maintained with digital transfers: when screened they look and sound the same, yet alternative viewing patterns allowed by new media open up different ways of interpreting film.

Digital transfer reconfigures film's machine time within a new format lacking any physical duration. Projected films are no longer flickering images formed by light passing through a mechanically transported filmstrip, instead they are a matrix of immaterial pixels transforming from within a single frame. This breakdown of celluloid's physical form into malleable code implies a shift towards an endless flow of diffused 'information'.

Alternatively, digital viewing methods help to emphasise the temporal and physical structure of analogue film. The ability to freeze scenes on a single frame brings film's underlying stillness to the surface. A film watched on a

computer may be one of many overlapping screens floating on a desktop; therefore its edges are clearly defined and shown in disjointed relationship to the monitor's wider frame. Both these examples highlight film's structural surfaces and boundaries, once carefully aligned and hidden within narratives that created the illusion of self-contained diegetic¹ worlds.

Paradoxically, thanks to its physical removal, the influence of celluloid's intricately fragmented structure can now be studied from a self-reflexive distance, opening up new ways of contemplating film. As Erika Balson states: "Rather than buy into the notion that all media will converge into an homogeneous digital field, it is necessary today to interrogate the ways in which the boundaries between media are both articulated and blurred"², such an approach, she claims, rather than stripping past media of their form instead enables them to be reassessed from an alternative viewpoint.

This idea of new media both dissolving and redefining aspects of analogue film is also discussed by Laura Mulvey, with particular reference to the shifting temporal and interconnected qualities of film: "The specificity of cinema, the relation between its material base and its poetics, dissolves while other relations, intertextual and cross-media, begin to emerge."³

Returning to the computer screen example, this 21st Century method of viewing 20th Century content both dissolves and redefines film's edges and surfaces within the wider and increasingly dominant frame of a digital perspective. Sounds and images, isolated from the physical media to which they were once bound, float within a hybrid space separating the two frames. My research explores the creative potential of these disjointed gaps. As well as onscreen spaces my installation work also allows analogue and digital content to interact within the hybrid space of gallery settings.

Chrissie Iles refers to "...the folding of the dark space of cinema into the white cube of the gallery."⁴ She sees cinemas as spaces designed to isolate and transfix viewers within illusory film worlds. Alternatively "...the darkened

¹ The world created by the film and occupied by its characters.

² *Exhibiting Cinema in Contemporary Art* (Amsterdam University Press, Amsterdam, 2013), pg.12.

³ Laura Mulvey, *Death 24x a Second* (Reaktion Books, London, 2006), pg.20.

⁴ *Chrissie Iles, Into the Light: The Projected Image of American Art* (Whitney Museum of American Art, New York, 2001), pg.33.

gallery's space invites participation, movement, the sharing of multiple viewpoints, the dismantling of the single frontal screen, and an analytical, distanced form of viewing." Here Iles discusses the 1960's *Structuralist* approach towards exhibiting film art⁵ that stripped away all artifice to reveal film's underlying mechanisms, Yet this description seems equally fitting to the digital viewing of analogue films - in this context the separation of film's structural and illusory qualities is not so easily defined.

I am not convinced that this divide between cinema and gallery spaces is so 'black and white': cinema viewers are not fully mesmerised by the screen, and gallery viewers are not completely aware of their surroundings. If anything, the 'grey' zone created by transferring cinema's layout to galleries accentuates the shift between attention and distraction; consequently this space is the ideal 'wider frame' for my own hybrid installations to occupy.

With the increased availability of video equipment in the 1970's the *Structuralist* movement waned, replaced by monitor-based work reflecting the significance of television in the public consciousness. Yet by the 1990's improvements in video projection reintroduced cinematic conventions to art galleries within a format that partially removed the oppositional divides of earlier film art, ushering in a new wave of artists exploring cinema.⁶ Digital technology, which fully came of age after the millenium, has increased the separation of film's material structure and content, allowing transferred footage to be distorted into any temporal or spatial form. Unlike analogue video this is achieved without degrading the quality of the original recordings⁷. Seamlessly combining media from different eras creates a more implicit and fluid connection between the recorded past and viewed present, while simultaneously creating a means to expose the gaps between forms. This dissolving and revealing of structural differences opens up a unique area of research for my work.

⁵ The key difference between my practice and structuralist filmmakers is one of historical and technological perspective: whereas structuralist film-makers of the 1960's (Paul Sharits and Tony Conrad among others) stripped away film's narrative illusion to focus attention on the underlying mechanisms, rhythms and material qualities of what was the dominant medium of the time, my work looks back at film through the refracted lens of a digital world.

⁶ Such as Douglas Gordon's *24 Hour Psycho* (1993)

⁷ Though audio-visual quality is maintained there is much debate about the aesthetic nature of digital reproductions; their 'coldness' and lack of substance compared to analogue originals.

The relationship between presence and absence has always been a complex issue in cinema. Onscreen imagery is the projected shadow of a filmreel, caught between ephemeral illusion and fragmented indexical documentation. Digital transfer complicates matters, the filmstrip becomes as illusory as the narrative worlds it once contained; both are blindly rendered into the same code. There is no transformation of object into image with digital projections; they are the shadow of shadows.

By physically removing, yet bringing into relief the filmstrip's presence my work creates hybrid zones that maintain an illusory grounding within film space, while also revealing alternative rhythms and perspectives that distort the gaps between film frames, projector, screen and viewer. This opens up spaces containing contingent qualities that question the stability of the cinematic viewpoint and the viewer's position within it. Ephemeral forms that inhabit the divide between film's material and illusory qualities are a common motif throughout my work. These include voices, smoke, shadows or lights that both reveal and bridge film's fragmented form.

Film's structural gaps are folds that divide and connect different spaces and times. The interstices between a filmstrip's frames both separate and pull together celluloid's fragmented imagery, allowing film's motion to form coherent immersive worlds within the viewer's perception. Likewise the fixed boundary shared by the projected film frame and cinema screen separates the viewer from the film world, while also drawing them in. When these joins are revealed, occupied and distorted by new ways of seeing each aspect of the cinematic experience is brought into question. Onscreen actors, viewers, the projection, screen, gallery space and film itself all become caught in limbo between object and image, between recorded past and viewed present.

As the 'window' connecting film worlds and viewing spaces, the screen plays a central role in my installations as an interface between material and immaterial worlds. These screens are given presence within gallery spaces, highlighting the point where material plane meets ephemeral image, yet are also distorted in ways that question their physicality. They become as hybrid as the imagery projected onto them, reflecting the warping of filmic space and time by digital

media. They are ill-fitting windows loosely connecting hybrid spaces, but also objects physically blocking and folding film and viewing spaces into each other, revealing how the edges of those worlds intersect and overlap.

2. Key Question

The transfer of analogue films to digital formats has redrawn the perceptual parameters between film-space, screen and viewing space. How can these shifting configurations be utilized and explored as part of an art practice?

3. Scope

The shift from analogue to digital technology is a wide-ranging topic, therefore I should clarify the areas that my research does and does not cover:

- This PhD focuses on the artistic and perceptual implications of technological shifts in cinema, rather than technical or economic factors of the digital transfer process.
- Research focuses on analogue films that have later been transferred to a digital format rather than moving imagery recorded using digital technology.
- My practice-led research gathers and reconfigures secondary rather than primary information.
- Though the shift from analogue to digital film production and viewing is a contentious issue, I try not to take sides with regards to the positive or negative aspects of this transition.
- Analogue film and digital technology share the same space in this research. Both are seen as components of the hybrid medium of cinema.
- These installations strike a careful balance between analogue and digital media. I avoid using overtly digital technology, such as mobile devices that would disturb the balance of my work.
- Cinema is an ever-changing art that cannot be studied using purely quantifiable methods. I am not searching for cinema's defining qualities. I am instead concerned with the space of transfer between these states.

4. Definitions

Parameters

Within this context parameters refer to the physical edges and limitations of cinema that define the medium within the viewer's perception. Cinema's traditional parameters are industrial: the celluloid strip containing film frames and the audio-wave running alongside them, their mechanical motion through the projector, the relationship between the projected frame and screen, and the viewers fixed position within the auditorium.

My research explores how digital transfer not only reproduces a film's audio/visual content, it also redefines the medium's structural artefacts, the underlying gaps and edges that give the medium its specific character. My installation spaces reconfigure the parameters of cinema's layout. No longer restricted by physical limitations, they can be altered to reveal alternative ways of viewing analogue footage.

Film Space & Film Time

Film space refers to the world occupied by onscreen characters (also referred to as the diegetic space). It also relates to the sense of space produced by audio-visual content.

When discussing narrative linearity I refer to completed films unfurling from beginning to end in cinemas. Editing allows films to shift and jump between different spaces and times, but once completed analogue becomes fixed and unchanging.

My work explores how the digital transfer process reproduces celluloid's temporal qualities, while altering them in ways that shift and distort film space.

Screen

The screen acts as an interface, simultaneously connecting and delineating the film and viewing space. My research will explore the shifting relationship between these roles created by the advent of digital media.

Screens today come in numerous forms, but my focus is on their surfaces and edges and how they relate to film and viewing spaces. My research will use

projection screens and monitors, though as this research focuses on shifts in cinema's traditional layout, the majority of work is projection based.

Viewing Space

In traditional cinema this constituted a space with fixed relationships between projector, screen and audience. These static elements focused attention on the images moving across the screen.

The venue for my work will be a gallery rather than cinema setting; this venue dislocates the relationship between projector, screen and viewer, allowing them to interact in new ways.

Celluloid

Although the filmstrip was manufactured using a variety of chemical components, celluloid is the generic term for it's material base.

Digital Transfer

Footage originally recorded, edited and projected on celluloid that has been scanned and reproduced in a digital format. Scanning converts indexical representation into 'numerical representation'⁸, a series of indistinguishable 1's and 0's. Physically distinct aspects of film, such as image and audio are merged into the same immaterial code.

5. Contextual Review

The key purposes of this review are:

- To gain in-depth understanding of theoretical and artistic research within this field.
- To summarise this research in a cohesive, concise form.
- To focus in on a unique area of research.

6. Methodology

This is a practice-led fine art PhD. My artwork and its development are the predominant research method, feeding into and informing theoretical analysis, which will in turn feed back into the production of new work. This thesis is less a

documentation of proof of research and more a critical engagement between practical and written research. In keeping with this approach the majority of textual information into the methodological aspects of my research has been integrated into the main chapters.

Though exploring the structure of analogue film, this research comes from a 21st Century digital perspective; an obsolete format is explored through the prism of its replacement. This 'distancing' differentiates my research from 20th Century experimental filmmaking. This technological shift is addressed from an artistic and qualitative perspective, rather than an in-depth quantitative analysis of technical data. A practice-led approach that actually utilises and presents, rather than simply describes media change, provides a necessary research platform from which to uncover new areas that might have been overlooked by purely quantitative or qualitative research methods.

This PhD combines software and installation techniques, creating spaces within which analogue films and their digital copies coexist, informing and altering each other's parameters. The hybrid zone created by this merger is complex: simultaneously physical (installation spaces), illusory (media representations), technological (combining media), theoretical (theory applied to installation works) and temporal (caught between different representations of time).

Old film clips used in my installations are cut off from their narrative timelines, but are also opened up to reveal self-reflexive qualities. Likewise the viewing space of cinema is also distorted and folded; its edges exposed in ways that allow a stepping back, a contemplative distance for artistic research.

This wider frame of reference offers glimpses of contingent qualities underlying film narrative, elements that cannot be fixed in place within a rational structure, but are present as traces or suggestions of alternate durations. Practice-led PhDs occupy a similar hybrid zone - working within a prescribed structure, but without following a purely facts-based approach.

By using software to reveal film's underlying structure my intention was not to discover clearly defined answers, but to see how cinema's different elements interact and influence each other within spaces shared by analogue and digital

⁸ Lev Manovich, *The Language of New Media* (The MIT Press, Cambridge, Massachusetts, 2002), pg.49.

cinema. Digital technology reveals that cinematic motion is an illusion made up of still images endlessly replacing each other as they are transported through a projector, but this revelation is only possible because film's mechanical motion has been transformed into an alternate transformative process. The boundaries between stillness and motion overlap and distort when they are contained within this new medium that is blind to the difference between the two states.

My research merges together analogue and digital representation in order to produce new work methods, alternative ways of articulating what cannot be pinned down through theoretical study alone. This therefore is an 'immanent'⁹ approach, a hybrid and flexibly structured study method, perfectly suited to cinema's constantly transforming and distorting spaces.

Though utilising scraps of the analogue past, my work does not take a post-modern stance. Laura Mulvey suggests an alternative approach in a recent article on the artist Mark Lewis¹⁰. She sees within his work a space where the physical and illusory qualities of a medium merge and distort into each other, creating their own sense of time and history. Not modernity's linear progress, nor the fragmentary explosion of post-modernity, but a more complex, layered and folded temporality.

Whereas Lewis uses obsolete technologies to reproduce and highlight the illusory nature of cinema, my work uses software and installation spaces to reconfigure the analogue past within a digitally viewed present. By folding together these spaces, boundaries are shifted and distorted, revealing glimpses of alternative worlds, previously hidden around the edges of film's structure.

For my research into these distortions I separated the cinematic experience into three specific zones: film space/time, screen and viewing space/time, each focused on both individually and in relation to the other two.

Film Space/Time

Not only was a practice-led approach vital, as this research was about analogue film and its digital reproduction, it was also necessary to appropriate 20th

⁹ A term defined by Estelle Barrett and Barbara Bolt in *Practice as Research: Approaches to Creative Arts Enquiry* (2007)

¹⁰ Laura Mulvey, *The Mirage Behind the Movie Star* (Modern Painters, May 2009)

¹⁰ A video post-production software application created by *Adobe Systems*.

Century film footage to be digitally reworked. Finding relevant material was a lengthy process involving two methods: Searching online sites listing relevant film tropes, and watching films containing relevant material, motifs or self-reflexive qualities.

Potential clips often contained figures in relation to filmic backdrops (such as painted studio sets or rear-projections), which revealed a clearly defined distance between foreground and background. These were altered to highlight and transform the relationship between the film, screen and viewing space. This mainly involved slowing, stopping, or looping sections of the clip's timeline.

*After Effects*¹¹ was the main programme used to create digital alterations, as it allowed a frame to contain multiple layers of still and moving sections. For these layers to coexist they are forced to adapt to each other, for example a shifting backdrop must loop in order to maintain its presence alongside a frozen foreground figure, revealing film's tense relationship between stillness and motion. These hybrid analogue/digital spaces become useful tools for investigating how temporality is expressed in media from different eras.

Screen

Prior to this PhD, my practice rarely involved installation work. For this research however the screen as object within a viewing space is integral to the work. To test installations before their construction I created digital 'maquettes'. Screens were digitally inserted within photographs of gallery spaces; these were then overlaid with moving images. This was a quick and useful tool for exploring the relationship between imagery, screen and gallery setting. It also became apparent that certain aspects of these works (audio in particular) could only be properly realized when physically occupying a space.

These post-production techniques allowed me to develop digitally distorted films, which were projected onto physically warped screens that cancelled out the inconsistencies of the imagery. Screens become objects that cast shadows, and working with these silhouettes introduced a useful technique with which to subtly transform the relationship between image and screen, opening up new ways of experimenting with film's physical and illusory boundaries. Over-spilling a projection so that its edges bled onto the wall behind was another method

used to alter the relationship between image and screen. Split screens and multiple synchronised monitors were also used to create the sensation of imagery transcending the gaps between frames - of cinema's boundaries being redrawn by new viewing methods.

Through developing works that over-spilled their boundaries, it became less necessary to physically distort screens. I began introducing freestanding projection screens into installations, though these have a physical presence within viewing spaces, their role is less obviously that of a sculptural object. In keeping with the cinematic model, the projected image is the main focus of this practice-led research, but my installation work also includes alternative screens, such as monitors. Again, these remain physically unchanged, but their visual and auditory relation to other monitors within the space creates an installation exploring the space and time separating onscreen imagery.

Viewing Space

Different installation techniques have been used to accentuate the zone between passive consumption and active contemplation of cinema. Image, sound and screen are broken down and rearranged to form new durational relationships that echo changing viewing patterns. No longer in the thrall of a single fixed screen or soundtrack, a viewer's attention is now diffused across multiple hybrid forms and surfaces. The spatial layout of audio/visual media, and how they interconnect as physical objects and illusory elements within a gallery becomes more relevant than a film's narrative content. Viewers are given the space and distance to fall in and out of cinema's dream-like spell.

When experimenting with different spaces and methods of displaying work, site-specific venues, such as disused cinemas, were contemplated, but this type of abandoned architecture did not really fit. It made the work too much about the past and obsolescence – just as using digital devices made the work too much about the cutting-edge present - the balance was wrong.

For the reasons stated in my opening introduction I believe art galleries are the best setting for my work. This research is about the spaces and temporal boundaries within analogue film that digital media reveal and alter, installations

within gallery settings offer the opportunity to display work in a manner that resembles the traditional layout of cinema: the relationship between projector, screen and darkened viewing space, yet within new parameters that highlight the shifting temporalities and viewing patterns of the cinematic experience.

On the surface, cinema viewing has not changed much since the introduction of digital media. Viewers still sit in the dark, facing a fixed screen onto which is projected moving imagery following a linear format. What has changed is everything underlying that arrangement: The projected imagery is now made up of diffuse digital information transforming from within a single grid of pixels. The screen still dominates, but is now also in competition with other smaller screens the audience may have in their pockets, out of sight, but pervasively influencing and distracting attention.

7. Thesis Layout

This thesis follows a form developed during my practice-led research. The arc of this thesis will track the effects of digital transfer on all the layers of cinematic representation, beginning with the underlying structure of the films, moving through film time, film space, screen and finally the viewing space.

Each chapter will be accompanied by at least one relevant example of artwork created during my PhD research.

Contextual Review

Introduction

This chapter places my practice within the context of a broader field of research carried out during this PhD, including theorists and other artists who examine and compare analogue and digital. My research sources also include PhD papers, magazine or internet articles, artist statements and film reviews.

As with the main chapters of this thesis, my contextual review is split into five sections:

- Film Structure
- Film Time
- Film Space
- Screen
- Viewing Space

Each of these areas include: relevant examples of my pre-PhD practice, artwork developed during my PhD but not included in the main chapters, work by other artists, 20th Century film scenes and theoretical research.

Historical Context

“Digital cinema has not yet come into itself. It will, I am sure, when it becomes less preoccupied with imitating and destroying its antecedent, film”¹²

Tacita Dean implies a clear distinction between digital and celluloid cinema, with the new format attempting to destroy the old. I do not believe this transition is so clear-cut and take the approach of media archivist, writer and curator Giovanna Fossati, who sees cinema history as an ever-changing merger of different technologies and eras.

She states: “If we consider transition as an inherent property of media, technological hybridism is its necessary characteristic... the very idea of the

¹² Tacita Dean, *Film* (Tate Publishing, London, 2012), pg.16.

purity of a medium (the analogue vs. the digital) should be reconsidered and, eventually, abandoned”¹³

In this context analogue film is not simply a physical structure; it is an amalgam of scientific theories and inventions from different eras. In *Techniques of the Observer*, Jonathan Crary establishes how photography and cinema grew out of a reorganising of visual perception that ushered in the modern observer during the early 19th Century¹⁴. Digital technology, though a radical departure from celluloid, is another stage of this process, and like the introduction of sound or colour to cinema, it leads to a re-evaluation of what went before.

Rather than seeing a threat to the old ways, my research focuses on what unseen aspects of analogue cinema are revealed through the codifying of celluloid’s structural blueprint.

Media historian Tom Gunning discusses how the initial shock and novelty of technological innovations gives way to banal familiarity¹⁵. It is impossible to relive the shock and disbelief of the Lumiere brother’s first screenings and Gunning asks if this sensation can ever be re-encountered: Three possible areas he suggests include:

- The re-evaluation of a medium due to its obsolescence can reignite interest in its unique qualities previously hidden beneath years of habitual use.
- Art can be used to heighten awareness of a media¹⁶, by altering its rational order.
- New technology can challenge film’s fixed order by revealing its uncanny qualities (the unfamiliar hidden within the familiar).

Work referenced in this contextual review focuses on these methods of re-evaluating cinema’s ability to preserve and reanimate the recorded past.

¹³ Giovanna Fossati, *From Grain to Pixel: The Archival Life of Film in Transition* (Amsterdam University Press, 2009), pg.20.

¹⁴ Jonathan Crary, *Techniques of the Observer*, (The MIT Press, Cambridge, Massachusetts, 1990)

¹⁵ Tom Gunning, *An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator*, (Art & Text, Fall 1989).

¹⁶ The Structuralist film movement of the 1960’s and 70’s stripped the cinematic experience of all illusory narratives to reveal to the public film’s (and modernity’s) underlying structures.

Contextual Review - Film Structure

“...everything we might think of as ‘essential’ about cinema had become one of the ‘special effects’ of the digital”¹⁷

The 20th Century left behind a huge body of films that, as time passes, are gradually becoming historic artefacts beyond the reach of lived memory. The transfer of these analogue recordings to digital formats complicates this process further. Both these shifts create a distance that opens up new ways of thinking about a medium’s physical structure and how it influences perception.

Cinematic narratives that once pulled the viewer into a film’s space and time can now be broken down and analysed to reveal film’s underlying structure. This removal of a film’s flow distances old recordings from the moment of viewing by turning them into more clearly defined documents of the past. When experienced this way media historian Wolfgang Ernst believes “the archive is traumatic, testimony not to a successful encounter with the past but to ...the impossible bridging of a gap¹⁸.” Yet, viewed from a different perspective, the past can now be seen in a new light, according to Eivind Rossaak “With its new digital technology, cinema can with greater ease than before pick up energies in the margins of the medium...”¹⁹.

Merging together elements of film and new media, my practice works in the gaps and margins referred to in these quotes, searching for ways to renegotiate cinematic space and time. The ability to freeze a film’s flow, or shift from frame to frame exposes the fragmented relationship between still and moving imagery, highlighting the significance of what occurs between frames.

Theorist Markos Hadjioannou discusses how the digital viewing of analogue recordings reveals “A hybrid of static frames and rotating mechanisms, of stops and speeds, of instants and durations, celluloid film perpetually devours both stillness and motion continuously”.²⁰ Sean Cubitt also sees cinema as an elusive and ephemeral medium that is not fully there to be investigated. He asks “What then is it to speak of a moving image, constructed from thousands of

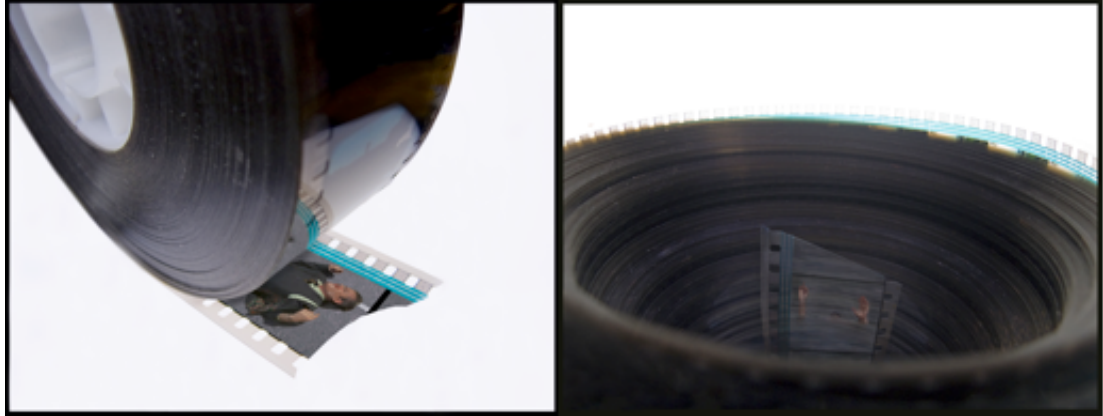
¹⁷ Thomas Elsaesser, *Film Theory - Through the Senses*, (Routledge, New York, 2010), pg.173.

¹⁸ Wolfgang Ernst, *Dis/continuities: Does the archive become metaphorical in muliti-media space?* Chpt in *New Media: Old Media*, Kyong Chun & Keenan (eds.) (Routledge, London, 2006), pg.105.

¹⁹ Eivind Rossaak, *Figures of Sensation: Between Still and Moving Images*, chpt in *Cinema of Attractions Reloaded*, (Amsterdam University Press, 1999), pg.334.

²⁰ Markos Hadjioannou, *From Light to Byte*, (The University of Minnesota Press, Minneapolis, 2013) pg.8.

constituent images? In what sense is it an image?"²¹ Cubitt focuses on the ontological questions that arise as digital media restructures cinema, to reveal celluloid's unstable format, consisting of numerous competing technologies previously hidden beneath narrative flow.



Dead Ends (2010)

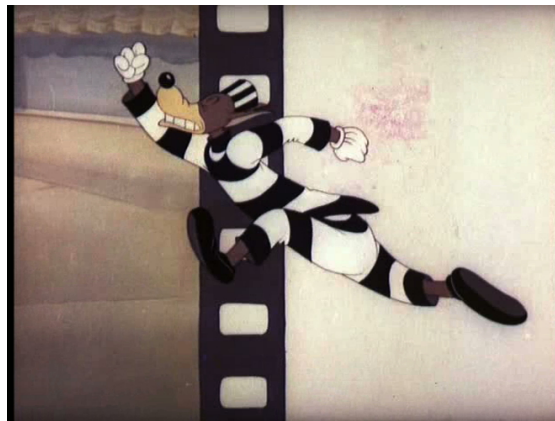
Dead Ends is a photographic series started before my PhD and continued into my first year. Digital images show film-reels set against blank backdrops; individual film frames can be seen in which film actors are caught at the precise instant of their onscreen demise. The film-reels containing these scenes appear to be directly responsible for the deaths, forming an absurd connection between cinematic illusion and the medium's physical form. This hints at what Laura Mulvey refers to as a 'death-drive'²² embedded within all analogue films and formed by their physical structure: frozen documents of the past contained within reels that unwind to a foregone end.

In these images the ill-fitting gap between the dusty analogue reels and the digital frame is filled with a white void, suggesting a disjuncture between these two media that allows the film frames to be viewed in detail, but also cuts them off from their narrative. By taking a 'step back' these images reveal the structure of the media within which viewers are normally immersed. This process is similar to the digital transfer of film: watching old film on digital formats, viewers can remove themselves from a film's flow by freezing individual frames. This complicates the relationship between stillness and motion as well as between illusory and physical aspects of analogue and digital media.

²¹ Sean Cubitt, *Cinema Effect* (The MIT Press, Cambridge, Massachusetts, 2004), pg.5.

²² Laura Mulvey, *Death 24x a Second* (Reaktion Books, London, 2006), pg.67.

The revelation of a space beyond film's frame was a popular visual joke in the mid-20th Century cartoons, with animated figures transcending the confines of the media that contained them. In *Dumb Hounded* (Tex Avery, 1942) a wolf runs so fast it skids out of frame, momentarily blending with the machine motion of celluloid passing through a projector. Though acceptable in the fully illusory world of animation, a similar disjuncture between film's content and physical boundaries created too much of a disjuncture between film's illusory and indexical qualities to be warranted.



Dumb Hounded Tex Avery (1942)

Exceptions can be found: In *Modern Times* (Chaplin, 1936) and *The Hudsucker Proxy* (Coen Brothers, 1994) the underlying industrial mechanisms of film are alluded to.



Modern Times (Chaplin, 1936)



The Hudsucker Proxy (Coen Brothers, 1994)

A more subtle evocation of film's structure occurs in a scene from Antonioni's *Blow Up* (1966), where the lead character searches for connections between two images and then, in a reverse shot, appears to be caught in the interstices of the suspended frames.



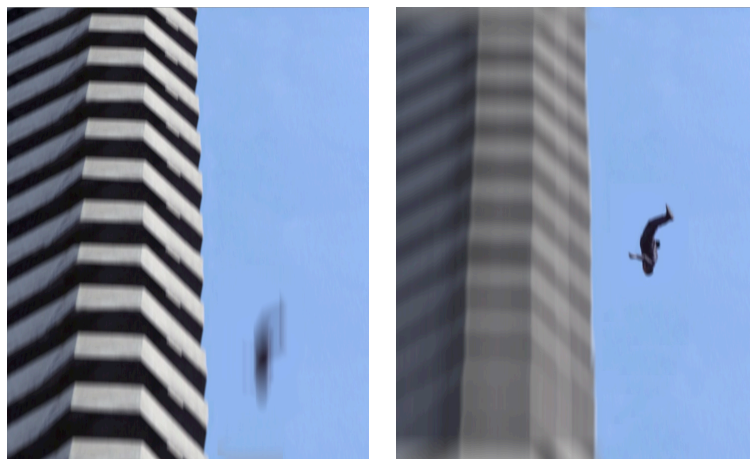
Blow Up (Michelangelo Antonioni, 1966)

In a scene from *Bande a Part* (Jean Luc Godard, 1964) the 'outsiders' briefly occupy a no-man's land filled with abandoned, disassembled reels, suggesting a cinematic wasteland or inter-zone. Anna Karina, walking through these fragments, looks at the camera and states, "plan, what plan?" The three climb into a vehicle spanning two reels and drive off, transported back to the film narrative's mechanical linearity. They seem briefly outside the film itself and this distanced self-reflexivity reminds viewers of the medium onto which these sights and sounds are fixed, along with the mechanisms setting them into motion.



Bande a parte (Jean Luc Godard, 1964)

Digital media effectively separates audio-visual content from its physical base, allowing old footage to take on qualities similar to 20th Century animation, with both content and structure appearing to interact within the wider digital frame. *Fall* (2011) is a monitor-based animation produced in the second year of my PhD in which a figure falls from a tower block²³. The purpose of this work was to explore differing layers of temporality and media from within a single frame, so the relationship between camera, building and figure are constantly altering, sometimes the camera follows the figure, suspending him in mid-air while the building whizzes by in a blur, sometimes it halts to reveal the architecture's layered structure, while the figure drops out of frame. The figure appears to fall through a void existing outside the mechanism of film, yet within the frame of a new digital representation.



Fall (2011)

20th Century cinema used narrative, along with strict recording and viewing regulations to hide film's inherent structural tensions, while avant-garde

²³ This is a heavily altered scene from *Get Carter* (Mike Hodges, 1971) in which a gangster is thrown off the top of Gateshead car-park.

filmmakers²⁴ exposed these qualities by removing any pretence at illusion²⁵, forcing the viewer to focus on film's physical form. Viewed from a digital perspective, film's structure is now as illusory as the narrative worlds it once contained. Therefore, rather than stripping away the artifice of film, a number of current artists seek out the edges and flaws of celluloid artefacts, examining how they interact with the audio-visual recordings they now share a digital space with. Such work exists in the inter-zone between what Cubitt refers to as cinema's "fictionalization of truth and its verification of illusion"²⁶

In *Seer's Catalogue* (2009) artist Dave Griffith edits together old film-clips containing holes punctured into their surface - originally intended as markers for projectionists indicating the end of a film-reel. When digitally transferred these hidden artefacts can be focused on and reinterpreted. Within Griffith's 'tongue in cheek' apocalyptic narrative, these holes in the celluloid surface are as much a part of the storyline as the film imagery, becoming "Gates between world's, where life and death change place"²⁷



Seer's Catalogue (Dave Griffith, 2009)

Bill Morrison's *Decasia* (2002) uses software to repair old film footage, yet in some scenes celluloid decay is digitally enhanced for allegorical purposes. Recorded images share the frame with their medium's physical deterioration, with the two often appearing to interact. One scene shows a boxer fighting against a future amalgam of damaged and digitized film-stock, while another shows fairground rockets emerge from an apparent time portal - actually a section of destroyed/digitized film. This combination of decayed obsolescence

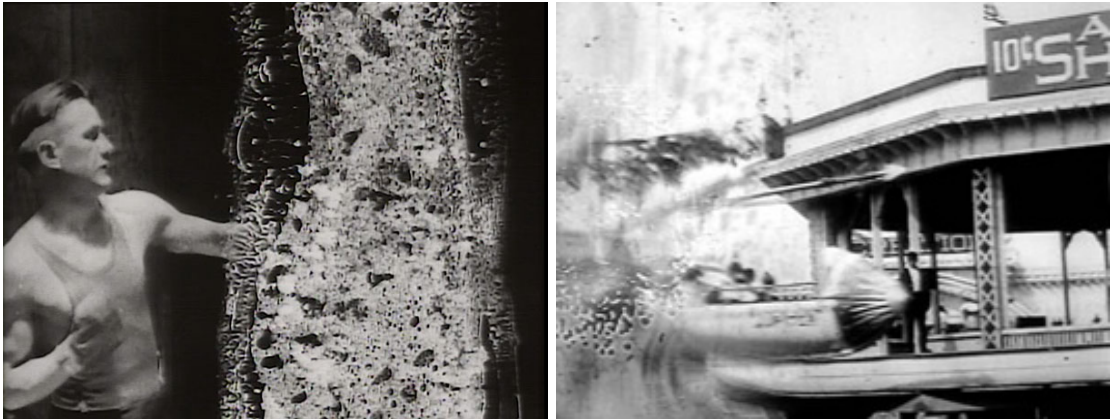
²⁴ Specifically the Structuralist filmmakers in the 1960's/70's

²⁵ For example, by placing the projector in plain site, or using filmstrips containing no images.

²⁶ Sean Cubitt, *Cinema Effect* (The MIT Press, Cambridge, Massachusetts, 2004), pg.4.

²⁷ Quote - *Seer's Catalogue* (2009), Dave Griffith.

and looping futuristic imagery creates an alternative duration where the past and future interact within the present.

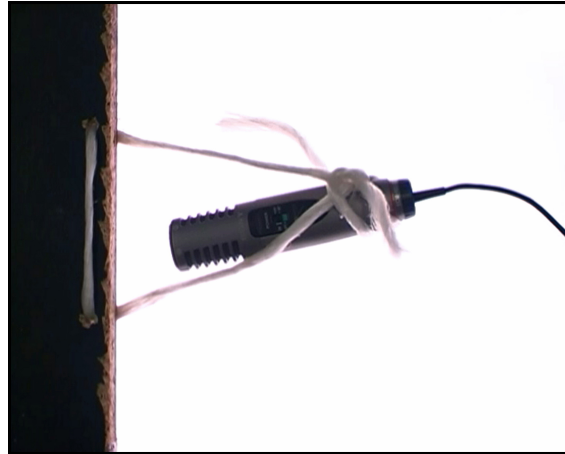


Decasia (Bill Morrison, 2002)

The shift from analogue to digital sound is an important aspect of my practice. *Physical Transitions* (2000-01) is a work I made during the period when analogue video editing was giving way to digital editing. Microphones are shown being physically smashed within, or dragged across a monitor's screen. These recording devices become audiovisual recordings as, clearly visible within the frame, they capture sounds that emphasise their own actions within the frame. These videos strip away all unnecessary information, focusing attention on the microphone and its relation to the edges of the screen and also the shift between object and image²⁸. This relationship between motion and image, surface and depth explored the changing nature of the gaps and edges between different media. For Deleuze this gap was intrinsic to cinema: "What counts is ...the interstice between images... a spacing which means that each image is plucked from the void and falls back into it"²⁹

²⁸ Digital animation was used to create pure black and white screens that emphasise this shift.

²⁹ Gilles Deleuze, *Cinema II* (University of Minnesota Press, 1985), pg.179.



Drag (2000/01)

Readdressing the temporal and spatial qualities of film does not require digital media. Tim Macmillan used technology available to the pioneers of cinema to create *Dead Horse* (1998), which shows the instant a horse is shot in an abattoir. A camera appears to track in an arc around the animal, yet the horse remains frozen in mid-air, caught in limbo between life and death³⁰. There is a particular poignancy to the animal's shadow, which seems to separate from the body; this relationship between stillness, motion and shadows is present in a number of my recent works. To create this effect (which he calls *Time-Splice*) the horse was surrounded by a bank of cameras that captured the same instant from different angles. Image capture is dispersed through space rather than time, but then reinstated onto a timeline to create a ghostly journey around the living/dead horse³¹.



Dead Horse (Tim Macmillan 1998)

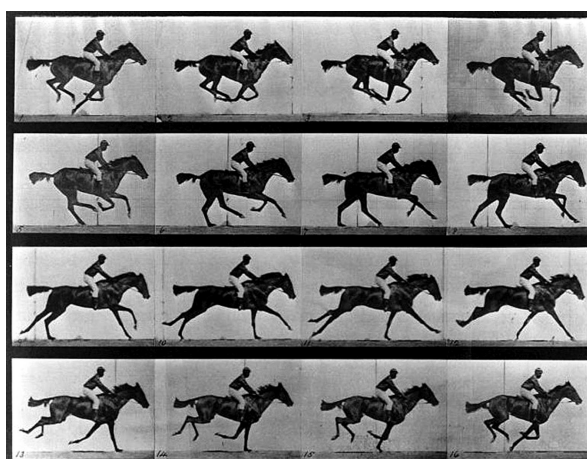
³⁰ The underlying stillness of the film-strip's images is cinema's hidden reminder of death for numerous theorists including Laura Mulvey and Raymond Bellour.

³¹ The famous scene in *The Matrix* (Wachowski Brothers, 1999) where Keanu Reeves' character halts time uses this same technique.



Arc of still cameras used to create a time-slice film

Film's structure is modified in *Dead Horse*, a work produced at the end of the 20th Century to act as a *memento mori* to cinema itself. This work clearly references Eadward Muybridge's pre-cinematic experiments into time and motion. Yet whereas Muybridge's cameras captured different moments of a horse's galloping action, Macmillan's cameras capture the same instant. By denying the forward momentum of 19th Century scientific progress, an alternative form of duration is produced. This shift in the representation of space and time, and specifically the transformation of stillness and motion, is an important aspect of my research.



Sallie Gardner at a Gallop (Eadward Muybridge, 1878)

By exploring film's structure, digital technology reveals it's hybrid nature, made up of layers from different eras. Bolter and Gussin have coined the phrase 'remediation' to refer to this effect: "new media...promise the new by remediating what has gone before."³² The idea of progress shifts from a forward momentum to a circular or layered understanding of change where new

³² J. Bolter & R. Gussin, *Remediation* (MIT Press, Cambridge, Massachusetts, 1999), pg.270.

understanding can be gained from how the past and present recombine. As Markos Hadjioannou states “Newness here is not a matter of one form taking over another, but of two specific forms coexisting in a creative development.”³³



Zoetrope Strip

The digital restructuring of film space/time is an aspect of my work *Zither* (2013), which uses the famous closing scene from *The Third Man* (Carol Reed, 1949). This clip was duplicated numerous times, with each layer desynchronised from its neighbour, then looped to hold the figure in the centre of each section. The frames were then dragged slightly to the right, creating an extended screen containing incremented and layered representations that strip the frame of its role as a realistic ‘window’ into the film world.



Zither (2013)

The vanishing point in this work is duplicated and spread out across the image, creating multiple, fragmented points of view that owe as much to the 19th Century zoetrope or computer interface as to the cinema screen. By placing desynchronised sections of the same scene side by side, analogue film’s erratic qualities are highlighted. This is most noticeable when looking at the blank sky;

³³ Markos Hadjioannou, *From Light to Byte*, (The University of Minnesota Press, Minneapolis, 2013)

flickering tonal bands are created by tiny inconsistencies in the celluloid's exposure to light, these fluctuations are part of what make a film scene seem alive and able to express time passing, even if no action is taking place. Paradoxically these artefacts of film's physical imperfections are revealed by a digital format that lacks its own physical connection to time.



Zither – sky detail

The layered, fragmented and looped qualities of *Zither* combine to create a chaotic new soundtrack³⁴ that punctuates the shifting bands of light in the sky. Like the zither's strings, the layered frames vibrate and pulse together with a living quality that connects them to their material source. This work shuffles the mechanical 'heartbeat' of film's flicker in order to accentuate its underlying rhythms. Using digital media to reinterpret a film scene in this way creates a space, a remove from the narrative that allows the intricate interactions between film's structural and recorded elements to be contemplated in a new light.

Contextual Review - Time

"Everything in film seems to be about time, including the camera apparatus, defined by its frame-per-second speed."³⁵

The shutter and filmstrip, filmmaker Babette Mangolte suggests, create a cinematic structure that resembles the workings of a ticking clock. She goes on to state that this sense of time passing is lost when film's industrial qualities are replaced by digital code: "Why is it difficult for a digital image to communicate

³⁴ The original zither score was performed by Anton Karas

duration?” There is no transportation of frames through a digital projector; instead the impression gained from watching a digital recording is, in the words of Garrett Stewart “time seeming to stand still for internal mutation.”³⁶

My work explores this shift from film’s ‘clockwork’ time to its digital counterpart, a diffuse grid of pixels within which time can move at any speed or direction. By exploring this new temporality viewers find what Markos Hadjioannou describes as “bits of time memory one on top of the other without chronology. You travel through time now by travelling through layers of pixels...”³⁷ This layered rather than linear temporality has interesting applications when studying digitally transferred films. Altering a film’s temporal flow creates a self-reflexive distance that allows analogue recordings to be seen in a new light.

The ability to ‘step back’ from film in this way reveals the shifts in space and time made possible by the gaps between frames. In 20th Century cinema the shock of these jumps was sutured over by a projector’s steady frame-rate, normalized by narrative timelines, and fixed within an immobile screen. Cinema taught viewers to deal with the day-to-day fragmented traumas of modern existence. The reassuring flicker of what Mangolte refers to as film’s ‘heartbeat’ could be seen as familiarity with a specific model of ordering the world, one that creates modern subjects, existing within a modern understanding of time.

By fusing human perception to a mechanical visual model, cinema utilised film’s fragmented structure to hide as much as it revealed. Theorist Mary Anne Doane discusses how “The achievement of modernity’s temporality, as exemplified by the development of the cinema, has been to fuse rationality and contingency...”³⁸ Similarly, for Lesley Stern the physical aspects of cinema exist not in the filmstrip’s material form, but in the merger of industrial motion with the actions of film subjects, and the physical senses of the viewer. She sees the uncanny aspect of this relationship residing in the transference between animate and inanimate states. “The cinema, while encouraging a certain bodily knowing, also, and in that very process, opens up the recognition of a peculiar

³⁵ Babette Mangolte, *Afterward: A Matter of Time Camera Obscura, Camera Lucida*, (Amsterdam University Press, 2003), pg.262.

³⁶ Garrett Stewart, *Framed Time: Towards a Postfilmic Cinema* (University of Chicago Press, 2007), pg.3.

³⁷ Markos Hadjioannou, *From Light to Byte*, (The University of Minnesota Press, Minneapolis, 2013), pg.89

³⁸ Mary Ann Doane, *The Emergence of Cinematic Time*, (The MIT Press, Cambridge, Ma, 2002), pg.208.

kind of non-knowing, a sort of bodily aphasia, a gap ...”³⁹ Digital media reveals the uncanny connect/disconnect between film and the body by altering the temporal gaps that previously drew them together, so that the body no longer absorbs film’s mechanical motion in a way that appears ‘natural’.



Alone: Life Wastes Andy Hardy (Martin Arnold, 1998)

Martin Arnold produces films that appropriate and alter old Hollywood film scenes, focusing in on the unseen micro-gestures of actors by rapidly rocking backwards and forwards between frames. New visual connections open up for the viewer, meanings contained not within the images but in the relationship between them. The ability to alter the temporal flow of film not only reveals hidden information, it also distorts it to create new interpretations. The breaks, loops and shudders in Arnold’s work shift and worry the relationship between image and energy in cinema. Actors occupying these scenes seem caught between analogue and digital representations of space/time, a tension that breaks through Hollywood’s narrative gloss to reveal aspects of modern existence referred to by theorists including Deborah and Mark Parker, and Laura Mulvey.

“By distorting the film we can see something of its deeper patterns and continuities”⁴⁰

“...today’s electronic or digital spectator can find these deferred meanings that have been waiting through the decades to be seen”⁴¹

³⁹ Lesley Stern, *I think Sebastian, therefore...I somersault: Film and the Uncanny* (Paradoxa: Studies in World Literary Genres, vol. 3, no. 3-4, 1997), pg.350.

⁴⁰ Deborah & Mark Parker, *The DVD and the Study of Film* (Palgrave Macmillan, New York, 2011), pg.60.

⁴¹ Laura Mulvey, *Death 24x a Second* (Reaktion Books, London, 2006), pg.147

Arnold's work addresses how cinema's industrial timeline formed the 20th Century's way of seeing, interpreting and ordering the chaos of modern living. By reintroducing randomness to these films, new media reveals the fears and desires underlying a film's narrative surface, as well as an alternative durational perspective that connects back to pre-cinematic media.

According to media historian Tom Gunning the original thrill of cinema was in the transition from stillness to motion, as images were slowly hand-cranked into life by the projectionist⁴². The ability to digitally freeze-frame old films brings cinema back full circle to its underlying stillness, yet now the shift is from motion to stillness, making the animate inanimate unearthing the 'phobic' spaces buried beneath their surface. Laura Mulvey believes that the spectre of death in particular makes its presence felt with this ability. For her, the Structuralist filmmakers who highlighted the dichotomies between cinematic illusion and film's material form have become less relevant within the digital age.

Alternatively she sees the shifting temporalities of film as a potential new area for research "The oppositions between narrative and avant-garde film, between materialism and illusion, have become less distinct and the uncertain relation between movement and stillness, and between halted time and time in duration, is now more generally apparent."⁴³

My work explores this blurred margin between frozen past and animated present. Rather than simply freezing film, I am more interested in the ability of new media to incorporate stillness and motion within the same frame.

Throughout my work digital technology hints at unseen elements hidden in the background, under the surface, or around the margins of a scene. Slowing, freezing or looping images (often within the same frame) reveals subtle interplays between stillness and motion, between the world and its representation, previously obscured by film's forward momentum.

⁴² Tom Gunning: *An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator*. In: Linda Williams (ed.): *Viewing Positions. Ways of Seeing Film*. (Rutgers University Press, New Brunswick, N.J. 1995), pg.121.

⁴³ Laura Mulvey, *Death 24x a Second* (Reaktion Books, London, 2006), pg.30



Milk (Jeff Wall, 1984)

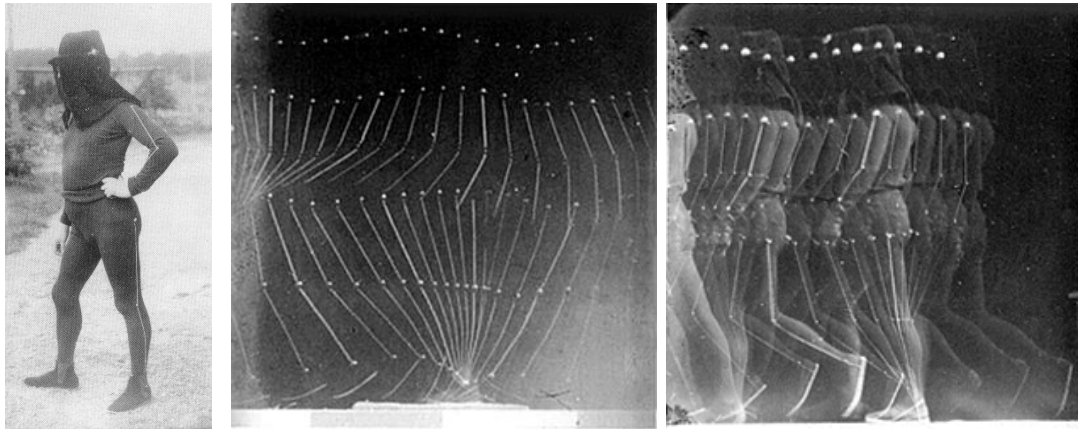
In Jeff Wall's photograph *Milk* the liquid's frozen intricacy seems attracted to an architectural gap referencing the interstices between film frames. Stillness seems to strive for motion in the milk's chaotic form, yet it is also held in place by the photographic frame and fixed architecture.



"We'll revisit the scenes of our youth" (2004)

In my work *"We'll revisit the scenes of our youth"* a woman's reflection and the smoke from a man's cigarette seem to achieve what the milk in Wall's image strived for, they hover in the space between the digitally frozen figures and the moving backdrop. This transition of ephemeral forms between stillness and motion resembles work by the pioneers in recording photographic motion, in particular an incorrectly exposed image by Etienne-Jules Marey that reveals his ghostly image caught between the reflective strips he used to map human animation. Stripped of unnecessary data in order to capture pure motion Marey's photographs seem caught between the photographic, the cinematic and the digital. Yet the physical world cannot be removed so easily and is accidentally revealed in the space between image and kinetic energy. This figure

is like a ghost created by the folding together of still and moving elements. As Akira Lippit states: “The movement between the animate and inanimate is achieved by crossing an invisible threshold between the living and nonliving...An orphic cinema”⁴⁴



Étienne-Jules Marey in motion capture suit (1885)

This ghostly figure, floating in the space between images brings to mind H.G Wells’ *The Invisible Man* (1897) who’s bodily disappearance could be seen as a metaphor for the phantasms created by the scientific discoveries of the age, X-Rays had been discovered just two years earlier, the same year that cinema’s shadowy representations of humans first flitted across a screen.

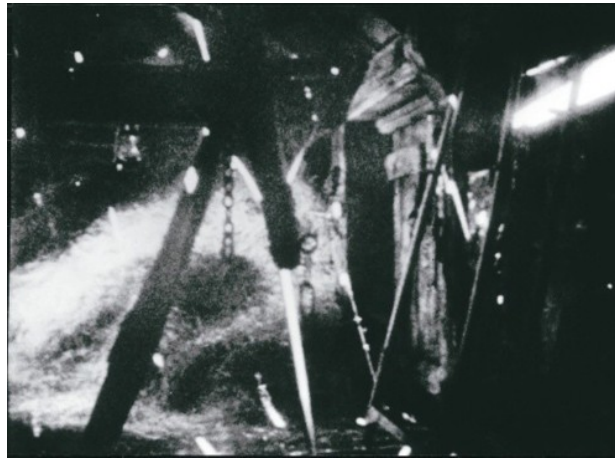


The Invisible Man (James Whale, 1933)

A half-second sequence from James Whale’s film version of *The Invisible Man* (1933) is used in James Coleman’s installation *La tache aveugle (The Blind Spot, 1978)*. These thirteen frames are mounted onto slides, which are slowly dissolved into each other over an eight-hour period by two adapted slide-

⁴⁴ Arika Lippit, *Atomic Light (Shadow Optics)* (University of Minnesota Press, Minneapolis, 2005), pg.67.

projectors aimed at the same screen. By creating an imperceptible transition between images, *La tache aveugle* occupies the boundary between moving and still imagery.



La Tache Aveugle (James Coleman 1978-90)

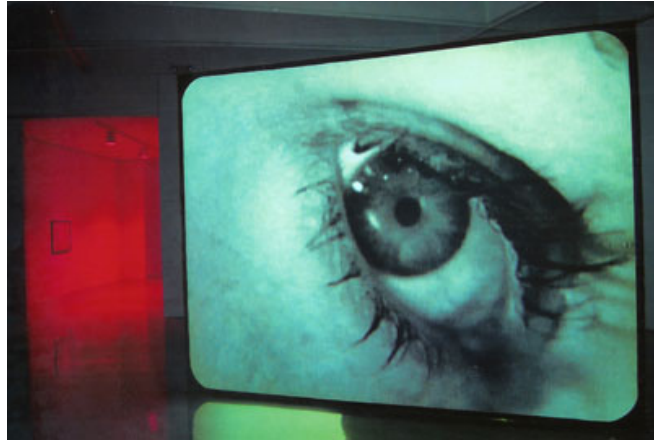
The scene Coleman uses shows the moment the invisible man is fatally shot and slowly starts to shift from an animate (living) state, to an inanimate (dead) state, a transition that returns his motionless body to the visible world. This sequence implies that the man's invisible state is the result of a combined bodily and mechanical motion. Like the material form of the filmstrip passing through the camera/projector that casts its dematerialised and ephemeral imagery onto the screen, the man's body has been subsumed by film's motion. Broken into thousands of fragments, his image and actions are lost in the gaps between the still frames of the unspooling film-reel. Only with the film's end does the man's motionless body reappear, and as the cinema lights go on, the audience also have their bodies returned, after a moment's disorientation as they shift from film space to auditorium space.

This visual re-emergence of the body after its death echoes the digitisation of film's own material structure as it falls into obsolescence. The ability to digitally alter the forward momentum of celluloid narratives dramatically alters a viewer's relation to the film world, and implies that the corporeal form of film is also caught in limbo between physical existence and an illusory afterlife⁴⁵.

Coleman's work dissolves film frames into each other, making it impossible to see where one ends and the next begins. Alternatively, Douglas Gordon's *24-*

⁴⁵ *Medium* (see *Time* Chapter)

Hour Psycho slows down each frame of Hitchcock's film into a clearly defined half-second block. This halting motion suspends the film on the brink between documents of the past and a present moment narrative; any slower and the film would be impossible to follow; any faster and the still images would fold back into the film. Jeffrey Skoller suggests that this "...slowness produces a gap between past and present in which we are able to see the distance between then and now..."⁴⁶



24-Hour Psycho (Douglas Gordon, 1993)

Psycho itself contains a sequence that blurs the line between stillness and motion, this literal 'turning-point' occurs at the halfway point, when the storyline appears to end abruptly with the death of the lead character. The film's forward momentum distorts, following Marion's blood as it spirals down the plughole, before transitioning into what appears to be a still shot of her dead eye, spinning the viewer back out into the film space. The entire film turns on its axis and follows an alternative direction - shifting from linear road movie to a twisted psychological thriller. This imagery implies the death of the film, followed by its phantasmal reanimation, trapped in the frozen 'underworld' of the Bates Motel. The Coen Brothers use a similar tactic in *Barton Fink* (1991) when a writer becomes mired in a decrepit hotel, his deathly transition is marked by a reception bell, which once stuck appears to ring indefinitely. This frozen sound creates a fascinating duration that goes against the nature of film's structure. As Thomas Elsaesser states: "While the film image can be stopped and

⁴⁶ Jeffrey Skoller, *Shadows, Specters, Shards: Making history in Avant-Garde Space* (University of Minnesota Press, Minneapolis, 2005), pg.12.

reproduced through stills and frame enlargements, sound can be reproduced only in time.”⁴⁷



Barton Fink (Coen Brothers, 1991)

The digitization of time readdresses this relationship: sound and image are rendered into the same code, and therefore can be altered in a similar manner. Temporal loops and frozen audio are regular motifs in examples of my work, such as “That’s all...”, in which still and moving elements occupy the same frame to create the impossible recording of a frozen figure’s voice.⁴⁸



That's All (2005)

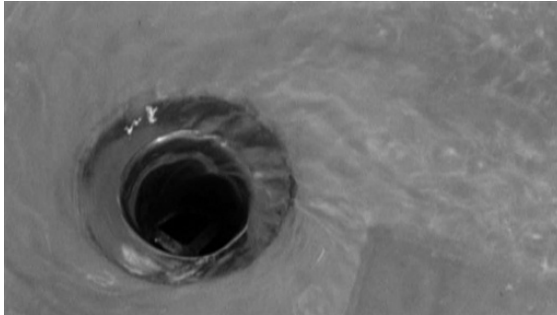
Caught between holding on and letting go the loop suspends film scenes, allowing them to be observed in new ways, as Laura Mulvey observes: “Return and repetition necessarily involve interrupting the flow of film, delaying its progress, and, in the process, discovering the cinema’s complex relation to time.”⁴⁹

⁴⁷ Thomas Elsaesser, *Film Theory- Through the Senses*- pg 137, (Routledge, New York, 2010), pg.138.

⁴⁸ See Time Chapter, pg 114 for a fuller description of this work.

⁴⁹ Laura Mulvey, *Death 24x a Second* (Reaktion Books, London, 2006), pg 8.

Inception (Christopher Nolan, 2010) ends abruptly on the image of a spinning top. This looping toy suggests an alternative duration to cinema's forward momentum, suspended between time passing and time returning. This inconclusive final scene spins viewers back into the film space they have just occupied in order to reassess its 'reality'.



Psycho (Hitchcock, 1960)



Inception (Christopher Nolan, 2010)

The figures in an early example of my digital work "*I wish there could be an invention that bottled up the memory like perfume*" are frozen on an individual frame, forcing the trajectory of the back-projected scenery to endlessly orbit them. This loop, caught between the 'point' of a still frame and the linearity of cinematic progression, takes on perceptual qualities from both. A new hybrid space forms, containing photographic, filmic and digital qualities, narrative dissolves away as document and fantasy skirt each other, shifting contemplation towards cinema's temporal and spatial tensions.



"I wish there could be an invention that bottled up the memory like perfume" (2004)

Chris Marker's *La Jette* (1962), made entirely of still images, famously comes to life for a second as a sleeping woman opens her eyes. Vivian Sobchak discusses how this moment disrupts the relationship between the distanced, contemplative role of photography and the 'lived' momentum of cinematic motion: "The space between the camera's (and the spectator's) gaze becomes suddenly habitable, informed with a lived temporality rather than an eternal timelessness"⁵⁰ The boundary separating the viewer from a frozen recording of the past dissolves away to create a brief communion: between the film characters, as well as between the film and viewer who share the interconnected space between stillness and motion.

A similar merger occurs when frozen images of the film's 'hero' are accompanied by his pounding heartbeat, an alternative sense of duration that partially dissolves the image surface. The moment the woman's eyes open implies a folding of the past into the present, while the man's heartbeat and covered eyes pull the viewer below the surface and into his subconscious as he starts to travel through time. Both examples work with the unique tension between still and moving imagery found in film: the fluttering eyes and heartbeat indicate the rhythm of the filmstrip underlying the apparently still images.

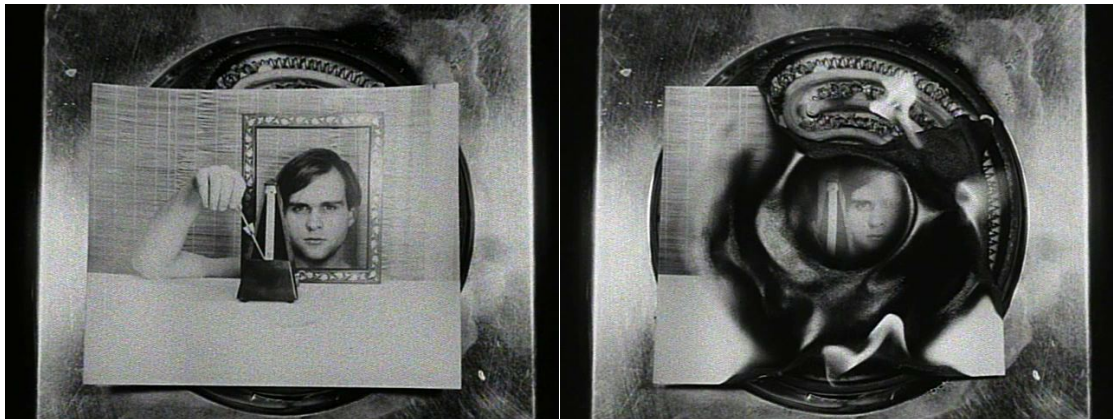


⁵⁰ Vivian Sobchak, *Carnal Thoughts: Embodiment and Moving Image Culture* (University of California Press, Berkeley, 2004), pg. 146,



La Jette (Chris Marker, 1962)

In Hollis Frampton's *Nostalgia* past, present and future are confused by the combination of photographic prints, an electrical hob, filmic motion and a desynchronised narrative. In this film Frampton's earlier photographic work is burned while a narrator discusses the memories the photographs evoke. The burning process appears to release these memories, yet it becomes apparent that these stories relate not to the print that is currently burning, but to the following photograph. This desynchronised relationship requires the viewer to focus on the moment while also recalling what went before and contemplating what is still to come.



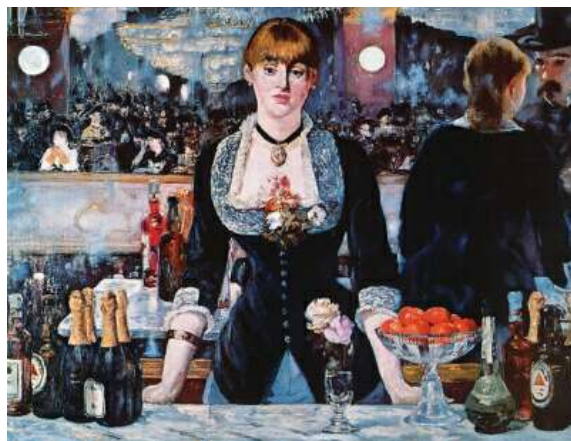
Nostalgia (Hollis Frampton, 1971)

Contextual Review - Film Space

Work created during this PhD explores 20th Century film recordings, but refracted through 21st Century technology. The intention is not to suggest a take-over of the obsolete by the cutting-edge; rather it is the search for a space of communication between media and recordings from different eras. Cinema is a hybrid of technologies, tacked onto its main body at different stages over the last one hundred years, the introduction of digital technology being the most recent and dramatic example. Old recordings are reframed by new media, with the fragmented spaces and disjointed boundaries between them creating a fresh dialogue between recorded past and viewed present. This section provides examples of spatial representations and how they work in conjunction with media from different eras to create alternate ways of contemplating space.



The Arnolfini Portrait (Jan Van Eyck, 1434)



A Bar at the Folies-Bergère (Manet, 1882)

There is a long history of alternate visions sharing the same ill-fitting frame, Van Eyck's *Arnolfini Portrait* (1434) references the lens technology used to create

his paintings by incorporating a convex mirror that reflects an all-encompassing, distorted depiction of the portrayed couple and the room they occupy. Painted and lens-based worlds contemplate each other from within their own frames, with the couple caught in the space between that as Chrissie Iles points out is a form of perceptual limbo:

“The two tiny figures in the mirror create another vanishing point, making it impossible for the spectator to find a single, fixed position in the viewing space”⁵¹

In Manet’s *A Bar at the Folies-Bergère* (1882) the representational space of painting is again reflected by a mirror, this time creating a modern space of fragmented surfaces and depths, echoing the recent introduction of photography. The mirror seems to refract painting’s traditional perspective, revealing a world existing beyond the frame. On closer inspection the boundaries of the mirror are visible within the painting, and the barmaid appears to be trapped in the space between the frame, mirror and painting. Painted and photographic spaces seem to push and pull each other’s representational limits, creating a hybrid zone filled with old traumas and new possibilities.



Art Institute of Chicago II (Thomas Struth, 1990)

This hybrid space is clearly defined in Thomas Struth’s photograph *Art Institute of Chicago II* (1990). The use of focal planes and a cropped composition in Caillebot’s painting are clearly influenced by photography’s modern viewpoint, while Struth’s carefully composed photograph has distinct painterly qualities. By

taking a step back, the disjointed relationship between the frames of the painting and photograph create a space of separation and connection between two alternative forms of representation. This zone is shared by both the photographic instant and the time required to create a painting, along with ordered structure/random action, surface/depth, past/present.

Another example of this divided yet unified space occurs in a 'dream' sequence from *Inception* (Nolan, 2010) when a character conjures up two facing mirrors, trapping the actors in an infinitely reflected regression. Despite its recent production date this scene was shot on film – so as the mirrors swing around to face each other the camera (and crew) should be caught between their reflecting surfaces, yet it is absent, having been digitally removed in post-production. Vision floats apparition like in this space, creating a physical disconnection that questions the location and direction of film itself.



Inception (Christopher Nolan, 2010)

Film literally holds a mirror to itself, only to discover that in the digital age its apparatus takes on a phantom quality. By implication the viewer (who shares the camera's viewpoint) is also pulled into, yet removed from, the reflected *mise en abyme* they observe from a disembodied distance beyond the film frame. Film, the pre-eminent *medium* of its age, has become an alternative means of recording and storing footage, which can now be infinitely altered in the digital realm.

Like Manet's painting the mirror's edge is visible within the frame, suggesting a dislocated or distorted space shared by 19th Century architecture, 20th Century film and 21st Century digital media. This hybrid zone merges modernism's

⁵¹ Chrissie Iles, *Between the Still and Moving image, chpt in Into the Light*, (Whitney Museum of American

linear, fragmented progress with the 'warped space' of a digital age still reliant on the spatial structures of its forebears. The digital shift creates a 'nested' structure, allowing multiple spatial and temporal layers to be embedded within a single screen. Being able to look 'through' layers of representation, combined with the sense of physical remove from the representational space, alters the screen's role as a site of assurance and grounding for the audience. As Antony Vidler states: "Between contemporary virtual space and modernist space there lies an aporia formed by the auto-generative nature of the computer program, and its real blindness to the viewer's presence. In this sense, the screen is not a picture, and certainly not a surrogate window, but rather an ambiguous and unfixed location for a subject."⁵²



Molly Parker (Mark Lewis, 2006)

Artist Mark Lewis's film *Molly Parker* has qualities that imply a 21st Century equivalent to *A Bar at the Folies-Bergère*, combining the obsolete analogue media of rear-projections with digitally controlled camera actions to highlight the disjointed spaces caught within modern cinema. Rear projections were popular early 20th Century methods of inserting actors into imaginary environments, yet the obvious separation of foreground figures and backdrops led to this technique being abandoned. Some directors (particularly Hitchcock) did continue using this method, exploiting the uncanny quality of this divide. Laura Mulvey explores these fragmented cinematic spaces revealed through obsolete special effects: "This paradoxical, impossible space, detached from either an

Art, 2001), pg.39.

⁵² Anthony Vidler, *Warped Space: Art, Anxiety and Modern Culture*, (The MIT Press Cambridge, Massachusetts, 2000), pg.20.

approximation to reality or the verisimilitude of fiction, allows the audience to see the dream space of the cinema.”⁵³

In Lewis’s film the spatial and temporal relationship between backdrop, figure and viewer is twisted and distorted: The rear-projection shows a landscape transitioning between summer and winter views, meanwhile a ‘dolly zoom’⁵⁴ disrupts the spatial relationship of different points in the landscape. An actress in a studio (Molly Parker) stands in front of this rear-projection while a camera creates a second dolly zoom on her in relation to the shifting landscape. Sandwiched between two visual planes, she is also caught between shifting seasons and the distorted spaces created by lens alterations. Film space loses its grounding in this work, and by implication so do the subject and viewer - Anthony Vidler states “*Space...has been increasingly defined as a product of subjective projection and introjection, as opposed to a stable container of objects and bodies*”⁵⁵

⁵³ Laura Mulvey, Clumsy Sublime (*Film Quarterly* Vol. 60, No. 3, Spring 2007)

⁵⁴ First used in *Vertigo*, but probably most famously in *Jaws*. A camera placed on tracks is physically moved towards the subject while the cameraman zooms the lens out, the foreground subject remains the same scale while the landscape opens out around them.

⁵⁵ Anthony Vidler, *Warped Space: Art, Anxiety and Modern Culture*, (The MIT Press Cambridge, Massachusetts, 2000), pg.13.



Distorted psychological spaces in *Vertigo* (Hitchcock, 1958)

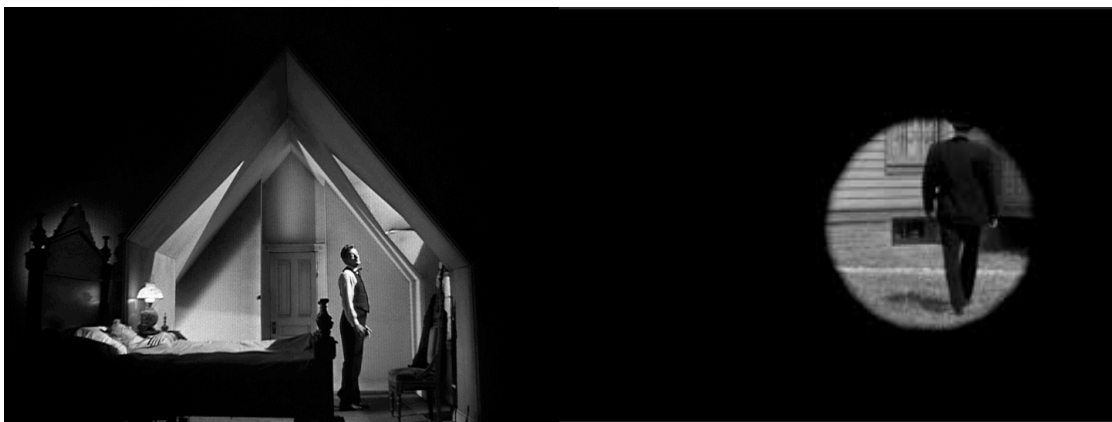
Hitchcock used this spatial distortion in *Vertigo* to symbolise Scottie's (James Stewart) perceptual disorder. *Vertigo* is filled with twisted and traumatic spaces that push and pull Scottie in all directions, forcing him to confront his demons, while indicating his loosening grip on reality. Discussing the sense of being lost Vivian Sobchack states "... one is orientationally imperiled not so much on the horizontal plane as on the vertical... that collapses and conflates past and future in and with what becomes a vertiginous and all-consuming present."⁵⁶ Scottie is similarly lost; near the film's end he kisses 'Madeline', and a rear-projection coils around them, transporting Scottie back to an earlier scene, an action that reveals his addictive, melancholy relationship with the past. Film folds back on itself in a manner that goes against its physical structure, returning to a place and time altered by future events, along with the memories of the film characters and viewers.

Space becomes a projection of the subject, and in this context film reveals what

⁵⁶ Vivian Sobchak, *Carnal Thoughts: Embodiment and Moving Image Culture* (University of California Press, Berkeley, 2004), pg.25.

J.P Tellote refers to in terms of “Space as something that was no longer objective, firm, and easily measurable, but phantom, constantly mutating... warped.”⁵⁷. This scene from *Vertigo* is heavily vignetted, with dark shadows revealing that this is an ill-fitting, insubstantial world, floating within a frame that no longer grounds it; blurring the edges between reality and illusion, as well as film space and viewer. This feathered effect creates what Gilberto Perez sees when discussing a scene for *Nosferatu* (Murnau, 1922) as “...an image composed mainly out of empty space...extending forward past the picture plane to include the space between us and the picture, to implicate the space where we stand.”⁵⁸

The film frame can also contract into the screen: a scene from *Night of the Hunter* (Charles Laughton, 1955) shows an architectural cross-section of the room in which Willa (Shelley Winters) is about to be murdered by Harry (Robert Mitchum). This regression of the image into the frame creates a black void that cuts both characters off from the outside world. Willa is beyond help, swallowed by the darkness that follows Harry throughout the film.



Night of the Hunter (Charles Laughton, 1955)

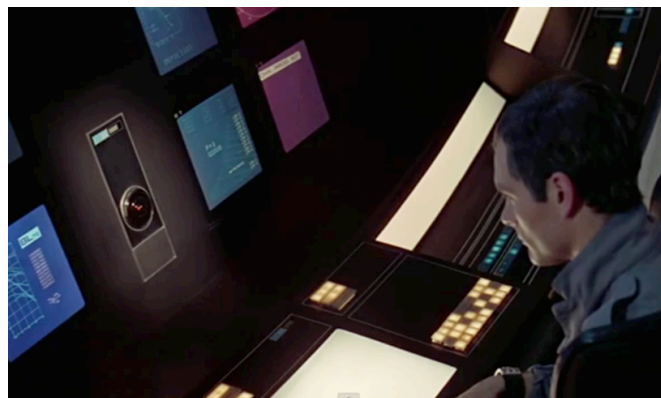
Laughton’s technique as a director was to prevent the viewer from complacently slipping into a film’s naturalizing effect. Visual effects from early silent films were a primary influence for him, such as using the camera iris to ‘spotlight’ a detail within the film space (see above). The gaps he produced between film frame and screen simultaneously reveals the separation of film and audience while

⁵⁷ J.P Tellote, *Animating Space* (The University Press of Kentucky, Lexington, 2010), pg.83.

⁵⁸ Gilberto Perez, *Material Ghost*, (The John Hopkins University Press, Baltimore, 1998), pg.141.

also dissolving that divide. The viewer shares the 'empty space' that merges with the darkness of the cinema auditorium.

In *2001: A Space Odyssey* (Kubrick 1968), a similar sense of disjointed vision is created by two viewpoints sharing an ill-fitting space separated by a black void. The spherically distorted point-of-view of the on-board computer (HAL) seems, like the mirror in Van Eyke's painting, both all seeing yet isolated within the film's rectangular format. The gulf between film space and computer space opens a gap containing both HAL's analytical perception of information, and the viewer's fear of the 'other', the unknown.⁵⁹



Hal and Dr Bowman communicate - *2001: A Space Odyssey* (Kubrick, 1968)

Audio can also convey complex spatial and temporal relationships between film and memory. During a scene from *The Power and the Glory* (Howard, 1933) a man talks into a phone while the film darkens in a diagonal swipe across the screen. The image does not change, but in conjunction with the shadowy swipe the audio shifts from a phone conversation in the present-tense to a narrated

⁵⁹ This relationship between digital and analogue viewpoints is discussed in relation to *Westworld* (Crichton, 1973) in the *Space* chapter.

voiceover of the character remembering the scene years later. A recorded space is simultaneously occupied by the past, present and future, shifting from an occurrence to a memory.



Power and the Glory (William K Howard, 1933)

By deliberately splitting projected imagery in two distinct halves Stan Douglas explores the intersection between film/space and memory/history in his film installation *Der Sandmann* (1995). This studio-based work shows a panoramic sweep of an East German garden (an obvious film-set) from the 1960s and the same land as a construction site 20 years later. The film is projected as a split-screen, with a vertical break in the middle separating the two recorded times. A looping action connects the imagery, yet also separates it as the future erases the past; then the direction switches and the future is fed into the past. This central divide is anathema to cinema, clearly revealing film's disjointed aspects to create the impression of a void both swallowing and revealing space and time.

Defining filmic disjuncture in this way, Douglas references 19th Century devices (such as the stereoscope) that created illusory three-dimensional spaces, but unlike cinema, also openly displayed their fragmented mechanisms. Watching digital transfers, viewers can now reveal the structural mechanisms of film, along with the 'breaks' used to combine foreground figures and illusory backdrops.



Der Sandmann (Stan Douglas, 1995)

Deleuze's statement: "The past co-exists with the present that it has been...at each moment time splits itself into present and past, present that passes and past which is preserved".⁶⁰ In cinema this tug of war between holding onto and letting go of the past is partially the result of film's very structure, a medium composed of fixed documents that are constantly revealed and removed to create the illusion of a narrative present.

In a section of his book *The Remembered Film*, Victor Burgin discusses how cinema's relationship between holding on and letting go also alters human memory. He describes how a series of interviews by sociologists at the University of Provence revealed the prevalence of subconsciously mixing together film scenes and personal memories, especially during traumatic periods (in this case interviewees merged childhood memories of war with war films) "The woman's speech, however, shifts between the first and the third person in such a way that it is unclear whether she is speaking of herself or of the character in the film."⁶¹

Pierre Huyghe's two-channel video *The Third Memory* (2000) uses the gap between two screens to examine this relationship between mediated and 'lived' memory. One screen shows the bank heist sequence from *Dog Day Afternoon* (Lumet, 1975) while adjacent to this a re-enactment of the heist is projected (filmed by Huyghe) as told by the bank-robber on whom the film is based. These interpretations shift back and forth, it becomes clear the robber's memory

⁶⁰ Gilles Deleuze, *Cinema 2* (University of Minnesota Press, Minneapolis, 1989), pg.82.

⁶¹ Victor Burgin, *The Remembered Film* (Reaktion Books, London, 2004), pg.68.

are influenced by the film as much as the event. Memory is trapped and distorted in the interstice between these frames.



The Third Memory (Pierre Huyghe, 2000)

Contextual Review - Screen

“...we are phenomenologically screened from this world—we are present to a world from which we are absent”⁶²

“...what we watch moving on the screen is the world's ghost.”⁶³

These two viewpoints suggest that the cinema screen acts as a threshold between two worlds, a sight of interaction between object and image, where the dematerialised shadows of the filmstrip take form. The screen is caught between being a physical barrier that blocks light and a virtual window that opens up onto film worlds. Cinema disguises the separation of the film world and viewing space by projecting a single light-source onto a fixed screen while viewers are made to sit motionless in the dark, all attention focused on the frame. Anne Friedberg states: “As a key component of the 'basic cinematic apparatus' - consisting of the film, the film projector, the screen, and the spectator in a fixed relation- the film *screen* was cast as a conflatory substitute for the film frame...”⁶⁴

Despite all the edits, scene changes and shifts in perspective contained within

⁶² D.N Rodowick *The Virtual Life of Film*, (Harvard University Press, Cambridge, Massachusetts, 2007), pg.54.

⁶³ Gilberto Perez, *Material Ghost* (The John Hopkins University Press, Baltimore, 1998), pg.148.

films, the unchanging position between projector and screen anchors and contains film's fragmented motion in the viewer's perception. By digitally distorting analogue recordings and physically warping the screen my work reveals the disjointed boundaries between the film world, screen, and viewing space highlighted by the shift from celluloid to digital film.

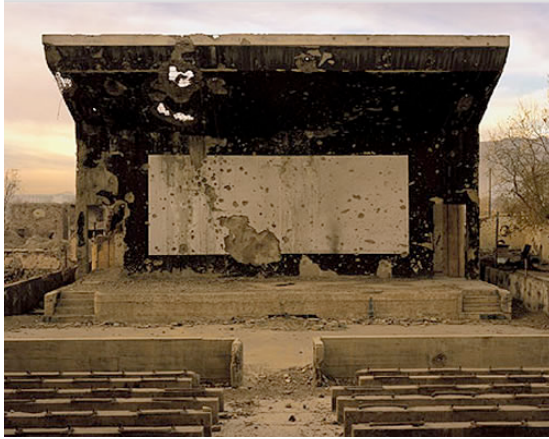
The cinema screen has always been a site of dematerialisation for film's projected shadows. Halting scenes on a single frame separates film and viewing spaces. The screen's surface freezes, becoming a physical divide and object rather than a portal between worlds. By combining still and looping motion within a single frame I explore the perceptual transformations that occur as the screen shifts between window and physical surface.

"...images become projectiles that tear a hole in the screen through which passes tremendous power from another zone...The screen, porous yet in the grip of the frame, is the unstable meeting place on which are projected fragments of unlimited worlds from both directions."⁶⁵ Andrew Dudley expresses a sense of the screen as interface between chaotic and ordered states. It contains and unifies thousands of fragmented images and shifting locations flitting across its surface, and asks the viewer to do the same.

Simon Norfolk and Hiroshi Sugimoto have both produced photographs hinting at unstable forces acting on both sides of the screen. Norfolk's image of a war-torn open-air cinema in Afghanistan shows a screen bearing the scars of off-screen action, while Sugimoto's *Theatre* series shows the built up energy of an entire film caught in a single photographic exposure, apparently on the verge of bursting out into the auditorium.

⁶⁴ Anne Friedberg, *The Virtual Window* (The MIT Press, Cambridge, Mass, 2009), pg.85.

⁶⁵ Andrew Dudley, *What Cinema Is!* (Blackwell Publishing, 2010), pg.91.



"Afghanistan: Chronotopia" (Simon Norfolk)

Theatre Series (Sugimoto)

The influence and effect of screens on passive viewers takes on a literal meaning in Bogdanovich's *Targets*, in which a rogue gunman, hiding in the gap behind a screen, cuts a hole through its surface and starts shooting the audience. They are literally killed by the brightly lit screen as projectiles are fired through its surface from a shadowy underworld hidden from their view.



Targets (Bogdanovich, 1968)

The lead character in *Orphee* (Jean Cocteau, 1950) enters a similar 'dead-zone' as he passes through a mirror into the underworld. Yet there is a sense of separation, created by a rear projection that contains him within a different

space and time to the figures inhabiting this netherworld.



Orpheus passing through to the Underworld

In a sequence from *Sherlock Jr.* (Keaton, 1924) Buster Keaton's dream self separates from his sleeping body. This split is mirrored by the film frame, which also gives the impression of separating and stepping back from itself, firstly by showing the divided Keaton through the ill-fitting frame of the projectionist's window, and again as he passes through the cinema screen into the film. Here he struggles to survive within a fractured world, at the whim of an editor who randomly transports him to various hazardous locations. This shift from passive consumption to active awareness of film's chaotic structure is revealed by the gap between the cinema screen and the film frame containing the audience. Within this wider frame the sequence is one long take; all the edits taking place within the internal screen. Keaton inhabits both these spaces and his constant presence disrupts the normally fixed boundary between film and viewing space. It is only when Keaton leaves the screen and the camera zooms in to remove the gap that the editing process can start again.





Sherlock Jr (Buster Keaton, 1924)

These examples all suggest a step back from the cinema screen, allowing it to be viewed from different perspectives and within a wider context. Revealing the spaces beyond or behind the screen alters its illusion as a window. A unified boundary between film and viewing space creates a unified viewing subject. In these examples the disjointed overlapping or layering of the screen links to the body and its own overlapping senses (when Keaton's dream body is pushed out of the film frame his sleeping body jumps)⁶⁶.

Lev Manovich refers to the 20th Century cinema screen as a "viewing regime"⁶⁷ where images must exactly correspond to the frame's edges; any overlap or internal gap makes the viewer aware of the illusory 'window'. The shift to alternate viewing methods, such as channel surfing or Internet sites, threatens this 'regime'. In Tony Oursler's *Eyes* (1996) series, images are projected onto suspended orbs, the traditional rectangular screen appears to have been removed, but has actually regressed into the floating eyeball, the reflection of a tiny monitor can be seen displaying randomly changing footage as channels are 'zapped' through. Rather than the viewer entering into the screen (as Keaton does in *Sherlock Jr*) the screen contracts into the viewer.

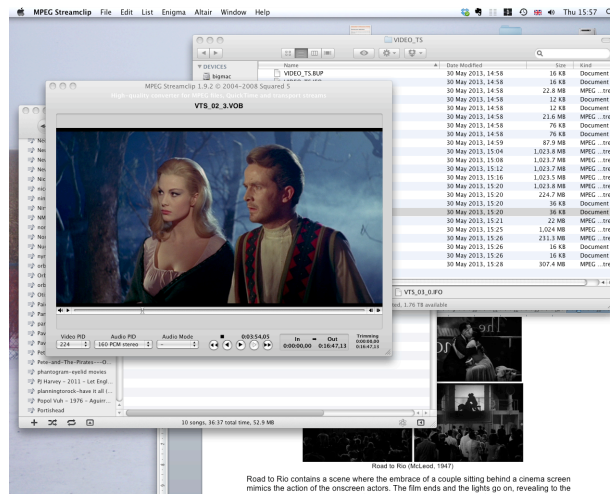
⁶⁶ Lesley Stern discusses this effect in her article *I Think, Sebastian, Therefore...I Somersault*, in *Film and the Uncanny* (Paradoxa 3-4 (1997), pg.350.

⁶⁷ Lev Manovich, *The Language of New Media* (The MIT Press, Cambridge, Massachusetts, 2001), pg.100.



Eyes (Tony Oursler, 1996)

Computer monitors disrupt the careful alignment of film-space and screen, as Anne Friedberg states “Perspective may have met its end on the computer desktop”⁶⁸. Multiple ‘windows’ can be opened at the same time, with a film being one of many frames within a single computer desktop. This demotion of the film-world alters its relation with the viewer, who is no longer pulled into the film space. Film’s temporal structure is transformed by this change; the present tense of its narrative can be halted to reveal the past of the still documents from which it is constructed. Yet that frozen image of the past can also be shifted around a screen within the present moment of the viewer’s actions.



Multiple windows on a computer screen

Mike Figgis’ film *Timecode* (2000) divides the film frame into four sections, creating a visual dynamic similar to a surveillance monitor. Each section is shot in one take with no edits, and the location in each is roughly the same, leading to overlapping scenes being filmed from different viewpoints. The internal

⁶⁸ *The Virtual Window*, Ann Friedberg (The MIT Press, Cambridge, Massachusetts, 2006), pg.2.

divides within the main frame create a layered and fractured sense of space that take on the role of cinematic edits. This incorporation of frames within frames openly reveals boundaries that normally coincide with the frame's edge.



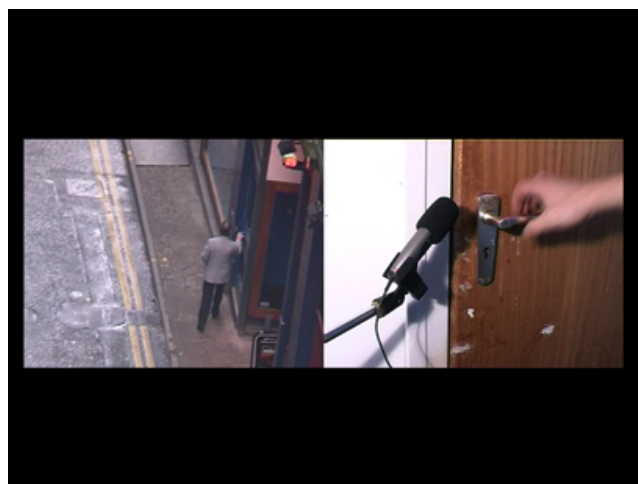
Timecode (Mike Figgis, 2000)

20th Century cinema also found ways to incorporate the fractured space of split-screens into film narratives. The 'rom-com' *Pillow Talk* (1959) uses them to produce a sense of intimate distance: Two film sets are carefully designed to mirror each other, creating the effect that Doris Day and Rock Hudson are sharing the same bath or bed. As in *Timecode*, what bridges the gap between these divided spaces is the disembodied telephone voices of characters inhabiting a space within and between both screens. The mobile phones in *Timecode*, along with the tiny digital cameras used, create a fluid sense of connection and division, while in *Pillow Talk* the sets and characters are fixed in place, creating the impression of a unified yet static space.



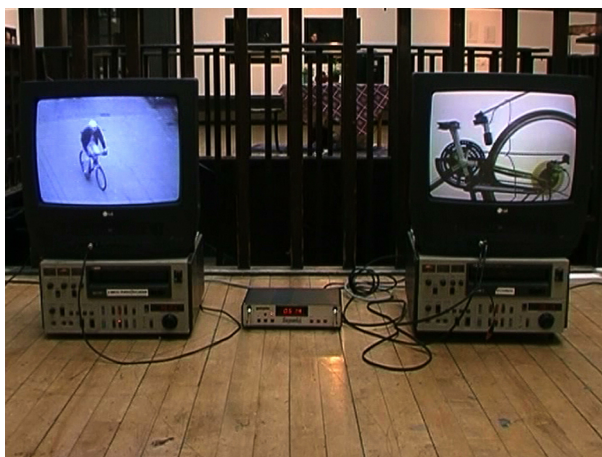
Pillow Talk (Michael Gordon, 1959)

Street/Studio (2000), my earliest example of video installation, also used sound to create a perceptual bridge between screens. One monitor displayed silent CCTV style footage following random pedestrians, while the other showed a foley⁶⁹ artist in a studio, creating sound effects matching the action in these scenes. If a viewer focused attention on the street video, the sound effects would 'jump' the divide between monitors, synchronising with the actions of the pedestrians. Yet viewers were always conscious of both screens, and their attention occupies a space somewhere between the two. The microphone, normally hidden off-screen, yet openly on view in the studio video, somehow connects the two frames, its onscreen presence giving the sound both a physical and illusory quality.



Street/Studio – Split-Screen (2000)

⁶⁹ A person who creates sound effects for film, television and radio



Street/Studio – Installation (2000)

When first exhibited, this work incorporated two synchronised yet physically separated monitors, but when exhibited at a later date as a split-screen enclosed within the frame of a single monitor this version simply did not work. It was clear that the physical space between monitors was a crucial aspect of the installation. When watching the split-screen version, the two frames already seemed to be edited together by the wider screen; the connections between them were fixed in place.⁷⁰ Alternatively the two separate screens, though equally synchronised, maintained their independence and therefore the interaction between them seemed far more intricate and unexpected.

The film installation *Two Sides to Every Story* (Michael Snow, 1969) also divides and reconnects the screen. Rather than an internal or adjacent fragmentation, here the screen simultaneously folds together and separates a filmed representation of space and time. Footage shot in the gallery is projected onto both sides of a suspended aluminium screen. The projectors are positioned at the same viewpoint as the film camera's that recorded a woman from opposite angles as she carried out random acts. The relationship between the screen and gallery creates a zone of dislocation, appearing to display a unified representation of the space, yet requiring the viewer to circle the screen in order to see everything. It is this attempt to see both sides that splits the work and turns the screen into both physical object and illusory window.

⁷⁰ I have used split-screens for other works, such as *That's all*, but the uncanny quality of that work was actually enhanced by combining the scenes within a single frame.



Two Sides to Every Story (Michael Snow, 1974)

An early work of mine “*We’re going for a trip across the water*” (2006) uses this exhibiting technique: Onto either side of a suspended screen are projected scenes from the silent film *Sunrise* (F.W Murnau, 1927) showing opposing views of a couple rowing a boat in circles around a lake; these short fragments have been reanimated into an endless loop. Unlike *Two Sides to Every Story* this work has a clear temporal and spatial gulf between the film world and gallery space, though the installation’s layout partially connects them; to take in the whole work viewers must circle the hanging screen, mirroring the trajectory of the suspended boat.

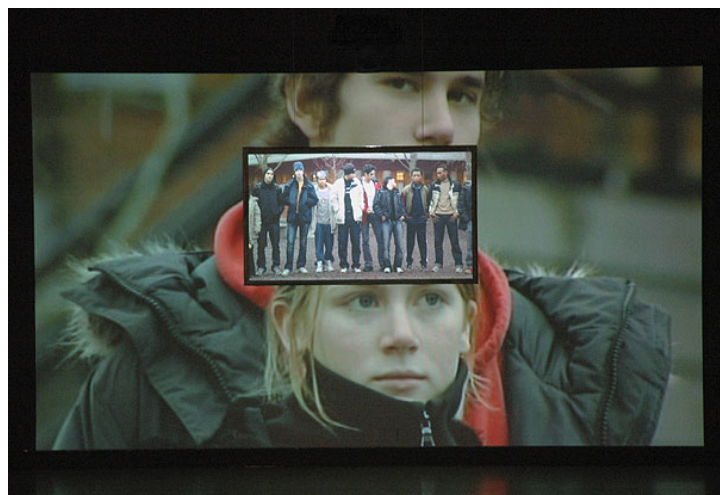


“We’re going for a trip across the water” (2006)

In Snow’s work the shift between screens reveals the camera’s opposing points of view, but in my installation all vision seems to be at a slight remove. The cameras show neither the man’s nor the woman’s angle of vision, their point of view floats at a slight remove just beyond the boat/screen. The couple, despite their close proximity, avert their gaze, a displaced or deferred vision that mirrors the absence of the cameras that should be visible in each other’s frame.

The viewer is held at a close distance by the revealing/blocking screen that simultaneously grants and denies access to its opposing viewpoints, an action similar to the couple's/camera's displaced viewpoints. The screen floats in limbo between physical and illusory existence, mirroring the fate of the couple, trapped between a recorded past and viewed present. Likewise, the digitally transferred film becomes as illusory and removed as the imagery it once contained, floating in the same limbo space between presence and absence as the long-dead actors.

It is the screen within the gallery space that separates and combines all these qualities, as Markos Hadjioannou states "...the space set up between the screen and viewer becomes an arena of poetic stimulation, where meaning is generated from the involvement of the spectator."⁷¹ Fiona Tan utilises this space in her installation *Tomorrow*, a shot showing a group of confident looking teenagers is projected onto a small suspended screen, while behind this a giant rear-projection screen shows pensive close-ups of individuals within the group. The shift in scale, and the focused cropping which removes the group cohesion creates a psychological gap between the screens. This is further heightened by the shift from front projection in the smaller screen to rear-projection in the larger screen; here the individual's apprehensive expressions appear to emerge from within the image.



Tomorrow (Fiona Tan, 2005)

Early in my PhD research I experimented with combining the split-screen format

⁷¹ Markos Hadjioannou, *From Light to Byte*, (The University of Minnesota Press, Minneapolis, 2013), pg.103.

with two-sided projections. In these works the screen's physical folds mirrored the fragmentation and recombining of space and time within a single frame. Multiple soundtracks were also used to fold together the different visual elements.

Crash (2010) was an early attempt to combine stillness and motion. A sheet of steel was spray-painted white on one side and allowed to rust on its untreated reverse; folding the screen back on itself revealed this surface. A looped high-speed car chase⁷² (filmed horizontally from the passenger window) was projected onto the painted surface, while the rusted section showed a still image from the resulting crash⁷³. Stereo speakers were positioned at either end of the screen; the left hand speaker played the car chase sound effects, while the other emitted the drone of a car horn⁷⁴ that the driver's head was stuck against. These opposing sounds created an audio equivalent to the visual fold between motion and stillness.



Crash (2010) – screen and projection

In *Jacob's Ladder*, another work from this period, I looped a scene of David Niven running down an endless staircase connecting heaven and earth.⁷⁵ In this installation a screen was placed in the gallery as if it had fallen from the wall. The running figure was caught in the triangular intersection between projection and screen, apparently trapped between the image, screen and gallery space.

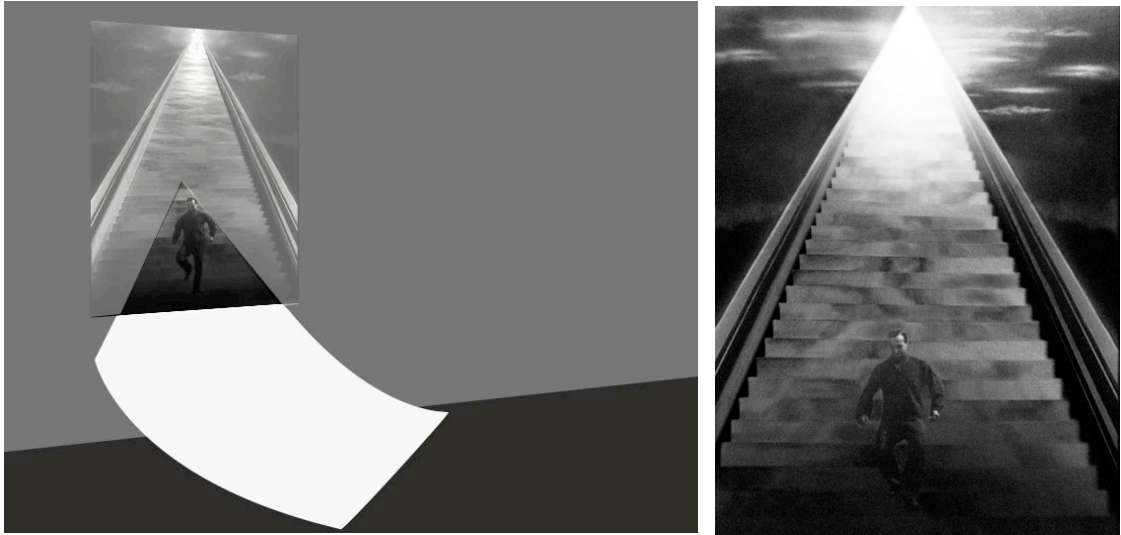
⁷² *Amorres Peros* (Alejandro Gonzalez Inarritu, 2000)

⁷³ *Marathon Man* (John Schlesinger, 1976)

⁷⁴ This is a rare example of a sound that denotes a form of stasis

⁷⁵ Created from a scene in *A Matter of Life and Death* (Pressburger & Powell, 1948). This same clip was used more successfully in a later work - *Intermission I* (2011)

Both of these installations were cumbersome, having to be carefully balanced against walls - ultimately, they just did not work. Aspects from these unsuccessful works, including their triangular, folded forms and the shadows they created, were carried forward into later work (discussed within the *Screen* Chapter, pg143).



Jacob's Ladder (2012)

The figure in *Jacob's Ladder* and the distorted screen resembles *Running Time*, a pre-PhD work in which viewers sat within a curved screen while a figure ran in circles around them. This installation references 19th and 20th Century screens, such as Panoramas and Cineramas⁷⁶, that utilised curves to enfold viewers within their visual fields.

Though important, this screen's structure was just something imagery was projected onto. During my practice-led research I created screens with a more integral, sculptural quality within the gallery setting.

⁷⁶ A 1950's widescreen format involving three synchronised projections beamed onto a single curved screen



Running Time: Installation Shot – Hannah McClure Gallery (2008)

Contextual Review - Gallery

Throughout this thesis I discuss the disjointed relationship between media from different eras, and between the projected frame and screen. Focusing on this gap or space between alternative representations reveals a site of interaction and contemplation, where differences and similarities can be compared. When working with installation the gallery itself takes on this role, becoming the larger frame containing the screen. This section includes examples of the first wave of film art to be exhibited in galleries during the 1960s and 1970s, and compares this exhibiting 'frame' with more current installations.

“The cinema becomes a cocoon, inside which a crowd of relaxed, idle bodies is fixed, hypnotized by simulations of reality projected onto a single screen. This model is broken down by the folding of the dark space of cinema into the white cube of the gallery”⁷⁷ In this statement Chrissie Iles envisions a zone between the hypnotic influence of commercial cinema’s darkened spaces and the critical awareness of the brightly lit gallery. Within this hybrid zone artists exhibit films devoid of all illusory spectacle, enlightening viewers about cinema’s underlying institutional mechanisms. Yet by using industrial media and framing it within a gallery’s institutional setting, it could be argued that this work replaced one form of underlying coercion with another.

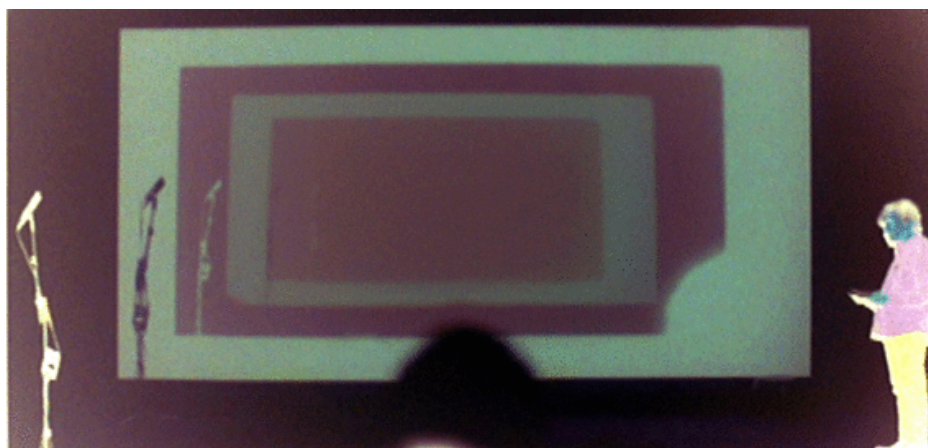
The idea that cinema viewers are docile consumers suggests they arrive without any memories, opinions or bodily sensations; conversely this also

⁷⁷ Chrissie Iles, *Into the Light* (Whitney Museum of American Art, New York (2001), pg 41

implies that gallery viewers are fully alert and tuned into the artist's motives. I do not believe this divide is so clear, and it could also be argued that digital media blurs things further. 21st Century methods of exploring film differ dramatically from the equipment available in the 1960's and 70's. Today old films can be reassessed in the light of digital technology, not just by filmmakers or artists, but anyone who has access to a computer.

The structuralist filmmakers that interest me are those that did not strictly follow the rules of 'revealing' films underlying form, but instead created spaces either within or beyond the frame's edges, allowing audiences to shift between immersed acceptance of film's illusory spaces and separated awareness of film's structure.

In the film/installation/performance *2' 45"* artist William Raban was filmed giving the same talk every night for six days. On the first night this took place in front of a blank screen; on night two the film of the previous performance was screened, and on its completion Raban stepped up and repeated it. This continued over the remaining days, creating a vertical mise en abyme made up of nested layers of recorded space and time through which silhouetted glimpses of the audience occasionally appear. The recorded sound is not contained like the imagery, seeming to bridge the horizontal gap between the speaker and microphone, as well as echoing up through the vertical void of the alternate days.



2' 45" (William Raban, 1973)

What is most interesting about this work for me is the nested effect, that Noam

M Elcott refers to as a “feedback loop”⁷⁸, he sees this as being more akin to the up-coming medium of analogue video⁷⁹ than to film. Towards its completion the film seems like a tunnel, cutting through different temporalities (an effect enforced by the increasingly degenerated recordings) but it is also a duplication of the same space and actions; the work seems caught between a looped present and a receding past. Film exposes its own structure by revealing its multiple ill-fitting frames, but somehow this revelation is countered by its visual connection to a video trope⁸⁰, suggesting that this is no longer purely film, but what Elcott sees as “a twilight space in which the invisibility of cinema is caught in the real-time of televisual feedback...the sudden visibility of cinema just as cinema ends...”⁸¹



Shadow Projection (Peter Campus, 1968)

This disjointed merger of media brings to mind Peter Campus’ *Shadow Projection* (1968)⁸², though here the viewer’s own corporeal presence is questioned. By appearing to use a standard cinematic set-up between a projector and screen this video installation⁸³ emphasises a new role for the viewer, who is no longer seated invisibly in the darkness beyond the frame,

⁷⁸ Noam M. Elcott, *On Cinematic Invisibility: Expanded Cinema Between Wagner and Television*, chpt in *Expanded Cinema: Art, Performance, Film*, AL Rees (ed), (Tate Publishing, London, 2011), pg.48.

⁷⁹ Dan Graham’s *Opposing Mirrors and Video Monitors on Time Delay*’ (1974) highlights this link.

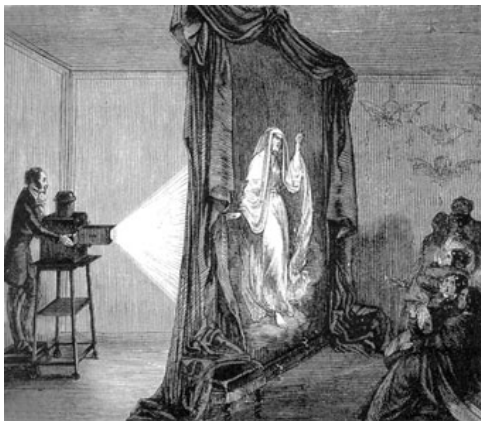
⁸⁰ Viewing a recent performance of this work online accentuates this quality, a new digital layer isolates the film within a new screen and time

⁸¹ Noam M. Elcott, *On Cinematic Invisibility: Expanded Cinema Between Wagner and Television*, chpt in *Expanded Cinema: Art, Performance, Film*, AL Rees (ed), (Tate Publishing, London, 2011), pg.48.

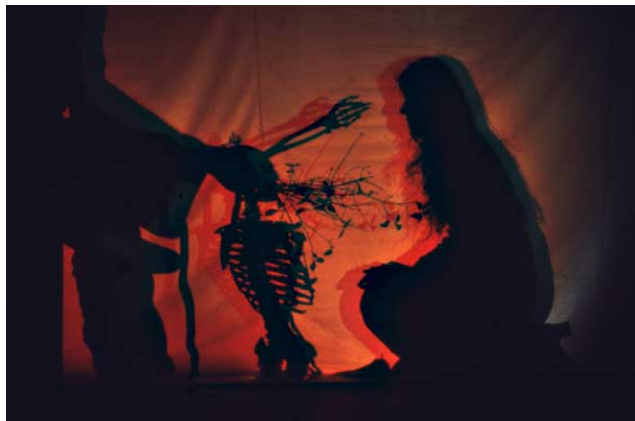
⁸² This work is clearly not from the structuralist film movement, but is a good example of the crossover between film and video at this period.

⁸³ Campus was one of the first artists to utilise video projection

instead they move centre stage. But this set up is an illusion, the projector beam is actually a spotlight, casting the viewer's shadow onto the screen, while a video camera records their image, projecting it with a slight delay onto the screen's reverse. The relationship between viewer, image and silhouette becomes desynchronised, slightly separated by disjointed edges that simultaneously confirm and question the viewer's presence and sense of contained subjectivity. Shadow and image are split in two and then these physical and illusory presences are roughly reunited by being projected onto either side of a semi-opaque screen.



19th Century Phantasmagoria



Horror Film 2 (Malcolm Le Grice, 1972)

Le Grice's *Horror Film 2*, by hinting at the uncanny illusionism of 19th Century Phantasmagoria, seems to go against everything structuralist film stood for, but he saw this performance as having a primacy grounded in the physical world. The shadows were the indication of a body that shared the same performative space as the audience, not in what he described as commercial cinema's 'retrospective reality', with its rigidly laid down rules.

"Light needs its shadows to make an image; projected images need their darkness to be seen." Tom Gunning⁸⁴

⁸⁴ Tom Gunning, *Illusions Past and Future: The Phantasmagoria and its Specters*, (chpt), *The Cinema, a New Technology for the 20th Century*, (Payot, Paris, 2004), pg.36.



Aperture Sweep (Gill Eatherley, 1973)

In *Aperture Sweep* Gill Eatherley worked alongside her own filmed silhouette to 'clean' a screen. As the performance continued the screens grew lighter and lighter, enhancing the silhouettes that seemed to break free from their physical source, stretching and distorting in ways that suggest their shift away from the physical plane. This created an unsettling divide between the body as subjective presence and as illusory image.

This performance is evocative of a scene transition in *Letter From an Unknown Woman* (Ophuls, 1948), which starts with a night-time shot of a girl dreaming about her love, before transitioning into a daytime shot of her beating a carpet. During this fade she can be seen in three forms: her fading out dream-state, her fading in 'real' self, and caught between these, her shadow. This silhouette is a remnant of her shadowy dream state, yet joins in to beat away her reverie. Once this is accomplished the carpet drops to the floor, removing the shadow and allowing the girl to re-join her life.



Letter From an Unknown Woman (Max Ophuls, 1948)

A scene from *Road to Rio* (Norman McLeod, 1947) also contains shadows that act as a medium between different spaces of representation. A couple (Crosby and Lamour) sit behind a cinema screen, embracing in a mimic of the 'onscreen' actors. As the screen image fades the words 'The End' are seen in reverse behind the couple, highlighting the hybrid space both inside and outside the film world the couple occupy. The camera switches to the other side of the screen and the lights go on, revealing to the audience the silhouette of the previously hidden couple. This unusual moment of early Hollywood self-reflexivity shifts from the fixed and controlled elements of cinema viewing, to the more random viewing methods utilised before cinema became fully regulated in the early 1920's.

There are striking similarities between the avant-garde performances and Hollywood scenes discussed here, all of which momentarily evoke a sense of film's phantasmagorical roots. They hint at the complex relationship between film's illusory depths and cinema's physical space, separated by a screen across which shadows flit.



Road to Rio (McLeod, 1947)

Shadows take up a complicated position in cinema; the projected image is itself a shadow, the dematerialisation of film's physical form, but they are shadows of what has already been. With the transfer to digital technology old films are no longer shadows, they are immaterial pixelated projections that have no corporeal form to cast.

The above examples use viewing and performance space to reveal film's complex relationship between form and illusion. Cinema's fixed components: the projector, film frame and screen are shifted, allowing viewers to discover hidden qualities that extend beyond their structural form. I use these aspects within my own work, along with digital animation, to explore analogue film from an alternative perspective that helps to reveal the transfer of these old recordings to a 21st Century format.

Contemporary artists using old film footage tap into collective memories of the past that infiltrate the present in a manner that suggests a return of film's uncanny qualities. Cinema's illusory powers are finding their way into the gallery via new media that reveal film's structural qualities, but as mutable artefacts that can be subtly dissolved in ways that appear to blur the boundaries between gallery space and film world.

My work *Tunnel Vision* (2012) shows a man⁸⁵ caught in a beam of light that casts his distorted shadow onto the curved wall beside him. The man runs in an endless loop, as his shadow, stretching out towards the frame's darkened edges, gets more and more out of synchronicity, until figure and shadow appear to be chasing after or running away from each other. This break is enhanced by the sounds of the runner's desynchronised footsteps, which blur the connection between physical form and ephemeral illusion. This situation is further confused by the relationship between the onscreen imagery and the gallery space. The runner remains confined within the screen's boundaries, but his shadow (by way of digital animation) overflows and escapes the screen's frame, flitting across the gallery walls.



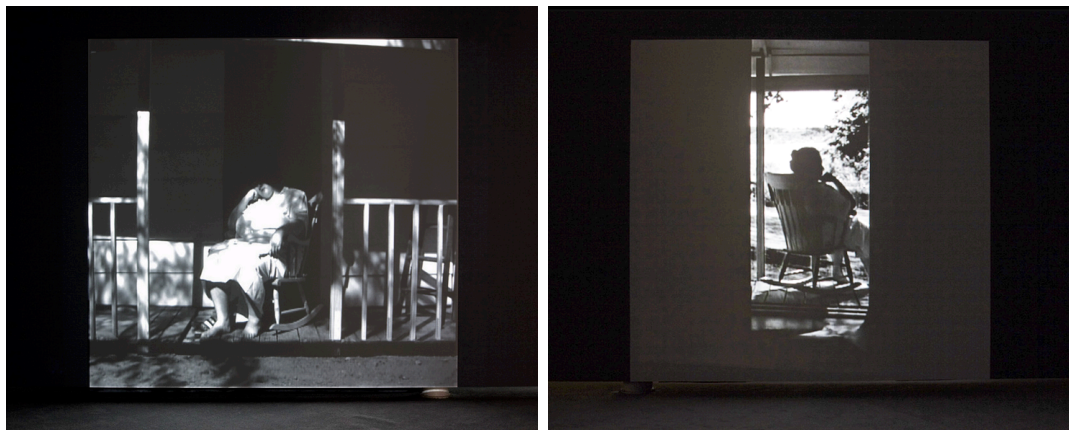
Tunnel (2012)

David Claerbout's two-sided video installation *The Rocking Chair* (2003) intensifies the implied connection between recorded and viewed space. A

⁸⁵ Anthony Perkins in *The Trial* (Orson Welles, 1962)

woman, rocking back and forth on a veranda, is projected onto one side of a screen; walking around to the opposite side the viewer seems to enter the house, seeing an internal and opposing view of the same scene. Crossing this boundary between spaces makes the recorded woman stop and turn her head, as if she feels the viewer's presence.

Marina Warner sees media as merging boundaries between the material and immaterial, between subject and object, believing the modern world of projected images "has the profoundly unsettling consequence of closing the gap between phenomena that do not possess corporeality or substance or mass or gravity and entities that do."⁸⁶ While Claerbout's work suggests a shared space and time between film and viewer, this technique (created by gallery sensors) has an element of trickery that the viewer is aware of. This does not stop the effect from having an uncanny quality though, if anything the space between cinematic illusion and physical 'reality' is increasingly blurred and made strange by new technology.



The Rocking Chair (David Claerbout, 2003)

Paradise Institute (Janet Cardiff and George Bures Miller, 2001) also utilizes the disorientating space or fold between the internal and external, between recorded and viewed space. An audience within a forced perspective model of a cinema watch a film while listening to its soundtrack through headphones. At different points it becomes difficult to distinguish 'onscreen' sounds from auditorium noises. Sound blurs the screen's boundary, but the motives of this act are not to reveal the viewing space beyond the film frame, instead film and cinema space take on each other's qualities. An auditory zone is created where

the very idea of real and illusory space no longer seems to apply. Rather than diminish the clearly defined tropes of cinema: darkened auditoriums, immobile viewer and linear film narratives, *Paradise Institute* exploits these qualities, subtly distorting and subverting them.



The Paradise Institute (Janet Cardiff and George Bures Miller, 2001)

This technique is used in Christian Marclay's *The Clock* (2010) an installation that also follows the conventions of the cinematic layout. But this model is distorted by an element occupying both the film and gallery space - while Cardiff and Miller used sound, for Marclay it is time itself that crosses the divide between recorded past and viewed present. By exhibiting hundreds of film scenes containing clocks showing the same time as that occupied by the gallery viewer, this work creates a simultaneously fragmented and unified temporality. Viewers are still caught up in the industrial mechanisms of modernity, yet it is refracted through a digitally edited and projected montage that implies an alternative duration extending across the boundary between film and gallery space.

⁸⁶ Marina Warner, *Phantasmagoria*, (Oxford University Press, 2006), pg 19



The Clock (Christian Marclay, 2010)

Chapter 1. Film Structure

For over a century viewers internalised and normalised the fragmented rhythms of film's industrial temporality. This process was enforced by rigid standardisation: the filmstrip's kinetic energy was harnessed by a steady mechanical frame rate, and held in place within a fixed screen sharing the projection's format and scale. Audiences were also kept in place within the darkened auditorium; their attention focused on a screen within which the motion of the filmstrip was converted into narrative action.

Digitally transferred films⁸⁷ carry forward celluloid's tried-and-tested format, but in a coded form that alters viewing patterns and requires a reassessment of the ways in which film's structure and mechanical energy influence perception. Through digitisation, films lose the material base that dictated how their content was recorded, edited, stored, transmitted and viewed. The mechanical transportation of projected imagery across a screen has been replaced by a new and diffused form of energy made up of pixels transforming within a single frame. Analogue audio/visual content must adapt to this new immaterial existence that unmoors its once fixed temporal and spatial patterns. Yet this is a two-way process; digital technology must also adapt (in the short-term at least) to the century-old blueprint of celluloid that is carried forward in the coded artefacts of transferred films, as well as the viewer's perceptual expectations and memories.

This chapter focuses on the overlap and interplay created when the audio/visual content of a medium that defined its era is transferred to a newly dominant technology. Particular attention will be made to the effects on the perception of recorded stillness, motion and sound, as well as the wider relationship between film space, screen and viewer. My installation *24 Times* (2012) will be the subject matter for these themes.

Though monitor-based, this work is still a reflection on celluloid film, with its form and content taking on the quality of a filmstrip in motion⁸⁸. Twenty-four

⁸⁷ Analogue films transferred to DVD's or online formats

⁸⁸ For me the circular structure of this installation brings to mind the *Latham Loop* found inside film projectors and cameras, the loosely looped section of filmstrip either side of the shutter that protects against film breakage.

monitors arranged in a circle play the same footage with a digitally synchronised one-frame delay between each adjacent screen. Hundreds of appropriated film-clips showing characters taking photographs are edited together at the moment the camera flash blanks out the screen. This produces the effect of a pulse of light circling the installation, obliterating everything in its path and endlessly clearing the way for new scenes as the clips eat each other's tail.

The audio-visual effect of the flashguns looping through this installation highlights the kinetic energy underlying the conversion of still documents into moving narratives. Viewers within the space are themselves caught up in this shift, as the recorded light of the camera flashes send their shadows spinning across the gallery walls like a primitive form of animation.

This project initially began as research into film frames that occupy a state between photographic and cinematic temporality. My intention was to find examples reflecting film's tense relationship between stillness and motion. The instant a camera flash goes off in a film, just before the entire image is blanked out, perfectly highlights this relationship. These two technologies capture the same scene, momentarily overlapping into each other's representational space. The flash, necessary for the lower sensitivity of photographic stock, briefly obliterates the film world, only to be instantly swallowed up by film's relentless forward motion. Two forms of temporal imagery share an instant in which they simultaneously reveal and destroy each other.



Mr Smith Goes to Washington (Frank Capra, 1939)



Breakfast at Tiffany's (Blake Edwards, 1961)

Caught between these states are the ghostly figures of the photographer's subjects. Illuminated by the camera flash, but hollowed out by the higher sensitivity of cinematic film; they seem to be half formed and half removed within this overlapping zone. As immaterial as their shadows, they appear to be both objects formed of light or subjects blinded by light.

When the photographic camera points at the film lens the two media capture each other, or alternatively the photographer takes an image of the viewer, suturing them into the film space while the flash blanks out their own image. Each member of a cinema audience, wrapped up in a subjective one-to-one relationship with the film, would imagine they had their individual image taken, but the whole auditorium would be lit up as, for a split second, the flash appears to reverse the direction of the projected light to burst back through the screen.



Alphaville (Jean-Luc Godard, 1965)

Film's forward motion is halted and concentrated within these single frames, creating an explosive quality reminiscent of the light in Hiroshi Sugimoto's *Theaters* series in which he captured the length of an entire film within a single,

very long photographic exposure. These images hint at an overload or blindness created by merging photographic and cinematic time. The cinema screens hover between a limitless void and an impenetrable surface that reflects the film's light back in a single concentrated block, illuminating the auditorium's architecture, caught between the film screen and the photographic frame. By stretching out photographic time to encompass filmic time, Sugimoto perfectly encapsulates the underlying tension between the two.



Akron Civic, Ohio. (Hiroshi Sugimoto, 1980)

The film frames I collected struggled to convey this complex relationship. A form of display was required that would contain the animate and inanimate qualities of film, while also capturing the energy passing between them.

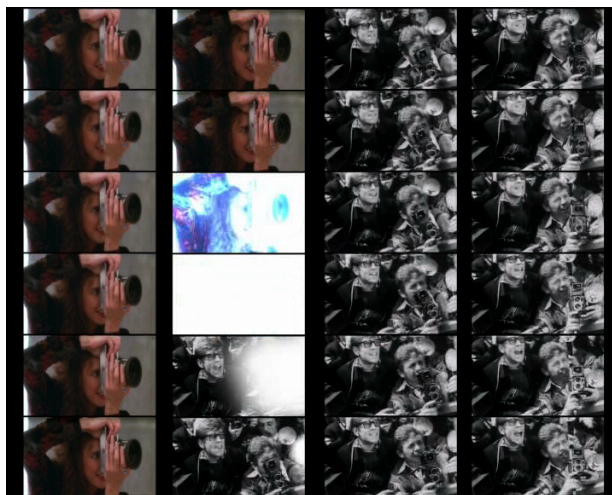
A common technique in cinema is to use a camera flash's visual jolt as an edit, bridging the gap between two scenes, while expressing the disruptive nature of the action.⁸⁹ I decided that editing together flash photography scenes would be a viable next move for this research, but the resulting video was just as disappointing as the individual frames. Working with moving imagery rather than still imagery simply created new problems, this video just seemed like an exercise in editing.

Neither of these attempts properly exploited the unique properties of digital technology. This medium is blind to temporal difference and therefore the perfect tool for exploring the hybrid zone between stillness and motion in film.

⁸⁹ As with all my projects involving film I soon learned that particular directors utilise this motif throughout their film careers. In this case Scorsese is a big fan of flash edits, especially in films that depict violent shifts in tempo and mood such as *Raging Bull* (1980) and *Casino* (1995).

Though they mimic analogue film's linear transportation of the filmstrip through a projector, digitally transferred films instead consist of a grid made up of internally shifting pixels that transform imagery from within a single frame. I decided to use the motif of internal transformation by experimenting with digitally constructed grid formations containing twenty-four frames (one second of film) within a single screen.

This process had potential, but in practice the frames were too small to be effective, and the grid created an overload of information within one screen. The relationship between the multiple frames and audio also became problematic. Images can be divided into grids, but sound cannot, it spills over the edges. When these cells were brought together within a single screen an unpleasant monotone din was produced by the twenty-four competing soundtracks (each made up of the film sounds leading up to and including the flash). Due to this I decided to drop audio from the work.



Grid of twenty-four frames sharing a single screen

These grids revealed how screens could be placed side by side to replicate the structural form of filmstrips. This led to experimentation with gallery installations made up of multiple synchronised monitors lined up in a row, but due to the scale and expense of such work the only way it could initially be tested was through computer simulation. These tests revealed that placing monitors in a line was effective, but took up a great deal of space and the screens at the line's extremities were too isolated, making the flash 'jump' awkwardly back to the beginning. In the earlier grid version the twenty-four frames occupied a single screen that contained the flashes within its boundary. I mimicked this

enclosed structure by forming the monitors into a circle, allowing the camera flashes to create a looping pulse of light that zipped around the installation with no sense of a beginning or end.

The computer model confirmed that the synchronised screens would create the illusion of a light pulse circling the installation. By giving these film recordings a spatial element the fragmented stillness underlying filmic motion was revealed to the viewer without having to alter the film's speed.



24 Times - Computer model

Removing audio muted the energy of the flash; so I attempted to reintroduce sound elements in a new form. Previously I had included all the film sounds leading up to the camera flash, but to punctuate the popping flashguns all extraneous audio, such as dialogue and music, were removed. When listening to this new soundtrack (again using a computer simulation of the twenty-four desynchronised timelines) this attempt to focus audio still produced a monotone hum. Though frustrated, I was also aware that this was possibly the result of playing twenty-four soundtracks through two speakers, so was intrigued to see what would happen when these sounds were given a spatial dimension within a gallery installation. I had the impression that if both image and sound were spread out spatially, but also focused down to the spinning frame of the flash, they might take on some of each other's qualities.

24 Times proved to be my most technically ambitious and time-consuming work to date, involving collecting together hundreds of relevant film clips into a twelve-minute long video. I was keen to create the appearance of a looping

structure that never repeated itself and believed that twelve minutes would allow even the most intrigued viewer enough time with the work without seeing the same scene twice. The longer duration of this video also allowed me to introduce shifts in the tempo of the work by editing together different clip lengths⁹⁰, creating a fluctuating rhythm of light and sound that added to the trance-inducing qualities of the installation.



24 Times – Berwick Film Festival Installation (2012)

A commission from *Berwick Film Festival* provided the opportunity to significantly develop and then produce this work, with the final result far exceeding my expectations. The installation created a physically dynamic relationship between the screens and audience, who could shift their perception between film-space, light sculpture and sound installation.⁹¹ It was the gaps between the monitors (relating to the interstices between film frames) that create this space of distraction which enabled the viewer to see film motion, but also the discrete quality of the frames from which it is composed.

This shift between surrender-to and awareness-of film's illusory motion resembles the effect of the pre-cinematic Zoetrope⁹². Like the images in this device, each of the monitors became part of the installation's rhythmic patterns as a whole, but they were also in a perpetual state of flux within themselves.

⁹⁰ These edits would shift from three frames between flashes to up to fifteen seconds

⁹¹ An aspect of the work that fully revealed itself was the effect the flashes had on the gallery space and viewers. I will discuss this, along with the relationship between the audio and moving image later in this chapter.

⁹² A 19th Century device in which a loop of still images attached to the inner surface of a cylinder spins at a speed that allows viewers viewing them through slots in the cylinder to see the illusion of motion.

The title *24 Times* references this connection between individual and universal timescales, a dynamic that also includes the viewers, who occupy chronological time as well as their own sense of duration and memory.



Zoetrope

The spacing of the monitors in *24 Times* relates to the gaps between film frames, while the digital synchronisation of the screens creates a sense of motion that mimics film's fragmented form. Film time, digital synchronization and the monitors within the gallery are connected within the viewer's perception⁹³, acting as a form of substitution for film's lost material presence while also suggesting a new form of hybrid representation.

The Green Ray (Tacita Dean, 2001) is a 16mm film of the sun setting over the Indian Ocean. In a voiceover Dean explains that she was attempting to see the elusive ray that apparently occurs when the sun dips under the horizon over an expanse of ocean and refracts its dying light. Looking at individual frames this effect cannot be seen, but as Dean claims "...defying solid representation on a single frame of celluloid, but existent in the fleeting movement of film frames, was the green ray"⁹⁴ In this interpretation the dying light's will-o'-the-wisp effect exists between frames, in the interplay between light, matter and motion.⁹⁵ This film is an elegy to celluloid, but in the precise moment of its death the medium reveals its unique quality. *The Green Ray* acts as an indictment of digital technology's inability to recreate this illusion due to its immaterial form and lack

⁹³ Throughout the work created during this PhD I have given a physical presence to the type of equipment that was normally hidden from view in traditional cinema presentation.

⁹⁴ Tacita Dean, *The Green Ray*, exhibition text: Fondazione Nicola Trussardi (2009)

of physical motion.



The Green Ray (Tacita Dean, 2001)

But *24 Times* suggests an alternative location for this energy that provides cinema with its ephemeral magic. Just as the illusive green ray supposedly exists between film's frames, perhaps the contingent qualities of cinema as a whole inhabit the spaces between the various technologies that record, edit, store and display its audio-visual content. Cinema is an inherently impure and hybrid art form, the shifting modes of representation it contains diffract off each other, create space for new ways of seeing. Digital transfer could be regarded as another layer of impurity, a radically different one that renders all of cinema's complex components down into the same code, allowing them to be re-evaluated and juxtaposed in ways that would never have been possible in their material state.

24 Times combines the flash of energy used to create the photographic instant with the mechanical energy that sets that frozen image back in motion, revealing an alternative temporality caught between stillness and motion that spills out across the screens. This work then, helps reveal the physical tensions existing within the hybrid form of digitally transferred films and, in the process allows the viewer to contemplate the shifting boundaries underlying the audio-visual content which forms part of their own memories.

Though this installation mimics film's underlying structure, it is not attempting to analyse the medium in a quantifiable way, rather this fragmentation and

⁹⁵ Each individual frame on a filmstrip has its own unique pattern of grain that diffracts light in subtly different ways when passing through the projector's beam.

hybridization is created to explore the elusive and ephemeral energies contained within and around the edges of film's industrial form. Film's kinetic motion could not exist without the spaces between static images, but by spreading them out across 24 monitors rather than focusing them within the fixed boundaries of a single screen⁹⁶, the filmic illusions of motion and depth are dispersed and weakened.

In a traditional cinematic layout the screen's fixed boundaries hold in place and harness the filmstrip's energy, transferring it to the onscreen imagery, in this way multiple frames containing the frozen depiction of a running horse absorb film's mechanical motion to become a horse in motion in the viewer's perception. These fixed rhythms and framing devices provide the viewer with the illusion of a singular outlook and sense of subjective stability. *24 Times* dissipates this internal action, spreading it out horizontally across multiple frames that reveal an alternative motion in the flash of light that spins through the circular installation. When discussing the loop Vivian Sobchack states "With its round and hermetic shape and a present tense always chasing its own tail (and tale), "going round in circles" produces a context in which purposive activity and forward momentum are sensed as futile and, in response, become increasingly desperate and frenetic in quality."⁹⁷ By combining differing actions within the same work the imagery becomes distanced from any sense of linear narrative, making it difficult to focus attention fully. Viewers can attempt to immerse themselves within the illusory depths of a single screen, or they can step back to take in the installation as a whole, becoming aware of the discrete quality of the still frames from which film motion is composed.

⁹⁶ The 'moving' imagery in this work is stored as digital code on 24 synchronised media players. The concepts of storage, space and motion take on very different forms with this new media.

⁹⁷ Vivian Sobchack – *Carnal Thoughts: Embodiment and Moving Image Culture* (California, 2004) pg 24



24 Times - Detail

The horizontal flow between frames therefore reveals an oppositional force to cinema's narrative drive that is rarely noticed by viewers because it is normally transferred to the film's illusory onscreen action.

Towards the end of *The Testament of Dr Mabuse* (Fritz Lang, 1933), film's mechanical energy briefly surfaces during a car chase in which the ghost of Mabuse guides a hypnotized driver. Three recorded temporalities share the same frame: An actor pretends to drive a stationary car in a studio set while the rear-projection of a speeding backdrop unfurls behind him, but overlaying this is the double-exposed figure of Dr Mabuse. Implacably still, he hovers above the film, seeming to harness the chaotic rush of imagery flowing through his transparent form and using it to mesmerize the driver/viewer.⁹⁸ In this scene Fritz Lang reveals the gaps between layers of representation in order to expose film's trance-inducing state. I used a similar approach in an early work of mine "*I wish there was an invention that bottled up the memory like perfume*" (2004), in which a couple in a car are entranced by each other's frozen gaze as a projected backdrop loops endlessly behind them.⁹⁹

⁹⁸ The driver's relation to the projected backdrop resembles the static position of the viewer, pulled along by film but unable to control its direction.

⁹⁹ This work was created by digitally altering a scene from *Rebecca* (Hitchcock, 1940). A couple in an open-top car are frozen on a single screen, while the rear-projected backdrop behind them has been looped so that it endlessly circles their frozen forms.



The Testament of Dr Mabuse (Fritz Lang, 1933)



"I wish there was an invention..." (2004)

In *24 Times* film's kinetic energy is not contained within the clashing temporal layers of a single screen (the installation's layout and horizontal sweep actively prevents the contemplation of onscreen details), instead, the viewer's attention is drawn to film's energy as a whole. The installation's rhythmic pulse creates a stroboscopic effect as it spins through the circuit of screens that resembles the hypnotic effects of film's flickering light explored by filmmakers during the 1960's/70's, including: Tony Conrad, Paul Sharits and Maya Deren.



Shutter Interface (Paul Sharits, 1975)

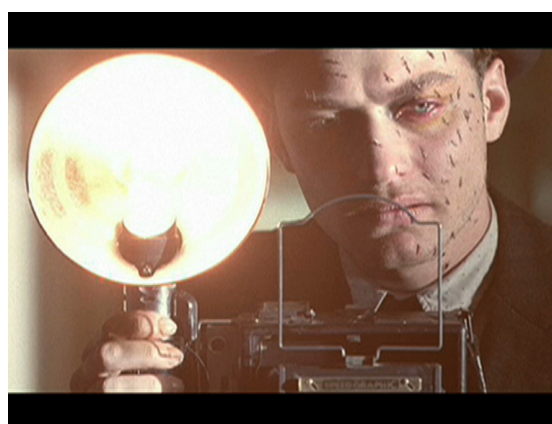
Conrad and Sharits¹⁰⁰ created films that highlighted the medium's underlying flickering energy by removing all "contamination with imagery"¹⁰¹. By using blank frames that oscillated between black and white, film's stroboscopic effect and its influence on the viewer's consciousness were revealed. Electronic sounds worked in conjunction with the shifting and pulsing patterns of light to further accentuate and pull the viewer into a trance state. This hypnotic effect worked best when vision was fixed on a single screen (Conrad recommended focusing attention on a central point within that screen). By stripping away visual detail, cinematic light is mobilized (rather than onscreen images) to reveal the machine energy of film and its influence on the viewer.

Sharits' *Shutter Interface* (1975) perhaps most closely resembles *24 Times* in its structure. Four projectors beam alternating coloured frames, interspersed with black frames, onto a wall where they overlap and merge to create strips made up of new colours. When the black frames disrupt the on-screen colours they emit a popping sound that accentuates the fragmented, yet hypnotic, effect of this work. The widescreen format of the screen (produced by the screen overlap) creates a kinetic structure resembling a pulsating strip of film. Unlike Conrad's trance-inducing single-screen film *Flicker*, by dispersing the stroboscopic effect over multiple screens, this work creates a more detached form of altered state. The effect is created as much by the spatial relationship between the edges of the screen than by the content and it is the awareness of

¹⁰⁰ Both part of the structuralist film movement

these interconnected boundaries that prevents complete immersion within the work.

24 Times creates a similar effect, but from a 21st Century, post-film perspective. Rather than removing imagery in order to focus attention on the trance-inducing qualities of film, it is the filmstrip itself that has been removed and the immaterial imagery it once contained that now flits across the installation. This flicker is created by the digital synchronisation between monitors and the photographer's flashbulbs; this is a hybrid and distorted form of energy, caught between filmic, photographic and digital temporalities.



24 Times, Detail & Installation

In the traditional cinema setting, no matter how erratically a film shifted in space and time, it was always contained within an immobile screen that worked in conjunction with the fixed gaze of the seated viewer. The twenty-four monitors spread the film-clips over multiple perspective points; viewers are free to walk around this installation and see the work from any angle. Vision becomes

¹⁰¹ Tony Conrad quote, Anna Powell, *Deleuze: Altered States and Film* (Edinburgh University Press,

decentred as cinema loses its ability to contain recorded space and time within a fixed perspective.

Another aspect of this destabilizing viewpoint is the unusual interaction between recorded and viewed light; the analogue burst of the flashguns combine with the digital monitor's light-source to project the viewer's shadows onto the gallery walls. This process is repeated across the circle of monitors, sending displaced and fragmented shadows spinning, like a primitive form of animation. This motion works in conjunction with the onscreen clips, which briefly flicker into being before disappearing again, denying the possibility of any narrative development. Film space and viewing space become less clearly defined, implying a shift from a centred perspective to a more diffused state of perception. These viewing conditions test the subjective position of the viewers watching this flux of information; familiar scenes are occasionally glimpsed before they fold back into the work like a distracted thought, or arbitrary memory, bubbling up from the collective unconscious of the 20th Century archive. Catching random glimpses of old films on broadcast television strips away their narrative context for Victor Burgin, he states: "The fragments go adrift and enter into new combinations, more or less transitory, in the eddies of memory: memories of other films, and memories of real events."¹⁰²

Similarly, while discussing Godard's CD-ROM *Histoire(s)* Richard Dienst ponders a history of cinema devoid of any framework: "What if the stockpile of the imaginary, once stirred, can no longer sit still, so that every image, at any moment, might swing around to demand its moment in the light?"¹⁰³ The arbitrary and fragmented imagery flitting across the screens in *24 Times* suggests such a scenario, leaving the film characters occupying these fragmented scenes, cut off from the traditional linear narrative that once grounded them. Viewers, whose animated shadows indicate the overlap between a recorded past and viewed present, occupy a similarly transient zone.

In this sense, while replicating aspects of film, *24 Times* also strips away the qualities that stabilize cinema in the viewer's perception. Digital transfer turns

2007), pg.108.

¹⁰² Victor Burgin, *The Remembered Film* (Reaktion Books, London, 2004), pg.68.

¹⁰³ Richard Denst, *Breaking Down: Godard's Histories*, Chpt in *New media: Old Media* (Routledge, London, 2006) pg.138.

the filmstrip's content into pure information that can take any form or direction, creating a further layer of remove from that mentioned by Kracauer: "In a flash the camera exposes the paraphernalia of our former existence, stripping them of the significance that originally transfigured them so they are changed from things in their own right into invisible conduits."¹⁰⁴

The question of what the photographers are capturing becomes relevant in this context: Within the world of the film they are taking a photograph of a subject or scene in front of them. As actors playing the role of a photographer within a film their flashlights illuminate the camera and film crew. While, as recorded images within the installation, their flashguns appear to take deferred snapshots of the gallery viewers, the recorded past capturing images within the present.

As stated earlier, when the twenty-four soundtracks were played simultaneously through a single set of speakers, an unpleasant monotone noise was produced. It was not until the installation was constructed and the separate monitors were given the dimension of space that the synchronised soundtracks had the room to breathe and interact with each other. This auditory effect was nothing like the computer simulation, nor the original sound recording of the flash. As it circled the installation the audio issuing from each monitor was simultaneously stretched and clipped by its neighbours as the speakers repeated and blocked each other, producing an odd sound, caught somewhere between film and new media. The fragmented repetition created a mechanical stuttering sound resembling an old film projector, while the clipped waveforms of each soundtrack created a compressed digital quality. This produced a sound like distant firecrackers¹⁰⁵ that substantially added to the work's energy.

Looking at a strip of celluloid film reveals the clear physical difference between analogue cinema's audio-visual elements: Moving images rely on the rapid transportation of numerous individual frames through a projector, while sound is produced by an unbroken wave that runs along the edge of a filmstrip (see image below). Yet the cinema audience do not see film recordings in these fixed

¹⁰⁴ Siegfried Kracauer, *Theory of Film: The Redemption of Physical Reality*, ed. M. Hansen (Princeton, NJ, 1997), p.56

¹⁰⁵ This effect was noted in a review of the work "...each time the flashbulb goes off, this small firework like sound reminds us, in the semi-darkness of the space, of the bewitching nature of the moving image." Harriet Warman, (*The Flaneur*, Sept 25 2012)

and separated states, this strip is converted into an audio-visual motion that appears to merge and synchronise the differing forms of reproduction seamlessly together within film space.

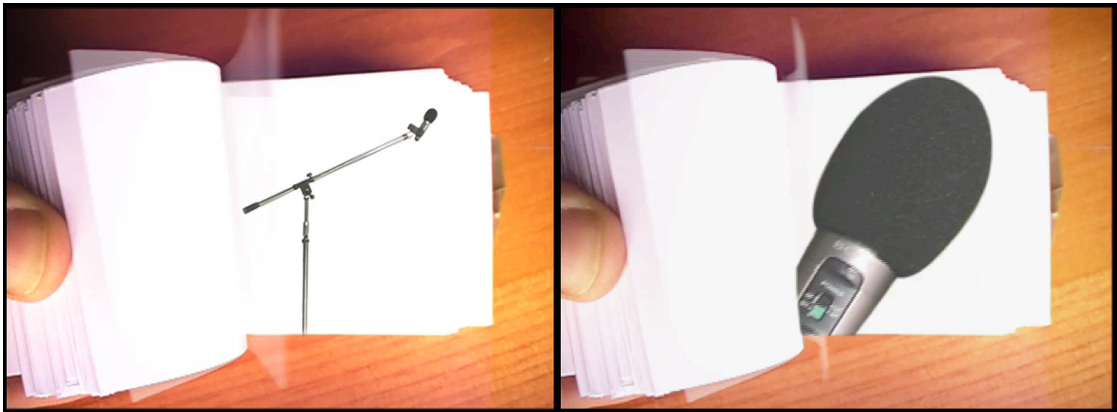


Example of a 35mm Filmstrip

In *24 Times*, by removing the anchoring influence of cinema's single screen, the tense relationship between sound and image is brought to the surface, yet in a new form that appears to both accentuate and blur the differences between the two: The spinning soundtrack punctuates the modular nature of the imagery by taking on its fragmented quality, while conversely, the burst of light spinning through the installation appears to break free from its frames, resembling the unbroken flow of the filmstrip's sound-wave. By digitally recreating the physical qualities of film within an installation form this work is able to reflect on the individual elements underlying cinematic motion, while also revealing new configurations between sound, image and motion.

This relationship has been an on-going aspect of my art practice for a number of years. In earlier examples of my work on-screen microphones were used to explore the interaction between recorded sounds and images: *Flip* (2003) shows a microphone being zoomed forward by flicking through the pages of a flipbook; as the recording device draws nearer, the sound of the flicking pages grows in intensity. By revealing the gap between the boundaries of the flipbook and the video screen, a contradictory space is opened up in which the microphone records a sound existing outside its own mediated space – that of its own animation. This forms a circuit of self-referentiality between the animated space and the animating space, created by a layer of digital illusion that merges the two. As with *24 Times* sound takes on and punctuates the fragmented energy of animation, a process that gives the work a physical

quality that simultaneously enhances and diminishes the reality effect.



Flip (2003)

By placing the flipbook within a wider visual context, the physical transportation of still images across its surface is revealed, but this fragmented animation is framed within the unchanging boundary of the video screen. This relationship represents the reframing of film's fragmented motion within the internally transforming surface of a single digital format. The distance created by this new layer is the equivalent of the viewer taking a step back from the flipbook's frame in order to observe the relationship between the animation's form and content.

24 Times used a similar technique when it was at the earlier grid stage (see pg 84). Once again the illusion of filmic transportation across multiple frames was contained within a wider digital context. By turning this work into an installation the gallery space itself becomes the outer frame, with the digitally synchronised monitors that accentuate the interaction between image and sound equating to the flicking pages in *Flip*. The spatial and temporal gaps between monitors help to articulate how digital software creates new zones for contemplating cinema.

As with *24 Times*, *Flip* represents a form of 19th Century visual apparatus that openly reveals the still frames underlying its motion. Part of the magic for the viewer in using devices such as the *Praxinoscope* or *Zoetrope* was the shift between the inanimate and the animate and their own physical involvement in this process. Both these works imply a pre-cinematic awareness of the relationship between stillness and motion that was suppressed by film, but is now being reintroduced through the digital restructuring of analogue film. By combining structural patterns found in media throughout the modern era, *24 Times* allows cinema to be seen in relation to its past and future incarnations.

The obsolescence of the zoetrope and the novelty of digital media intersect in film, which took over from the former and has now been taken over by the latter.

This digitally reawakened awareness of film's underlying stillness and mechanically fragmented motion is both revealed and distorted within *24 Times*. The installation highlights the kinetic qualities of film time by spreading footage horizontally across numerous monitors, giving the gap between frames a spatial as well as temporal presence. Although the looped layout of the monitors distorts the linear qualities of traditional cinema, the energy of the piece still expresses a flickering industrial sense of time.

The following chapter contains works that explore alternative forms of duration opening up in the space of transfer between the mechanical transportation of multiple frames (film) and pixelated transformation of imagery within a single frame (digital media). The assurance and awareness of time passing in the clockwork mechanisms of the camera/projector are stripped away by a digital code that has no link to physical motion. This chapter will explore the implications of the shift from analogue to digital forms of time keeping in cinema.

Chapter 2. Time

Viewers are rarely asked to consider the medium underlying film's they watch. Yet the shift from celluloid to digital media¹⁰⁶, and the removal of the filmstrip has had a significant impact on viewing methods. On the surface, digitally transferred films seem relatively unchanged¹⁰⁷, but the shift in format becomes evident with the ability to alter narrative flow. Skipping chapters, or freezing imagery breaks the bond once yoking narratives to film's industrial form.

Rather than focusing on film's materiality, an alternative approach is required, a temporal re-evaluation that, according to Agnes Petho "is focused on relationships, rather than structures, on something that "happens" in-between media rather than simply exists within a given signification..."¹⁰⁸ Digital transfers allow a reconsideration of film's durational qualities by breaking down the different audio/visual representations of time hidden beneath celluloid narratives. When scrutinized in this way film's contingent qualities (not originally intended to be observed in detail) rise to the surface.

This chapter focuses on a work created during the first year of my PhD that utilises digital media to address changing durational qualities within cinema. *Medium* uses a two-second clip from Hitchcock's *Shadow of a Doubt* (1943), showing the actor Joseph Cotton blowing a smoke ring at the end of a scene, just before it fades to black.



Medium (2010)

¹⁰⁶ Like the shift from silent films to talkies, or black and white to colour

¹⁰⁷ Clearly the environment in which the film is viewed may be very different to a traditional cinema, in this context I'm just talking about onscreen content.

This clip has been digitally stretched from two seconds to three minutes using *After Effects*, a software package that allows moving imagery to be slowed down at the level of pixels rather than frames. The pixels within each frame are analysed in relation to their neighbours; then an estimate is made as to where each pixel would be located at a mid-point between each image. A new frame is then inserted between them.

The first attempt to slow down this clip involved altering the timeline in one step, this failed because the gap between frames was too long for the software to interpolate properly. The plume of smoke was rendered beautifully in slow motion, but as the image below shows, the software was unable to differentiate between the cigar smoke and the man's face, which is pulled along and hideously distorted by the smoke's pixelated motion.



Medium- Failed attempt

Though clearly not the desired result, it was interesting that this software could not differentiate between the man's body and the smoke; the resulting distortion shows that digital transfers, though appearing to render analogue films faithfully, are actually blind to their content. At the pixel level on which this software operates, there is no difference between representations of bodies and ephemeral motions. What was once a physical document is now mutable information.

After some trial and error, the smoke's slow motion effect was created by slowly folding the film inwards. The original forty-eight frames were doubled to ninety-

¹⁰⁸ Agnes Petho, *Cinema and Intermediality: The Passion for the In-Between* (Cambridge Scholars Publishing, Newcastle upon Tyne, 2011), pg.1.

six, these were doubled again and this process was repeated until the clip was stretched from two seconds to three minutes. This step-by-step approach allowed the software a far greater accuracy in judging where the pixels in the newly created frames should go. With the completion of the final step the still and moving elements within the frame became difficult to define.

To create a subtler sense of time passing a layer of pixel 'noise' was introduced over the image's surface, this digital effect produces a result similar to the motion of film grain. This breaks up and reinvigorates the surface of the slowed down imagery, making the scene appear to once more occupy a 'normal' film space/time, it is this subtle return to film's granular motion that gives this work an uncanny quality¹⁰⁹.

Though *Medium* is a single-screen projection rather than an installation, there is still an equivalency between the content and the manner in which it is exhibited. The work was back-projected onto a lightweight screen hung in a gallery space¹¹⁰, a display method that helped to convey the suspension of the smoke; the back projection allowed viewers to get up close to the work, a spatial equivalent to the slow motion effect.¹¹¹ Rear-projection also created a sense of the content emerging from within, corresponding to the exhaled smoke- the semi-transparent screen appears to 'catch' a trace of the image as it passes through its surface.

Dieter Appelt's photograph *The Mark on the Mirror Breathing Makes* (1977) is an example of such an interaction: a man's interior breath is made visible as it is expelled and then condensed onto a mirror surface, yet this ephemeral mark of life also acts to obscure the reflected image that the photograph captures. This breath, caught between surfaces of representation, complicates the relationship between body and image by suggesting a world that can't be fully captured on an image's fixed surface.

¹⁰⁹ The analogue equivalent of this effect would be the viewing of a freeze-frame. The onscreen image appears to be frozen, but the filmstrip is still being transported through the projector, therefore the still image is brought to filmic life by the shifting grain.

¹¹⁰ This work was first shown at The Northern Gallery for Contemporary Art as part of the exhibition *Wonders of the Visible World* (Sunderland, 2011)

¹¹¹ Fiona Tan uses this technique in her work *Tomorrow* (2005), see Contextual Review, pg 66.



The Mark on the Mirror Breathing Makes (Dieter Appelt, 1977)

Richard Serra's film, *Hand Catching Lead* (1968), combines film's physical motion (referenced by rectangular sheets of lead dropping through the screen) and the corporeal action of a body (an outstretched hand attempting to catch the lead). This scene 'steps back', opening up a wider zone of interaction between the two forms. The hand, inhabiting a space beyond and between the constantly falling 'frames' attempts to halt their flow, yet even when successful the 'catch' is instantly released. This stop/start interaction between body and 'film' leaves a residual trace of the lead's materiality on the hand, gradually coating it until its darkened appearance becomes a direct result of this motion¹¹². These stains serve a similar role to the slowed smoke in 'Medium' or the condensed breath that obscures Appelt's portrait, they are an ephemeral trace existing in interaction between different states.



Hand Catching Lead (Richard Serra, 1968)

¹¹² A relevant statement can be found in the accompanying text to the Pompidou exhibition *The Movement of Images* (2006) "Serra's hand, blackened by the lead, shadow-like comes to resemble the silhouette of a dog trying to catch something thrown to it, thus referring the mechanics of cinema back to its origins in the art of shadow theatre."

But what happens when the physical plane of media representation is removed? The surface of *Medium*'s transparent screen hovers between being a fixed object within the gallery and a window into the film space, a limbo state mirrored in the digitized footage. Cinema screens and filmstrips have always occupied a zone between material surface and illusory space, but paradoxically, the removal of film's material form can now reveal this space.

When a body's actions are filmed and projected in 'real' time (an approximation of the rate that it naturally moves) then film's mechanical energy is hidden within that motion. But if that film rate is altered and falls out-of-sync with a body, then the temporality of the medium itself becomes visible. With *Medium* this is achieved by digital slowing film motion. The closer the imagery reaches towards stillness, the more the viewer is pushed out of a film space that no longer relates to their world; if the image did 'freeze' then film time would harden into a surface, fully separating film and viewer.

The actor's breath in *Medium* is given visible form by the exhaled cigar smoke, yet by slowing down this breath to an impossible duration it becomes something else, revealing an alternative timescale, separated from both human rhythms and film's mechanical timekeeping. Whereas *24 Times* revealed film's flickering energy by spreading it out across numerous monitors, *Medium* fills in the gaps between the frames of a single screen, slowing down and exposing the excess of information contained within the recorded exhalation. Bill Viola talks about his use of slow motion "giving the mind the space to catch up with the eye"¹¹³, but in this work the mind is given too much space and the eye not enough, creating a claustrophobic quality.

The congealed smoke, caught between a solid and ephemeral state, folds together fixed film stills and shifting pixels to create a new temporal combination¹¹⁴. The boundaries of film are pushed to their extremes, breaking down the barriers between frames to a point where the trajectory of the smoke particles and digital pixels blend together, creating an intertwining of contingent

¹¹³ This brings to mind the title character in Jorge Luis Borge's tale *Funes the Memorious*, a character who is incapacitated by his inability to forget even the slightest detail of everything he sees.

¹¹⁴ Quoted in Thomas Elsaesser's essay *Stop/Motion Stillness and Motion*, ed. Eivind Rossaak (Amsterdam University Press, 2011). pg 115

qualities, celluloid's fragmented recording and digital technology's attempted simulation of both.

By filling in the space between frames the fixed photographic blocks underlying cinematic motion are dissolved into malleable imagery that can be divided into ever-finer increments, blurring the distinction between stillness and motion. The visual complexity contained within a single frame is made visible, allowing viewers time to witness an intricacy of the unfurling smoke that was never actually captured by film.

The transition from stillness to motion created cinema's original 'uncanny' experience, when audiences attending the Lumiere's first cinematic screenings watched in disbelief as the projector handle slowly cranked a still image into life.¹¹⁵ The industrial standardisation of film time removed this ability to change the filmstrip's speed manually and in the process hid the space of interaction between stillness and motion.¹¹⁶ A number of analogue films attempted to create such a space, a notable example being *A Matter of Life and Death* (Pressburger & Powell, 1946). In one scene the film appears to freeze in time, yet the central character (played by David Niven) continues to move through this space along with the film camera, an uncanny state that indicates his (and the viewer's) ghostly separation from the world. Yet it is only with film's digitisation that a frame can actually incorporate both still and moving elements.



A Matter of Life and Death (Pressburger & Powell, 1946)

¹¹⁴ This is a different sense of slowing film than Douglas Gordon's *24 Hour Psycho*, where stilled images would eventually give way to the next frame in line. Here there is no waiting, an endless dissolve.

¹¹⁵ This physical interaction linked it to 19th Century optical devices such as the Zoetrope

¹¹⁶ Even when fully mechanised film could portray stillness by repeating an individual frame hundreds of times to create a 'freeze-frame'

Her Celluloid Self (2004)¹¹⁷ is the earliest example of my work that combines these states within the same frame. Software was used to freeze a couple while the film they watch continues to run. Light from the flickering projector gently energises and reanimates the figures occupying the darkness outside the film's frame. The man's cigarette smoke floats up, folding into the light cone, creating a spectral apparition that hovers in a looping limbo. The couple seem side-lined, removed from the film passing over their heads, and suspended between being documents of the past or subjects occupying a film narrative's present moment.



Her Celluloid Self (2005)

As with *Medium*, smoke is the ephemeral element that occupies the divide between stillness and motion. Literally caught in the projector's flicker, it seems like a ghostly trace of motion hovering between film frames, resembling the light traces caught in the photo-dynamism images of Futurist artists such as Bragaglia. The blurred motion left by his long exposures reveals glimpses of what cannot be seen by the eye or caught on a filmstrip, the unbroken wave of time's passing.

¹¹⁷ This work uses a scene from *Sunset Boulevard* (Billy Wilder, 1950)



A Change of Position (Anton Giulio Bragaglia, 1911)

This visual trace of motion takes place between two points of stillness within a single frame; *Medium*, however, shows the ghostly trail of motion between film frames. Bragaglia criticised film for its mechanical dissection of duration, whereas he saw his long exposures as capturing unbroken movement by making the body disappear into the flow of motion and energy (so beloved by the Futurists). With *Medium* film frames dissolve into a digital representation of their dynamic relationship with each other, revealing an underlying continuity released from the filmstrip's fragmented form.

Rather than defining the raw energy of modern motion¹¹⁸, my work suspends the forward momentum of films and their narrative arcs in order to look back at 20th Century recordings from an alternative vantage point. I use digital technology to reveal subtle interplays between the world and its representation, hinting at unseen qualities hidden in the background, under the surface, or around the margins of a scene.

¹¹⁸ An aspect of the Futurists manifesto- in order to propel modernity forward and to strip it of its past



Bullet-Time (2010)

Bullet-Time, an early PhD work, also uses smoke as a bridge between different forms of representation. A single frame shows a close-up of a gunslinger¹¹⁹ firing his revolver, this stilled image contains a plume of smoke which endlessly drifts from the gun barrel at the centre of the frame and out through the black bands of the film's widescreen format. In the gallery where the screen hangs, a bullet can be heard ricocheting endlessly around the walls (numerous speakers are scattered through the space), creating the spatial equivalent of a durational instant. Sound and imagery become trapped in an endless present, yet the smoke that escapes the film space and the ricochet bouncing around the gallery suggest that this perpetual instant has been released from the confines of the film frame to reveal an alternative temporality.

Motion appears from within the still frame¹²⁰, emerging from within the interior of the gun's barrel, before drifting out of the frame through the external gaps that separate film space and screen. This relationship between internal and external spaces also appears in *Medium*, the extreme slow motion flattens Cotton's image, removing him from the film space he originally occupied, yet the smoke breaks through this surface, suggesting a bodily interior from which it is exhaled.

¹¹⁹ Henry Fonda in *Once Upon a Time in the West* (Sergio Leone, 1968)

¹²⁰ As with the extended voice in my work "*That's all...*" (see page 110)



Medium – detail (2010)

When watching a 'movie' the viewer observes the onscreen motion of actors, yet also attunes to the flickering rhythms of film's shifting structure. As Serge Daney states "Breath, rhythm. There is cinema whenever, inexplicably, something breathes between the images."¹²¹ Rather than expose the gaps that allow this 'breath' *Medium* fills them in - digital media colonises and dissolves from the inside-out film's fixed temporality. This process requires a readdressing of the figure in relation to film time, the two become out-of-sync, a shift that alters the actor's subjective presence within the film and the viewer's own sense of being, which is no longer stabilized by a film's steady narrative flow.

The ephemeral qualities of smoke are used here to suggest an alternative time existing between a filmstrip's frames. This brings to mind a scene from Jean Genet's *Un Chant d'Amour* (1950) where cigarette smoke bridges two adjacent 'cells', briefly enabling two prison inmates to overcome their spatial and temporal incarceration. The smoke exists between a physical and symbolic interaction, implying a space beyond the control of cinema's strict social and physical boundaries: the inmates and filmmaker manage to transcend and subvert rigidly imposed divides. (*Un Chant d'Amour* was itself widely banned throughout the 20th Century, but is now available online¹²²)

¹²¹ Serge Daney, quoted in *The Cinema Spectator: A Special Memory*, Raymond Bellour, (chpt) *Audiences*, Ian Christie (ed.) (Amsterdam University Press, 2012), pg.210.

¹²² <http://www.ubu.com/film/genet.html>



Un Chant d'Amour (Jean Genet, 1950)

By dramatically slowing down the smoke-ring, *Medium* suggests a similar breaching of film's fixed boundaries and temporal flows. The frozen film cell appears to be partially melted by the exhaled smoke, merging into a new form of duration. Rather than highlighting the frozen structure of film, this work emphasises the shift between these states by occupying and dissolving celluloid's cellular structure¹²³.

In a wider discussion on the relationship between stillness and motion Erica Bolsom quotes Douglas Gordon "Slow motion is truly the desire to see what is hidden, it's very erotic." Erotic, but also marked by death: here one finds a sadistic impulse of possession that returns the liveliness of cinema to the quietus of the photograph¹²⁴. Bolsom suggests that the frozen blocks of time uncovered by slowing down a video of *Psycho* have as much to do with the death-drive than any sense of eroticism. Yet *Medium* dissolves these blocks;

¹²³ The light that spins around the installation in *24 Times* has a similar role.

¹²⁴ Erica Bolsom, *Exhibiting Cinema in Contemporary Art*, Amsterdam University Press, 2013), pg.140. (Original Quote: Hermange 19)

the inanimate (death) is not seen in opposition to the animate (life), instead they both fold into each other within the digitally slowed smoke.

As well as smoke, other ephemeral elements such as shadows, reflections and the human voice are altered and distorted in my work to reveal new ways of contemplating film time. I explore the voice in a number of works, including *“First and Last Sounds”* (2011) and *“That’s All”* (2006). The impossibly extended ‘voice’ in this latter work highlights the temporal differences between analogue sound and imagery. Freezing the figure should mute his voice (sound cannot exist on a single frame) yet a tape player still spinning within the same frame records an unearthly noise that appears to bridge the gulf between stillness and motion. This sound infiltrates the more conventional space of the lower screen, where a character desperately attempts to make sense of this audio apparition and pull it into a more comprehensible narrative structure.¹²⁵



“That’s All...” (2005)

With *Medium*, rather than a frozen voice haunting the boundaries between recorded past and viewed present, it is the actor’s breath; made visible by the cigar smoke he expels. The majority of this three-minute video was never captured on film; it is a phantom conjured by algorithms, caught between indexical documentation and digital animation. The film clip becomes an

¹²⁵ Freeze-frames in film generally have no sound, or, as in *Goodfellas* (Scorsese, 1990), a narrated voiceover. Halting a film’s flow disconnects sound and image, creating a space that allows the narrator time to fill the viewer in on the background story. In *“That’s All...”* no space is opened up, sound freezes along with the image to create a claustrophobic, closed in world that the figure in the lower screen desperately attempts to break up.

apparition; it is impossible to tell which are the original recorded frames and which are the 'between' frames created by software. The ephemeral and unknowable qualities of life are often symbolized by smoke, a cinematic device used to emphasise thresholds between worlds, a shift from the everyday to the uncanny. In this light, the viscous smoke spilling out of the actor's mouth, 'conjured up' by digital software to reveal a previously unseen world, resembles the 'ectoplasm' associated with 19th Century spiritualist photography. This era's ambiguous relationship between 'real' and imagined worlds marks a transition period in which new technologies supposedly opened up zones previously invisible to the human eye that, for some, linked the physical world to the afterlife.



Medium at a séance

*Medium*¹²⁶ examines an analogue representation of a long dead actor, seventy years after he originally inhaled and then expelled cigar smoke from his lungs. Digital technology heightens and transforms this action into a phantasmal animation.

Pierre Huyghe's 3-screen installation '*L'Ellipse*' (1998) uses a gap between film frames to explore film's uncanny merger of past and present. In this work he fills in a jump-cut from a scene in *The American Friend* (Wim Wenders, 1977) in which a character (played by Bruno Ganz) is seen on one bank of the Seine before the film cuts to him on the other bank. This edit is a time-saving device; the viewer understands that the character has crossed the bridge without having to see the act itself. 21 years later, Huyghe explores and expands this

¹²⁶ In this sense the name has two meanings, referencing both a technical and spiritual medium

edit by filling it with a new scene showing a now aged Ganz wandering across the bridge, the action discarded from the original film. This creates what Huyghe refers to as “the story of a ghost who...comes to haunt a gap that is missing in the narrative”¹²⁷...a character from the in-between...forever trapped on a bridge between two banks, in a suspended time”.



L'Ellipse (Pierre Huyghe, 1998)

Huyghe takes an unnoticed gap between two frames, a blink of an eye, and unfolds it to create a new zone, which contains all the time that has flowed under the bridge in the twenty years separating the recordings. This time, cut off from cinema's linear progress, folds in on itself, creating a space for reflection on the nature of lived and recorded time.

In H.G.Wells' book *The Time Machine* (Heinemann, 1895) a 19th Century inventor journeys into the distant future, only to discover that time as he knows it no longer exists. Future generations seem unaware of duration, living purely in the present moment. *The Time Machine* was published in the year of the Lumieres' first public cinema screening, so Wells' machine could be seen as a metaphor for film's industrialisation of time, a medium that can project sights and sounds of the past into the future. The following works strand film time within the alternative duration of a digital reinterpretation.

Time Machine I & II (2011-12), two works produced during the second year of my research, both use scenes from the 1960 film version (George Pal, 1960) of Wells' book. *Time Machine I* shows three characters sharing the same frame, yet appearing to inhabit different temporal states: A central figure, sitting on a rock and fully removed from the river that flows beneath him, is frozen on a single frame. A second seated figure dips his toe into the water in extreme slow

¹²⁷ Pierre Huyghe, cited in Caroln Christov-Bakargiev, ed, Piere Huyghe, exhibition catalogue. Castello de

motion, as if partially reanimated by its flow. They both look down upon a third figure fully immersed in the water circling around the central rock, trapping her in its looped motion so that she is constantly on the verge of drowning. The layout of the scene has a painterly quality, or perhaps more fittingly, a *tableau vivant* within which all three characters are held in place by differing temporal forces, either through freeze-frame, slow motion or looped action.



Time Machine I (2011)

In *Time Machine II* the time-traveller, having escaped the boundaries of his industrial era is now trapped in a limbo world where, despite first appearances, time has no physical grounding or direction. The structured and incremental temporality he previously occupied is represented by a staircase filling the entire screen¹²⁸. He sits, frozen and despondent, halfway up the stairs, while a future generation flits past him. It soon becomes apparent these figures are ascending the stairs in endlessly repeating configurations created by underlying digital algorithms. The runner's motion seems to be the product of film's material incremental structure (represented by the steps), but this relation to film's linear temporality is illusory.

Rivoli, *Musee d'arte contemporanea* (Milan, 2004), pg 252

¹²⁸ The twenty four steps correspond to film's frame-rate

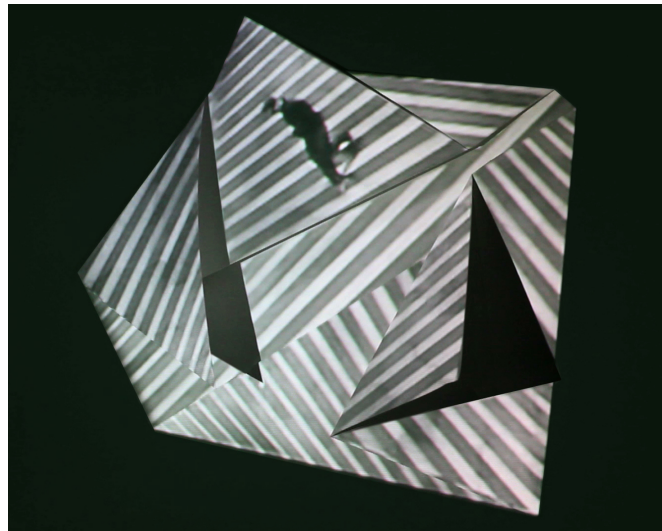


Time Machine II (2011-12)

Analogue film has itself become the time-traveller; its forward progression has ground to a halt and is acted upon by alternative forms of duration: The vegetation pushing through the gaps between steps/frames, and the looped actions of the figures undermine the traveller's regimented sense of time, which has been pulled and shifted in new directions, even the step he sits on stretches off vertically into an eternal present¹²⁹. The framing of the steps suggests an Escher like quality, logical at first glance, yet on closer inspection containing numerous conflicts and distortions that create a constant exchange between stillness, motion, and repetition. A 20th Century film, representing a 19th Century adventure in the distant future, now occupies a 21st Century medium that has no sense of duration. This digital medium appears to maintain film's structure, but has no underlying temporal grounding, a state that reveals the disjuncture between mechanical and human motion.

¹²⁹ See *Citizen Kane* reference in the next chapter

Though both these works successfully merged together different layers of time, this all takes place within the projected frame, with no wider installation aspect, and on this level I felt that ultimately they did not fully fit the remit of my research. My work *Intermission I* (2012) utilises aspects of *Time Machine II*: a running figure is similarly trapped within a staircase representing a limbo zone between human, mechanical and eternal timescales but this projected imagery is folded within both the film and viewing space. This work features a scene from *A Matter of Life and Death* (Pressburger & Powell, 1946) in which the lead character Peter (David Niven) runs down an escalator ascending from Earth to Heaven that symbolizes the gulf between the inner workings of his traumatised mind and the physical world. Within the original film narrative, Peter makes it back to his mortal existence, but in this work the projected stairs have been folded up along with the physical screen to form a looped and fragmented surface within which he is suspended.



Intermission I (2011)

By running back down to earth, against the flow of the escalator, Peter believes he has defied his celestially pre-ordained death, but this also suggests he has run back through film time, returning to his former life through a section of the filmstrip that has already passed through the projector¹³⁰. Clearly this is an illusion, all narratives are yoked to film's structure and therefore have pre-ordained endings, but the idea of this character being able to slip through the

¹³⁰ The famous scene in *Way Out East* (D W Griffith, 1920) where Lillian Gish is rescued from the edge of a waterfall has a similar feel, the hero runs across blocks of ice that resemble film frames pulling Gish to her fate, then picks her up and retraces his steps against the flow of ice.

gaps between film frames has a self-reflexive quality rarely seen in the cinema of this era¹³¹. By digitally altering this scene it is film itself that becomes caught in a state of suspended animation between physical obsolescence and a digital afterlife. The cinematic metaphor of the screen as a perspectival frame is distorted and folded in on itself to remove the single-point perspective of the staircase leading up towards heaven, or down towards the world. All sense of linear trajectory is lost, along with any clear distinction between material and illusory presence.

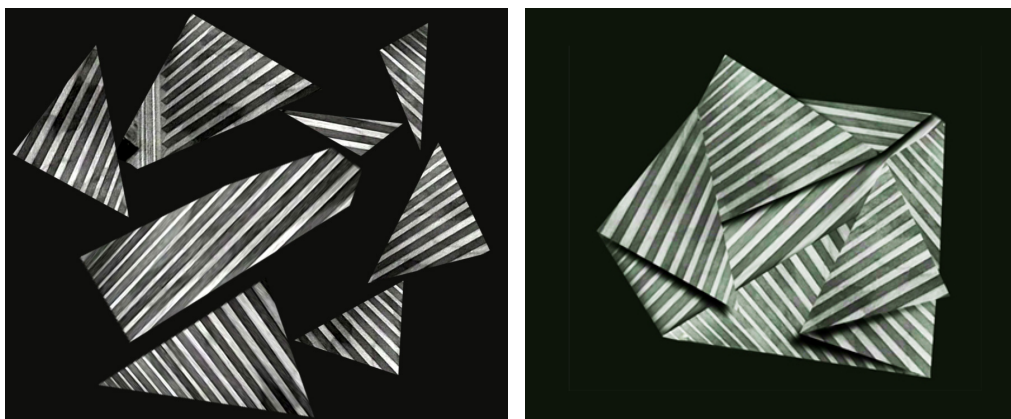


Scenes from *A Matter of Life and Death* (Pressburger & Powell, 1946)

Intermission I was constructed by making eight copies of Niven running down the stairs, then digitally cutting these sections into the required shapes before rotating and repositioning them within a single frame. These folds act as both surfaces onto which imagery can be projected, and barriers that physically block the light-beam, casting shadows within both the film and gallery space. The running figure, caught between body and spirit, must negotiate these visible and invisible spaces, endlessly disappearing into and reappearing from internal

¹³¹ Also seen in *La Ronde* (Max Ophuls, 1950) and much more prevalent in cartoons.

(subjective) and external (objective) worlds. Onscreen actions, recorded over 60 years ago, merge with present day shadows created by the fragmented interaction between the projector and screen, trapping the running figure in limbo between a physical and illusory existence. The folded screen and imagery maintain the ordered transportation of the stairs, yet now their predetermined direction is folded in on itself, creating an endless transition between internal and external worlds.



Intermission I – exploded view of film fragments used to create installation

An alternative scene from *A Matter of Life and Death* shows Peter on the operating table, closing his eyes and slipping into unconsciousness after being anaesthetised. The viewer descends with him into his body, then further down into his subconscious as the film imagery shifts from the bright red fluids of his corporeal existence, into a black and white painted backdrop of celestial clouds representing the afterlife. This transition from body to spirit is bridged by the rhythm of Peter's breathing, mechanically aided by the medical apparatus that sent him to sleep.¹³²

¹³² This use of bodily rhythms to act as a transition between worlds also occurs in *La Jette*. (Chris Marker, 1962) In this example a man's heartbeat pulls the viewer into his mind. See *Time* chapter in contextual review.



Scenes from *A Matter of Life and Death* (Pressburger & Powell, 1946)

This film contains several moments in which Peter transitions between his earthly body and the afterlife. This is achieved by either fighting against, or succumbing to the temporal rhythms occupying the space between these states: He returns to the physical world by running against the regulated flow of an escalator, or is drawn into the film's illusory afterlife by his steady breathing that resonates with the mechanical rhythm of the respiratory equipment. In these zones of transition, film's material and illusory qualities momentarily

merge with Peter's body and 'spirit', a connection that is expressed by the phenomenological theorist Vivian Sobchak "...we could liken the regular but intermittent passage of images in and out of the film's material body (through the camera and the projector) to human respiration or circulation, the primary basis upon which human animation and being are grounded."¹³³

These spaces between physical and imaginary worlds represent the complex interaction between celluloid film, its projected image and the viewer. What is of interest for me is how the digital removal of film's physical structure and mechanical rhythms alters this relationship.

With *Intermission I* this limbo space becomes caught in an endless loop, there is no shift between physical and illusory spaces, instead, the two states constantly fold in and out of each other. *Intermission II* (2013) acts as a sister work to this installation by reworking the breathing sequence mentioned above. A screen is attached to the gallery wall, yet also separated from it by twenty-five centimeters, onto this is projected the digitized film clip, which, in conjunction with the rhythmic breathing recorded onto the soundtrack, contracts into and expands beyond the screen's borders. Breath here suggest a crossing of boundaries between the internal and external spaces of the body, film space and gallery.

In her book on the nature of breath in cinema Davina Quinlivan discusses the relationship between bodily and filmic surfaces: " Borders between the seen and unseen in film relate especially to the human body...The breaking down of bodily borders unsettles the relationship between the seen and unseen..."¹³⁴

Since the birth of cinema technological advances have readdressed the relationship between film and body, with two major influences being the introduction of sound and colour. The breathing scene in *A Matter of Life and Death* accentuates both these innovations: colour acts as the dissolve between worlds, while the rhythmic sound of (mechanised) breathing creates a temporal bridge¹³⁵ that helps both Peter and the viewer to cross the divide between

¹³³ Vivian Sobchak, *The Address of the Eye: A Phenomenology of Film Experience* (Princeton University Press, 1992), pg. 207.

¹³⁴ Davina Quinlivan, *The Place of Breath in Cinema* (Edinburgh University Press, 2013) pg. 2.

¹³⁵ Peter's steady breathing, combined with the mechanical assistance of the respirator could be seen as the rhythmic equivalent of his running action down the stairs.

material and immaterial worlds. By stripping away film's material base the digital transfer process would appear to remove this divide altogether, yet within this installation an alternative layer is created.

The unstable shifting of the projected frame across the boundaries of the screen in *Intermission II* readdresses the relationship between the seen and unseen elements of cinema as revealed through the interplay between film, digital media, the projector, speakers, and the screen. Rather than the rhythmic passage of multiple film frames through the projector that Sobchak compares to breath, here a new rhythm between cinema, technology and the viewer is created by the expansion and contraction of a single transformative frame across the edges of a screen that itself hovers between material and immaterial worlds.

When digitised, the space between film frames that once allowed them to 'breathe' animated life into inanimate images becomes a pixelated transformation from within a single frame. The screens of *Intermission I & II* seem to express both these external and internal forms of animation and rhythm: *Intermission I* does this by folding the outside into its form, while in *Intermission II* it is the projection itself that shifts in and out of the screen's boundaries. In both these examples the merger of mechanical and digital time is expressed by altering the spatial relationship between screen and image.

This chapter focused on the interstices between frames that help create the mechanical motion required to draw viewers into film time, and how digital media are altering these gaps and therefore the nature of how duration is perceived. I will begin the following section by discussing similar changes taking place in perception of film space. Cinema evokes a sense of space through the careful alignment of camera, film-frame, screen and viewpoint, this illusory space can be transformed or distorted by layering obsolete and cutting edge media within a single frame. I will explore how this process can destroy the illusion of cinematic space, but also open up alternative ways for reflecting on the mutating qualities of filmic space and the viewer's position within it.

Chapter 3. Space

Rather than pinning down and analysing the different elements underlying cinema (still imagery, motion, light and audio), I focus on the spaces where these diverse forms converge and interact. Seen in this context, recordings (rather than being fixed historical documents) become open to constant transformation and reinterpretation by future technologies and the shifts in temporal viewing patterns they introduce.

In the final year of my undergraduate degree (1997/8) I worked on a project that first highlighted for me the difficulty of combining different media. This involved searching the streets for scraps of abandoned audiotape, which were then photographed where they were found. My intention was to display the tape images alongside the sounds they contained, but this failed because the photograph's physical surface acted like a perceptual barrier to the audio, breaking the connection between sound and image.



Tape (1997-98)

After some experimentation, I discovered that using stereoscopic imagery¹³⁶ opened up a space in the viewer's perception that allowed these audiovisual elements to merge. Searching for a practical technique to connect incompatible recordings led to an awareness of the spatial requirements of viewing media. In order to bring two disparate forms of representation together a gap was needed

¹³⁶ Invented by Charles Wheatstone in the 19th Century, stereoscopic imagery is possibly the most basic form of animation, two images taken at slightly different angles use the binocular nature of vision, allowing viewers to perceive a three-dimensional space.

between the images, allowing them to overlap and create an illusory space through which sound and vision could travel.

Stereoscopic vision is planar rather than truly three-dimensional, the viewer sees layered surfaces separated by voids, an effect that, in this work, created interesting relationships between the physical surfaces of the two media and their content. Audiovisual content shared the same perceptual space, appearing to hover in the ephemeral zone between the surfaces of the analogue photograph and the tape (both on the verge of obsolescence). This planar space simultaneously divides and folds together information, allowing the viewer to fall in and out of the illusion.

The combination of the stereoscope's rudimentary visual depth and the tape's stereo sound creates a complex space of interaction between supposedly fixed documents. This is heightened by the musical content, which could well hold personal memories for the viewer. That these memories were stored within the abandoned and decaying audiotape suggests a melancholy space of reflection into modern media's ability to hold onto and let go of the past and how this influences a viewer's sense of subjective self.



Tape- Stereoscopic version

Hitchcock often used outmoded rear-projections to create uneasy, psychological spaces. During a driving scene in *Psycho* (1960), Marion is haunted by an internal monologue of voices belonging to characters, whom she believes have worked out that she has committed a crime. It is difficult to tell whether these conversations have taken place, or whether they are in her imagination. This sense of ambiguity is heightened by the view seen through

her vehicle's rear window. This obviously fake rear-projection, a film within a film, creates a space of uncertainty within which the voices float, hovering between document and fantasy.



Psycho (Hitchcock. 1960)

A scene from *Letter from an Unknown Woman* (Max Ophuls, 1948) shows a couple taking a fairground ride in which a 19th Century panoramic backdrop ruptures the film's 20th Century realism. They appear to accept this gap between illusion and reality, knowingly incorporating its jarring interaction into the shared fantasy of their own troubled relationship. As the woman recounts stories of her childhood her reflection hovers between the outmoded backdrop and the film world, as if caught in this space between her naïve past and knowing present.



We'll Revisit the Scenes of Our Youth (2004)

I utilized this scene in my work *We'll Revisit the Scenes of Our Youth* (2004) by digitally freezing and flattening the film space containing the couple, turning it into another layer of illusory representation. The telescoping layers of pre-

cinema, classical cinema, and digital media contained within this frame open a *mis en abyme*, a vertical rupture in the film's narrative surface within which the woman's reflection and the man's cigarette smoke hover. Technologies from different eras interact within these ill-fitting, fragmented spaces, revealing their illusory qualities and structural boundaries in a manner that adds to the complexity of the couple's own ill-fitting and ill-fated interaction. This ability to digitally reconfigure film's elements reveals the gaps within its structure that allow viewers to reflect on their relationship between past, present and future.

During a lull in their killing spree, the two lead characters from *Badlands* (Terrence Malick, 1973) enter a brief state of innocence. Holly (Sissy Spacek) looks at stereoscopic photographs, and as she enters these spatial representations of the world her voiceover reflects on her childhood, her present situation and potential future. As with Fontaine in *Letter From an Unknown Woman* (Max Ophuls, 1948) she uses obsolete imagery to escape into an introspective fantasy space, removed from the traumas of her present situation.

The film viewer, occupying Holly's first-person perspective, only partially enters this perceptual space with her, and cannot see the stereoscopic illusion within which she is suspended; only the dark backdrop separating the photographic and cinematic formats. As Holly begins her contemplation on life, the camera slowly zooms in, removing this gap to occupy the photographic space fully. This zoom reflects the process by which Holly bridges the space between the two images to occupy a zone constructed from these documents of the past alongside her own memories and wishes.





Badlands (Terrence Malick, 1973)

In the above examples film shares a space with 19th Century visual technologies that it helped to make obsolete. The ill-fitting physical and perceptual edges of these different media rub up against and reveal each other, while the gaps between these edges are shown to be filled by corresponding spaces, the memories, fears and desires of film characters and viewers.

The vanishing point within the above image implies a focal axis at which the two images converge in Holly's perception, but the overlapping of the two images imply a fracturing and multiplying of this point. As Hito Steyerl states "The viewer is mirrored in the vanishing point, and thus constructed by it. The vanishing point gives the observer a body and position."¹³⁷ In this film scene the point that helps to ground Holly is shown to be an illusion she constructs, and is without real grounding.

Victor Burgin suggests a correlation between narrative and perspectival models: "Narrative is normally the equivalent of perspective: bridging gaps, it smoothes discontinuities into a continuum"¹³⁸. But in this scene the narrative timeline of *Badlands* appears to alter direction as Holly focuses in on a still image's vanishing point, with this shift from film's linear progression to the perspective point of a still image the edges of both forms of representation are briefly disrupted and revealed.

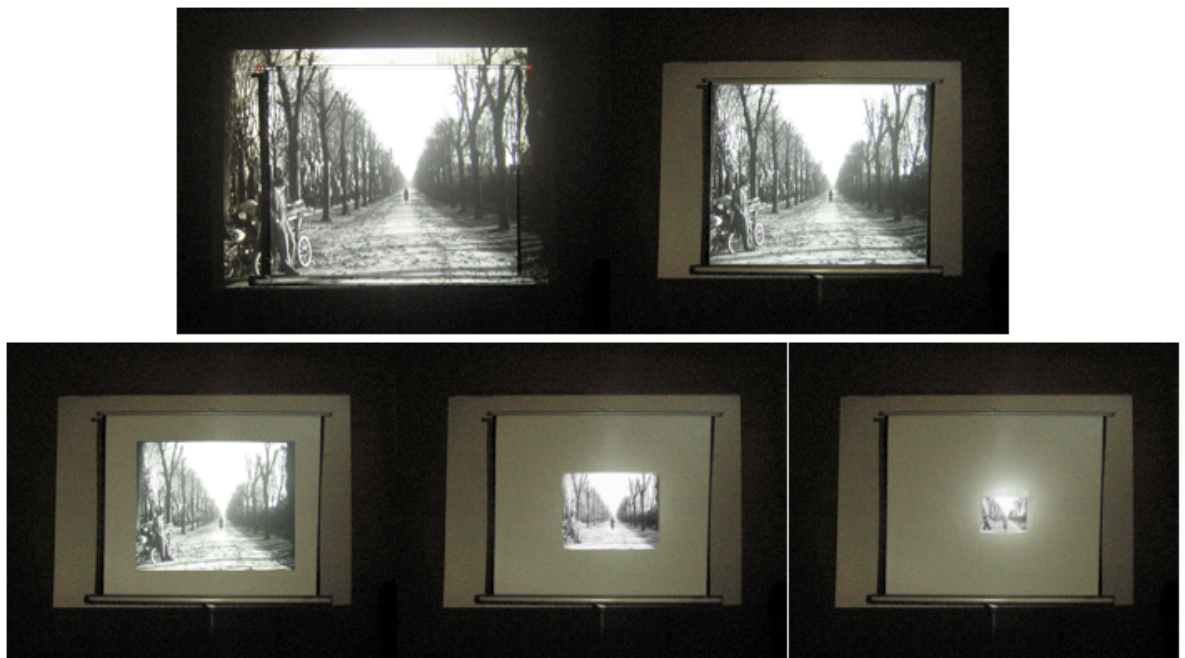
I use digital technology to create another layer of remove in my work, in this case it is the increasingly obsolete form of film that hovers ghost-like within the ill-fitting frame of a newer medium that has stripped it of its material presence. My work *Vanishing Point* (2013) uses the final scene from *The Third Man* (Carol Reed, 1949) in which Anna walks down the length of a boulevard. The original clip lasts well over a minute and begins with her as a tiny speck on the horizon, growing in size as she walks towards and then past the fixed camera to exit the frame.

In this installation the film's frame is in perpetual motion, zooming inwards and outward in an endless loop that matches the backwards and forwards motion of the looping film clip. The once fixed alignment between film frame, projection and screen becomes dislodged as the imagery either spills over into the gallery space, or recedes into the screen. The frame's shifting scale corresponds to Anna's motion, so that she remains at exactly the same size, despite either walking towards or away from the camera (as the film loops backwards).

¹³⁷ Hito Steyerl *In Free Fall: A Thought Experiment on Vertical Perspective - The Wretched of the Screen* (Sternberg Press, 2012), pg.19.

¹³⁸ Victor Burgin *The Remembered Film* (Reaktion Books, London, 2004), pg.27.

In the original film scene Anna is walking away from her lover's funeral and towards the fade to black of the film's completion, so by holding her in place with this looping action, she is caught in limbo between these two 'deaths'. The filmic traits of narrative progress and resolution are denied as the frame shrinks and expands around her. This suspended state between two endings reflects the current position of celluloid film, made obsolete by a technology that also preserves and replicates it; film is caught in perpetual limbo between physical mortality and digital resurrection. The projection resembles the film's original format, but it is an immaterial ghost, able to pass through the frame that once fixed it in place.



Vanishing Point (2013)

If the imagery in the installation *24 Times* appears to transcend the boundaries of the monitors in a horizontal shift, with *Vanishing Point*, the transition across the screen's borders follows the vertical axis. In both cases the image seems to separate itself from the screen, but whereas *24 Times* highlights the kinetic qualities of film transportation, in *Vanishing Point* the frame slowly and immaterially drifts in and out of the screen's borders, counterpointing the walking pace of the onscreen character in order to hold her in a fixed position. An almost weightless negation of motion and progress occurs within the screen rather than across it, a vertical transformation in which the woman's motion, the

mechanical transportation of the film and the digital transformation of the frame all seem to balance each other out.



Vanishing Point - Details

The darkness surrounding the frame as it expands and contracts suspends the scene in limbo between the recorded and viewed space. In becoming a digital archive of a once physical medium the film content becomes groundless. As Mary Ann Doane states “The digital archive is either everywhere or nowhere”¹³⁹ *The Third Man* today exists mainly on DVD or online, and is therefore caught in this state of being “everywhere and nowhere”. This unmooring of films from their physical forms and fixed narratives appears to create an online need to compensate, to ground films in alternative ways. Numerous websites today are dedicated to finding the physical location of old film shots and it took me under a minute to find this image showing a perfectly framed present day location shot of *The Third Man*’s final scene.¹⁴⁰

¹³⁹ Mary Ann Doane, *Location of the Image: Cinematic Projection and Scale in Modernity*, Chapter in *Art of Projection*. Stan Douglas & Christopher Eamon (eds), (Hatje Cantze, Ostfildern, 2009), pg.161.

¹⁴⁰ <http://axion.physics.ubc.ca/thirdman/thirdman.html>



Present day location of *The Third Man*'s final scene

My interest for this type of shot was sparked when I was flicking through a DVD of *Vertigo*¹⁴¹ (Hitchcock, 1958) and realized that two consecutive chapters began with the same location shot at exactly the same angle, yet at different times of day and different seasons. The repeated shot looks through the depths of a cloister, suggesting a deeper timescale that the film momentarily shares with the monastery's architecture, the camera then pans on its axis to a scene framed by one of the arches, returning the viewer to the film narrative. This panning shot implies that a shift in camera angle can reveal different temporalities sharing the same space. Looking vertically through the old architectural space creates a vertiginous sense of temporal depth, with glimpses of seasonal shifts revealed in the interstices between the arches. By rotating the camera ninety degrees, the present moment of the film narrative is reintroduced.¹⁴²

¹⁴¹ The vertical shift of *Vanishing Point* merges *Vertigo*'s zoomed shifts of perspective and the stereoscopic 'zoom' in *Badlands*

¹⁴² This ties in with the film's themes of deep time, spiraling up from the past to infect the present. Between these clips Madeline has supposedly fallen to her death. The viewer is returned to a space that is subtly tinged with death and shadow. Returning to repeat the same shot infers that it will happen again, or that it has yet to happen.



Opening scenes of two chapters in *Vertigo* DVD (Hitchcock, 1958)

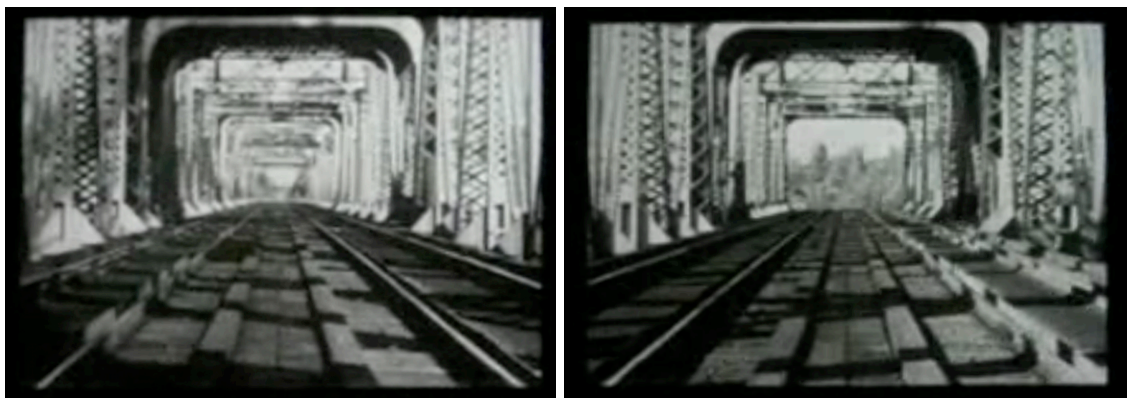
With digital transfer the cloister architecture becomes a hybrid space of representation, shared by analogue and digital media. The DVD's architecture allows film's intricately assembled, yet fixed structure to be altered by viewers who can skip through, revisit or freeze sections of a film to reveal previously unseen connections between scenes. Intrigued by this oblique reference to analogue film, revealed by the temporal structures of digital technology, I did some online research and found a contemporary image of the cloisters that perfectly matched the film shots¹⁴³. This scene therefore cuts vertically through numerous eras and media to create a zone caught between architectural, filmic, photographic, digital and online space, a fragmented, yet unified space containing individual and cultural memories.

¹⁴³ <http://movie-tourist.blogspot.co.uk/2012/12/vertigo-1958.html>



Mission at San Juan Bautista – Today

In this vertiginous scene Hitchcock appears to suggest an alternative temporal depth that subtly distorts the fixed horizontal flow of film narrative. This shift between the vertical and horizontal appears in Richard Serra's avant-garde film *Railroad Turnbridge* (1976), which explores the spaces produced and shared by different industrial structures. Serra placed a film camera at the centre of a revolving bridge, pointed straight down the railway line to show its distant vanishing point. As the bridge starts to rotate this point is split to create the framed image of a slowly revolving landscape, seen through the bridge's fixed form. This film takes a step back from the content of the internally framed image to focus on the mechanisms surrounding it and their interaction between vertical depth and horizontal motion.

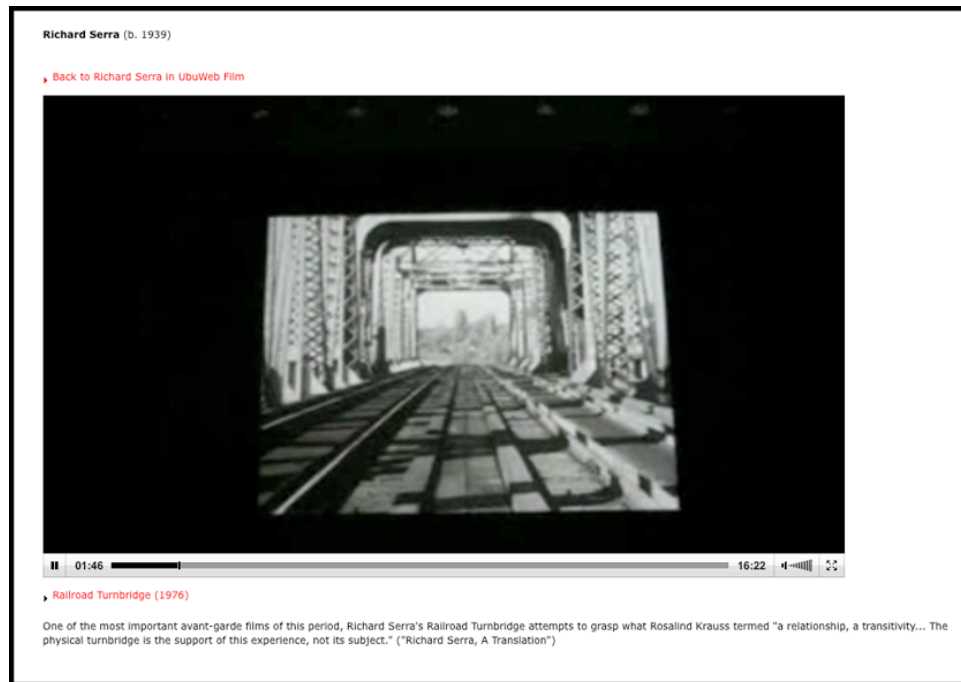


Railroad Turnbridge (Richard Serra, 1976)

When describing this work Serra said “*I think of this bridge as a railroad over a void: in the film, its structure is both means and end.*”¹⁴⁴ What interests me here

¹⁴⁴ Quote from University of California Berkeley Art Museum and Pacific Film Archive website <http://www.bampfa.berkeley.edu/film/FN17461>

is where this film and its structure exist today. By far the most readily available way to see this work, along with similar films of this period, is through online websites¹⁴⁵. Watching this footage online, another step back appears to have been taken; the structures of both the bridge and film have receded into the frame of digital viewing. The film now floats within the void of an ill-fitting wide-screen format, which is itself contained within a window displaying technical, historical and theoretical information about the work.



Railroad Turnbridge as seen on Ubuweb

Despite their inherent differences, the Hollywood illusionism of Hitchcock and the structural films of Serra explore similar themes in these scenes. With both examples the physical and spatial structures of architecture and film appear to reflect on each other by using a vertical format that excludes (momentarily in *Vertigo*) any narrative flow. The physical form and spatial depth of architecture is folded into a film format, stripping it of its material presence and sense of place. When transferred to digital formats it is film itself that is divested of its physical form and location, becoming a distant echo of its former existence.

Bridge (2012/13) a work made in the later stages of my PhD, originally set out to create a form of *mise en abyme* that incorporated architectural, photographic, filmic and digital structures, all layered together within the same perceptual

¹⁴⁵ Such as *Ubuweb*

space. This work came about from visiting the websites (mentioned earlier) showing current day locations of classic film sets. Film effects how certain cities are perceived (for example New York or San Francisco), creating memories for spaces that a viewer may never have visited, or a sense of déjà vu for spaces that are familiar. I decided to search for some 'iconic' film locations set in Newcastle, but this is not a city renowned for its history as a cinematic backdrop, so choices were limited¹⁴⁶. *Get Carter* (Mike Hodges, 1971), specifically the scene showing Michael Caine running over the High Level Bridge¹⁴⁷, seemed to be the obvious choice as it takes place on a famous local landmark which has remained relatively unchanged in the 40 years since the film was recorded.

Both film and bridge are part of Newcastle's cultural history, and when crossing the bridge this scene often surfaces in my memory, creating a sense of the space doubling and overlapping on itself. These mediated memories, and the examples of layered film spaces mentioned above, reminded me of my earlier stereoscopic work, so I attempted to create this format by taking a digital photograph from a slightly different angle to the camera's point of view in *Get Carter*.

By taking a screen-grab of the film location on a tablet device, and using a compact camera with HD video I could compare the screens of both devices until the exact match was found. The compact camera's zoom lens allowed me to find the correct lens setting of the film camera that shot the original footage. Surprisingly, combining this shot with a still from *Get Carter* created a perfect sense of three-dimensional depth when the two images were observed using stereoscopic glasses.

¹⁴⁶ *Cul de Sac* (Roman Polanski.1966), which was set on Lindesfarne, was also a possibility.

¹⁴⁷ There are numerous websites showing current site locations from this film



Bridge (2012/13)

Stereoscopic photography and the iron bridge, both developed in the 19th Century are used here as structures that contain and fold together 20th Century film and 21st Century new media spaces. In standard stereoscopic images the gap dividing the two frames is spatial, it represents the slight difference in angle between a viewer's eyes that creates depth of vision. But in *Bridge* this gap also has a temporal quality, the two images share the same structural spaces (the stereoscopic format and the bridge), but not the same instant, being separated by over 40 years.

As with Huyghe's *L'Ellipse* (see Time Chapter, pg 111) what is normally an instantaneous gap has been filled with the decades separating different recordings of the same location. The bridge's structural form holds the three dimensional space together, as with the repeated scenes in Hitchcock's *Vertigo* distinct differences exist in the hybrid zone caught within this form: pillar bolts are missing from the older scene, while in the present day shot a tree has grown in the spaces between the bridge's structure. When the bridge is viewed as a stereo image these discrepancies become transparent, appearing to hover in the void between the layers of space and time. The tree seemss like a ghost of the present, its existence hovers in the gap between the frames like the plants growing between the steps in *Time Machine II*. Gateshead car park (given iconic status through *Get Carter*) is visible through the bridge pillars of the film still, but is absent from the digital image, having been pulled down shortly before the video was shot. When the two scenes are folded together the car-park hovers on the horizon like a distant, spectral world.

Though this imagery was of interest, it seemed that these photographs were an exercise in before and after, whereas what interests me is folding different representations of time within a single space and observing how they interact. I

felt this idea could be expanded by creating a video version that would include a loop of the original footage of Caine running through the bridge and a digital video of random passers-by occupying the same space. Moving stereo images contain more distractions than photographs, so the format needs to be precise. The wide frames did not suit stereoscopic viewing and needed to be cropped into a squarer shape to make it easier for the viewer to overlap the images. Cropping the image removed the end of the bridge, giving the iron structure a circular form that matched the looped videos, allowing the figures that passed through the frame to reappear indefinitely within the bridge's distorted space. Unfortunately, the down side of this crop meant losing the section of the frame containing the car park and tree.



Bridge (2012/13)

This new format reminded me of a scene from *Citizen Kane* (Orson Welles, 1941) containing a rare filmic moment in which narrative's horizontal motion suddenly distorts into the vertical. As a desolate Charles Foster Kane wanders through his empty mansion, he passes through a space occupied by two facing mirrors and is caught in the void created by this infinite recursion, the viewer catches a glimpse of Kanes inner state, as his echoed form imprisons him in a perpetual present, stretching into infinity, but also collapsing down into itself, like a strip of film concentrated into a single frame - then the story moves on.



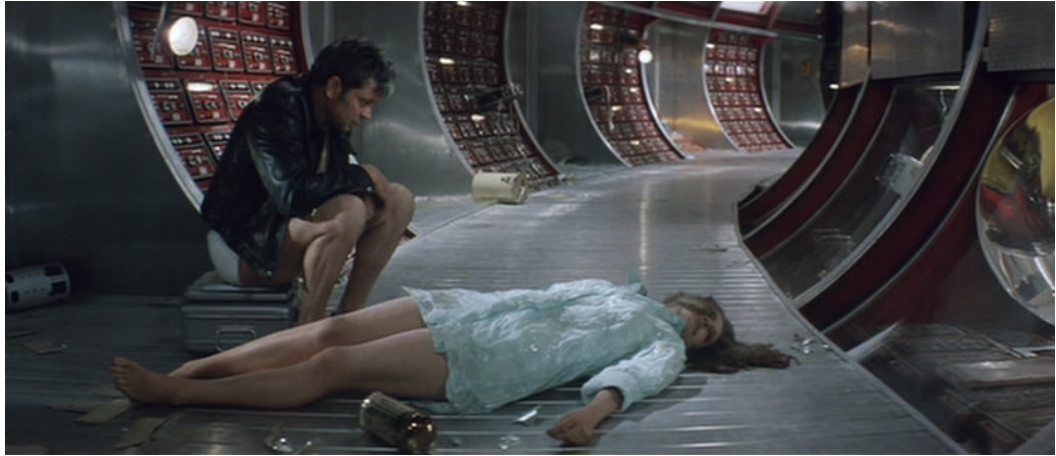
Citizen Kane (Orson Welles, 1941)

The looping corridors in *2001: A Space Odyssey* (Kubrick (1968) and *Solaris* (Andrei Tarkovsky, 1972) contained a similar sense of time out of time. The inhabitants of these circular structures occupy a distorted version of modernity's linear temporality, where the normal rules of space, time and gravity do not seem to apply. In *Solaris* dead loved-ones, apparently drawn from the memories of crewmembers, flit through the space station's architecture, merging together past and present, illusion and reality. This space seems like an extreme example of the filmic world suggested by Anthony Vidler - "...the filmic art offered the potential to develop a new architecture of time and space unfettered by the material constraints of gravity and daily life."¹⁴⁸



2001: A Space Odyssey (Kubrick, 1968)

¹⁴⁸ Anthony Vidler, *Warped Space* (The MIT Press, Massachusetts, 2000), pg.102.



Solaris (Andrei Tarkovsky, 1972)

Yet analogue film is still a material form that is not completely 'unfettered' from life, hence the use of distorting mirrors or circular space stations that symbolically overcome the filmstrip's linear form. Gene Youngblood states, the introduction of digital media does allow films to pull away from their physical form: "Digital cinema offers formal solutions to 'tense' limitations of mechanical cinema. Past present and future can be spoke in the same frame at once"¹⁴⁹

Bridge, by introducing moving imagery to the stereoscopic format, combines recordings from different eras within the same looping structure. The viewer's perception closes the gap between the two horizontally aligned screens, as well as the interstice between the moving imagery¹⁵⁰, distorting the forward momentum of film and the vertical space of the stereo image. The tension of these combined elements appears to twist and buckle the iron bridge that contains the endlessly repeated actions of onscreen characters. Due to the different length of the two videos these loops are never the same in the viewer's perception: present day figures walking across the bridge interact with Caine's running figure in ever changing audio-visual configurations that imply a spiralling rather than circular relationship.

Using moving imagery instead of photographs helped to combine other spaces in this work. Get Carter's sound effects (running, shouting and a car chase) merge with the ambient sound of contemporary traffic and passers-by. The

¹⁴⁹ Gene Youngblood, *Cinema and the Code* (Leonardo, Computer Art in Context Supplemental Issue, 1989), p.27.

¹⁵⁰ . The simplest analogy for this would be watching two individual packs of cards being shuffled into each other, or more aptly, watching two flip books merging their animations into each other.

nearby cathedral bell can also be heard tolling throughout the work, suggesting the passing and endless repeating of time, an effect that is mirrored in the distorted relationship between the horizontal progression of onscreen figures and their vertical repetition. By overlapping analogue and digital media together in a viewer's perception, *Bridge* creates a phantom way of seeing and hearing that challenges film's industrial progress and standardized outlook.

In a scene from *Westworld* (Crichton 1973) a laboratory corridor is viewed from opposite angles, one shows the analogue perspective of a man, while the other is a digital point of view of an automaton that is chasing him down.¹⁵¹ This representational space is created and shared by obsolete and cutting edge technologies, and appears to be either falling apart (like an abandoned film-set) or being constructed (like the crude pixilation of an early video game¹⁵²). In both cases the space is seen afresh: with digital vision a new world is opening up, and with film the established viewpoint is dismantled and re-evaluated.



Scenes from *Westworld* (Crichton, 1973)

Viewers had learned to locate themselves (their thoughts, memories, bodies) within film space, but this new digital perspective¹⁵³ creates a free-floating, ill-fitting zone, filled with empty voids, an incomplete world, where human fears and frailties are exposed by an unknown technology rather than glossed over by a familiar and established media. The transfer of films such as *Westworld* to digital formats creates a similarly amiguous state in which celluloid and digital media share a new hybrid zone. These two formats from different eras overlay

¹⁵¹ This was the first computer simulation in mainstream cinema. Digital motion is shown to be made up of shifting facets that transform from within a single frame rather than in analogue film where multiple frames are transported across a screen. Vision becomes the processing of information, regardless of its content, order or direction.

¹⁵² *Duke Nukem*

¹⁵³ This automaton perspective is both primitive and cutting-edge, familiar and completely new.

each other, their alternative methods for representing space and time testing the edges of both.

This tension between different formats did not seem to be fully explored within *Bridge's* stereoscopic format, leading me to experiment with alternative installation approaches. I remembered seeing some GIF¹⁵⁴ animations of stereoscopic imagery from the American Civil War¹⁵⁵. GIF's are the simplest form of digital animation, often comprising just two images that flicker back and forward to create a stuttering motion. By using this approach a three dimensional effect could be produced without the need for stereoscopic glasses, simply by oscillating between the two images. The merger of 19th and 21st Century technology that created these animations intrigued me; the Internet appeared to breath new life into an obsolete format and I felt this way of viewing had potential for an alternative version of bridge.

With stereoscopic imagery two images overlap within the viewer's perception, creating a unified, yet motionless space. With GIFs a sense of space is created by the rapid shift back and forth between images, this is a much more kinetic and fragmented method of representation that gives what was a spatial gap a temporal form. These basic animations dissolve the surface of photographs, creating an alternative space within which to contemplate historic imagery; they seem like fragments of a wider story rather than fixed documents of the past. Yet despite producing the illusion of a three-dimensional world, the viewer cannot enter this space. The civil war scenes then are enclosed fragments of the past partially reconnected to the present moment by a digitised action.

¹⁵⁴ Graphics Interchange Format- an early form of low-resolution computer animation created in the 1980's, originally used for internet logos and advertising, but more recently utilised as a form of cultural appropriation in which film segments are looped and posted online.

¹⁵⁵ <http://www.npr.org/blogs/pictureshow/2011/06/28/137450464/3-d-motion-pictures-from-the-civil-war>



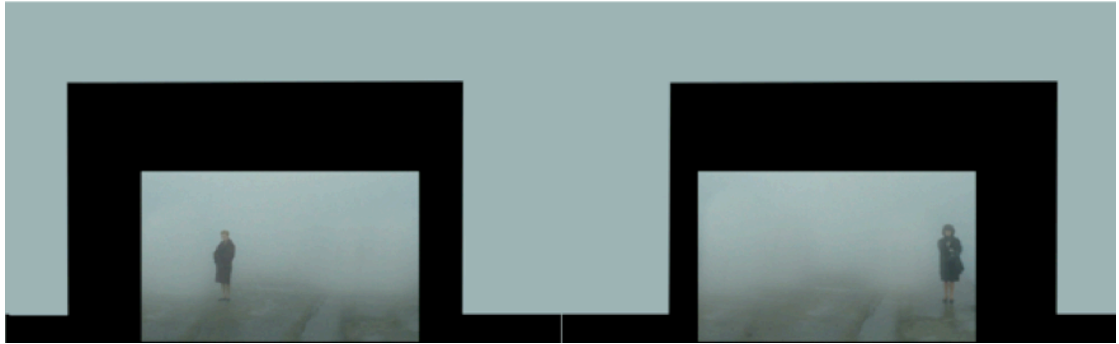
Interior of Fort Sumter, Charleston, S.C- Stereoscopic Image

An image of the bombed-out Fort Sumner held a particular resonance for me. Something about the partially destroyed structure of this stronghold fitted the frenetic back and forth motion of the animation that produces a space caught between the creation and the dissolution of form. The word stereoscopic is derived from the Greek for solid seeing, but the GIF translation of these images creates a space that is caught between a state of flux and fixity. This articulated the type of spatial and temporal tension I was looking for. The two videos from *Bridge*, both the scene from *Get Carter* and the digital documentation of the same location, were edited together within the same digital timeline to create a form of GIF. Unlike the basic GIF animation this edit dramatically fluctuated its shift between scenes, with transitions ranging from individual frames to several seconds in length.¹⁵⁶

To connect *Bridge* with other work created during my practice-led research I decided to merge it with another installation piece that had been recently abandoned. In this (untitled) work a single screen displayed a looped scene from Antonioni's *Red Desert* in which five figures enveloped in fog individually emerge and disappear back into the mist. The screen's shadow was digitally animated to shift in relation to the reconfiguration of these characters¹⁵⁷.

¹⁵⁶ This created a pulsing rhythm similar to the light pulses in *24 Times*.

¹⁵⁷ See Screen Chapter, pg 143, for a fuller description of this process).



Animated screen shadow using scene from *Red Desert* (Antonioni, 1964)

By using this digital shadow in *Bridge II* the shifts in camera angle between the two clips appeared to influence the trajectory of the projector's light beam, with the screen's shadows perfectly matching these changes in perspective. At points when the footage shifted rapidly frame by frame the shadow would create a physical vibration that was intensified by the fragmented audio. As with *24 Times*, sound intensifies the fragmented spaces opened up by visual animation.



Bridge II (2013)

The gap between two stereoscopic images is a zone of spatial and temporal reorientation, a slight shift in perspective between two records of the past that merges with the viewer's binocular vision in the present. Film contains thousands of these temporal and spatial shifts that animate frozen documents of the past, pulling them into the flow of the viewer's present. In cinema it is the screen's stable framing of the film frame, along with a coherent narrative arc and synchronised audio-track that hides the fragmented energy underlying this uncanny act. In *Bridge II* the projected image jumps backwards and forwards between two camera angles, this oscillation between the audio-visual content of these two looping scenes removes any narrative flow, while the screen's shuddering shadow suggests an unmooring of the anchored relationship

between film and screen. Breaking down the elements that make up cinema in this way creates alternative gaps that oscillate between film's illusory space and a gallery's physical space.

The following chapter explores the role of the screen as interface between worlds. Physical and digital techniques are used to disrupt the previously fixed cinematic alignment of the projected image and screen, creating gaps that fold the temporal/spatial qualities of film and digital media together in a limbo zone between past and present. Unlike the chaotic fragmentation created by works like *Bridge II*, the installations discussed in the *Screen* chapter examine how the gaps created by the dislocating techniques mentioned above can be used as spaces within which to contemplate the relationship between the diverse elements and media that make up cinema.

Chapter 4. Screen

The cinema screen has always been a complex zone of interaction: both a window into other worlds and a mirror reflecting back the perceptions and memories of viewers, along with the wider society they inhabit. The work in this chapter uses new media and installations in ways that amplify this volatile interface by combining the physical distortions of screens with the shifting boundaries of film.

The installation *First and Last Sounds*¹⁵⁸ was created during the first year of my PhD and consists of a floor-based projector and a steel screen, folded in such a way that it becomes a freestanding object within the gallery space. Normally any allusion to a screen's physical presence is removed by flattening it against a wall, heightening its illusory 'window' effect, but with this work, the screen's objective presence is made apparent. By folding the screen in on itself the imagery projected on its surface is fragmented and partially blocked to create shadowy voids within both the film and gallery space. This irregular shape alters the relationship between the projected frame and screen; they no longer fit together, resulting in a section of the frame appearing on the rear gallery wall.



First and Last Sounds- Installation Shot (2011)

The screen's smaller triangle shows a character from *Goodbye Mr Chips* (Sam Wood, 1939) calling out "Hello..." against an alpine backdrop that is clearly a studio set. The larger section contains documentary footage of the Alps used in

¹⁵⁸ Adorno quote in Thomas Y. Levin's *For the Record: Adorno on music in the Age of Technological Reproducibility* (October, Vol.55, Winter, 1990), pg.41.

the same film scene, while on the gallery wall behind the screen the two sections are flattened down into a mountain landscape silhouette. This primitive depiction is reminiscent of earlier representational forms, such as shadow plays and flat theatrical backdrops. While the echoing call harks back to the earliest analogue recordings that separated the body from its voice:

“...“Hullo” Edison screamed into the telephone mouthpiece. The vibrating diaphragm set in motion a stylus that wrote onto a moving strip of paraffin paper... Upon replaying the strip...a barely audible “Hullo!” could be heard.”¹⁵⁹

The looped imagery projected onto the steel structure precisely fits its irregular folded form, combining to create a durational installation within the gallery setting. Yet the screen’s physical presence is contained within a wider digital format that overflows its edges. This extended frame both creates and frames the silhouette of the Alps - a shadowy void created by the material blocking of light is enclosed within an immaterial digital frame. This disjointed framing relates to my interest in the nature of digital transfer and its effects on the cinematic projection of film footage. Within this new cinematic formula the image projected onto a screen is no longer a shadow created by light passing through a material filmstrip, instead it could be seen as the shadow of a shadow. Similarly, the digitally transferred audio of the man’s call has separated from the filmstrip and the imagery with which it was once synchronised, becoming an echo of an echo that floats through the different layers of illusory and physical space.

The layered shift between surface and depth (both physical and illusory) in this installation reveals a tension between presence and absence that lies at the heart of cinema. This ill-fitting and freestanding screen gives the projected image a vertically fragmented trajectory that highlights the beam’s spatial existence within the gallery. Unlike 20th Century avant-garde work, such as Anthony McCall’s *Line Describing a Cone* (1973), the light-beam in *First and Last* is not perceived as having a physical form within the viewing space. The folded screen gives the projection a multi-faceted dimension, revealing its depth through imagery projected onto both sides of its form. This creates a planar

¹⁵⁹ Friedrich A. Kittler, *Gramophone, Film, Typewriter* (Stanford University Press, 1986), pg.21.

sense of space similar to my stereoscopic imagery (*Tape* and *Bridge*¹⁶⁰), yet in this installation, rather than purely perceptual representations of space, these layers existed simultaneously within the film and gallery space.

Scale shifts dramatically in analogue cinema- the screened image may be huge, but it is the projected shadow of a much smaller film frame. *First and Last Sound's* screen, positioned half way through the beam's journey, is located between these extremes and its intermediate scale reflects this position. Caught between light/shadow, image/object, this folded screen occupies an interzone similar to one discussed by theorist Kate Mondloch in reference to Michael Snow's *Two Sides to Every Story* "...the screen is exposed as both a cipher- a (non) site for illusionist content- and an object to reckon with in its own right"¹⁶¹



Folded Steel Screen

Projecting onto this polished steel structure further emphasises its ambiguous qualities: its material nature is revealed, yet the shiny surface also creates a spectral image, a fleeting illusion that passes over it's surface while also seeming to emanate from within the filmic space. This freestanding screen seems to hover between substance and ephemeral illusion, a state heightened by its revelation of cinema's underlying stillness in the form of the frozen figure. When perfectly aligned with the projected frame the screen becomes invisible, taking on the ephemeral motion of the images that are transported across its surface, but any overlap or fragmentation in this relation exposes the screen's physical and static form.¹⁶² This implies an intricate relationship between the permanent and transient in cinema, one that is becoming more complex with

¹⁶⁰ Like these works sound is used to pull all the layers together

¹⁶¹ Kate Mondloch *Screens: Viewing Media Installation Art* (University of Minnesota Press, Minneapolis, 2009), pg.17.

the transfer of celluloid film to alternative formats. Digital technology reveals celluloid's underlying materiality at the same moment that it strips it away.



First and Last Sounds (2011)

The figure's voice echoes endlessly throughout the installation space, resonating back on itself to create the illusion of time both passing and standing still. Several speakers are positioned around the gallery, each attached to an mp3 device that plays the same echoing call at varying volumes. Each of these recordings has a different length, so that though the multiple echoes loop, their combined effect never fully repeats. As with *Bridge* (see Space chapter, pg143) recorded past and viewed present fold back into each other in a seemingly infinite variety of ways.

There is a quality of both separateness and connection to *First and Last Sounds*. The projector, screen and speakers work together to form a complete installation, yet they also contain a level of disconnection that reveals the gaps between cinema's structures. This is physically embodied in the screen folds that act to both fragment and join the visual elements. Echoes and shadows occupy these spaces caught between illusory and physical spaces, creating an endless exchange across the border between the visible and the invisible, past and present. The actor attempts to bridge these gaps in the representational field with a call originating from a single internal source, but which now echoes endlessly through both film and viewing space. This creates an auditory version of the multiple layers of imagery, surfaces and shadows formed by the point of a single projection that simultaneously fragment and fold the onscreen and gallery

¹⁶² *Crash* is a clearer example of how alterations to a screen's form can reveal and work with the

space into each other.



Installation Shots

The calling figure seems to occupy a stable position, centred within a triangular plane, yet this is just one section of a folded screen that fragments and destabilizes his location. The screen's traditional role as a provider of a single and fixed frame of vision is brought into question; it now occupies a zone between film's material and immaterial aspects. Likewise the man's voice, which should confirm his physical presence, has become a disembodied reverberation, unmoored from its point of origin. The removal of a stable container for this imagery, in the form of a screen or narrative, reveals a fragmented subjectivity, cut off from any spatial or temporal location.

relationship between stillness and motion.



'Opposing Mirrors and Video Monitors on Time Delay' (Dan Graham, 1974)

Dan Graham's *Opposing Mirrors and Video Monitors on Time Delay* (1974) also confronts the viewer with a disjointed viewpoint. In this work their own body is caught between the gallery space and its videoed/reflected representation, repeated ad infinitum within facing monitors/mirrors. Due to a slight delay in feedback between camera, mirror and monitor, the viewer sees their own image at a temporal and spatial distance, leading to a confusion as to their status as viewing subject and viewed object.

In *First and Last Sounds* film itself is caught up in a looped feedback that questions its identity and physical presence in the world. This unstable position is normally diminished by perfectly aligning the projected frame and screen, yet the use of ill-fitting and irregular frames within frames stretches back over 100 years in film's history. A scene from *Suspense* (Lois Weber¹⁶³, 1913) shows a man positioned at the centre of a triangle that designates a sense of contained stability¹⁶⁴ while also isolating him within a black backdrop. When he 'speaks' into a phone two new spaces open up: the man's wife is shown on the other end of the line, unaware that a villainous figure (occupying the other third of the frame) is watching her through a window. Realising her peril, the wife calls out to her husband for help, but the intruder cuts the phone-line, separating the couple.

¹⁶³ Hollywood's first female director

¹⁶⁴ In a hierarchical male businessman sense



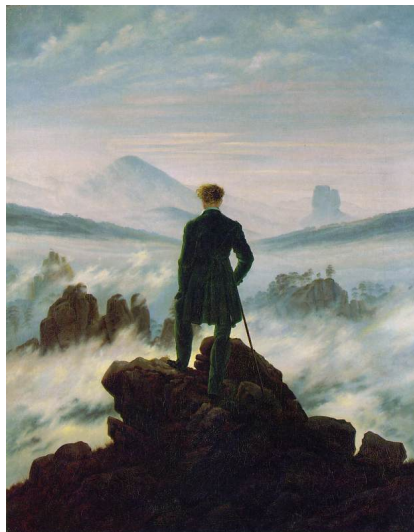
Suspense (Lois Weber, 1913)

By witnessing these events from a distance the central character's position of authority and security fragments into uncertainty and disorder. The blurred shadows of the triangle that dissect the frame represent a sense of spatial and material remove, as well as the novelty and trauma of occupying a technologically connected yet physically separated world. The fact that talking cinema had yet to be invented adds to this effect. The muteness of the scene, despite the visual indication of telephone dialogue, intensifies the man's isolation and impotence; he is caught in the disjuncture between two technologies that have not yet fully come together.¹⁶⁵ This is the same zone occupied by the figure in *First and Last Sounds* he is trapped in limbo between different layers of representation.

This triangular form combines a sense of subjective grounding and fragmented uncertainty that brings to mind Casper David Friedrich's *Wanderer in the Mist* (1818). The loose pyramid of rocks in the foreground implies both a solid pinnacle that the figure has ascended and a shifting landscape, partially submerged beneath an ephemeral mist. The scene of *Mr Chips* climbing in the

¹⁶⁵ Digital technology is used in my installations to explore these joins between different media that are contained within cinema.

Alps and seeming very unsure of his place in the grand scheme of things, suggests an inverted version of *Wanderer in the Mist*. The smooth surfaces of Friedrich's paintings depict disjointed planes and spaces, unified by careful composition and framing. *First and Last Sounds* contains similar layered voids and surfaces, hinting at traumatic and fragmented forces at work under the gloss of modernity's facade. In particular, the folded edge that cuts through the screen and its imagery creates a rupture that openly references the disjointed nature of film.



Wanderer in the Mist (Casper David Friedrich, 1818)



Goodbye Mr Chips (Sam Wood, 1939)

When analogue films are transferred to digital formats their fragmented structure becomes more visible, but only as a coded artefact. The screens in my installations act as stand-ins for this physical absence, by folding the screen in *First and Last Sounds* the edges that normally act as boundaries between film

and viewing spaces enter the frame. This creates a shadowy gap that references the divide between two film frames, while also suggesting the distortion of a single frame. Filmic transportation (of multiple frames) and digital transformation (within a single frame) are brought together in a gap that is also a physical space within the gallery. This diagonal fold is a manifestation of the zone of separation and connection between stillness and motion and the cinematic relationship between a past film space and a present viewing space. It resembles the 'break' referred to by Christoph Cox- "The 'break', then is the cut, line, or bar that both conjoins and disjoins the two terms of an opposition: ...sound and image, phonography and photography...It is also the caesura between past and future..."¹⁶⁶

The figure calling across this divide is himself caught up in this limbo space: by freezing him on a single frame he becomes an image of the past, yet the mountain mist drifting across his body suggests an element of the 'present' moment. Fog and mist designate a shift in aspect, a dissolving of boundaries and surfaces, a movement between worlds, both real and imagined that are also connected by the echoing voice that once issued from the man's body.

The fold and its shadow show the screen as a solid and blocking object rather than an Albertian portal into another world, a challenge to the traditional notion of the framed image that is also found in Jeff Wall's *Blind Window* series (2000). These large-scale transparencies are displayed on light-boxes that minimize awareness of the image's surface, yet their photographic content shows blocked off windows that actively emphasise the framed flatness of the light-box rather than its illusory depth. The ill-fitting space between window and photographic frame suggests a gap between seeing and not seeing that is occupied by the blind, objective 'eye' of the lens and the seeing, subjective eye of the viewer.

¹⁶⁶ Christoph Cox *The Breaks*, Essay on *Christian Marclay: Festival*, Issue 3 (New York/New Haven: Whitney Museum of American Art/Yale University Press, 2010)



Blind Window (Jeff Wall, 2000)

This relationship between disjointed surfaces and blindness occurs again in *Vampyr* (Dreyer, 1932) when a camera looks down on a man in a coffin before shifting to his point of view, making the viewer see through the dead eyes of the man/camera. A window in the coffin lid becomes a frame that aligns with the cinema screen, though due to their different format there is a gap between their edges.



Vampyr (Carl Dreyer, 1932)

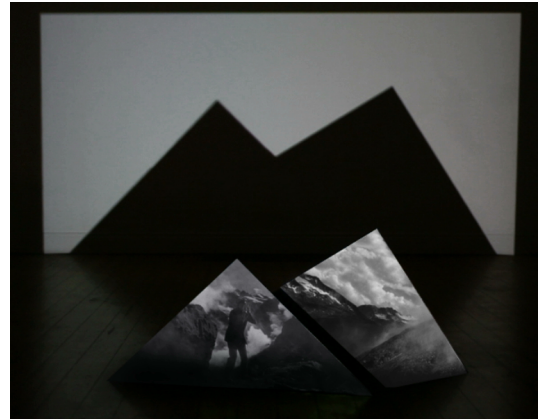
This space between image and screen, along with the disembodied sound effects filtering through the glass (the lid being screwed down) create a horrific sense of remove and disempowerment in the viewer¹⁶⁷. Despite being made shortly after the successful introduction of sound, Dreyer deliberately desynchronises recorded sight and sound to create zones of existential trauma similar to the mute telephone conversation within the ill-fitting shadows of

¹⁶⁷ This seems like a horrific version of the ill-fitting frame that alludes to a sense of disjointed disembodiment in *Sherlock Jr.* (Buster Keaton, 1924). See *Screen* section in Contextual Review

Suspense. Mechanical and human perceptions merge and separate in these spaces, blurring the distinction between objective and subjective vision.



Suspense (1913)



First and Last Sounds- Installation Shot

A scene from *Black Narcissus* (Pressburger & Powell 1947) showing a nun tolling a bell on the edge of a chasm¹⁶⁸ was originally created by filming the actress in a studio-lot while blocking off half the camera frame with a black matte. The same filmstrip was then reused to record a painted Himalayan backdrop, this time with the other section of the frame blocked out. When viewed as a still, the crude divide between the photographic and painted planes are obvious, filmic duration is required to complete the illusion. The studio-lot and painting are broken down into a string of photographic images and then brought into a unified space within the projected film's flickering motion. This movement dissolves the surface of the photographs, the painting and the cinema screen into each other within the viewer's perception. As well as invisibly bridging the external divide between frames, film motion is also used here to hide an internal divide within each frame.

¹⁶⁸ Mountain scenery is often used as a background motif in my work to represent a gulf between the representation of surface and depth from different eras. (For example, in *First and Last* and also "*We'll revisit the scenes of our youth*")



Black Narcissus (Pressburger & Powell, 1947)

Digital viewing patterns are breaking down this relationship between cinema's elements, transforming the once fixed boundaries between film, screen and viewer. Anyone with a remote control can freeze a film and zoom that frame in or out, an act that turns the screen into a disconnected object. In my reworking of this scene *Matte Black Narcissus* (2013) digital technology exposes and exaggerates the internal diagonal split between the photographic and painted surfaces by dividing them back into their separate recordings. This creates a triptych made up of the painting, the film footage, and the digital representation of the original mattes. Like *Suspense*, ill-fitting forms of representation are seen to occupy a disjointed frame, exposing underlying anxieties that cinema narrative normally attempts to hide or exploit¹⁶⁹.

As with *First and Last Sounds*, a film character attempts to bridge a representational void through the use of sound. The endless repetition of the tolling bell and the echoed call hover in an intermedial space, caught between layers of past and future representation in an endlessly looping present¹⁷⁰. When exhibited, the sound in these two works has a different impact that can be attributed to the different nature of the screens: The flat screen that divides the imagery in *Matte Black Narcissus* acts as a barrier to the sound, while the fold between layers in *First and Last Sounds* has a physical depth, giving the audio enough space to connect with the visual elements of the film¹⁷¹. This shows the importance of the screen's fold in emphasising how the gaps between frames

¹⁶⁹ Marion in *Psycho*'s driving sequence- see Space chapter

¹⁷⁰ The smoke and reflections in "We'll revisit the scenes of our youth" or the tolling bell in "We're going for a trip across the water..." occupy a similar zone.

¹⁷¹ My description of the use of space to merge sound and imagery in reference to *Tape* goes into more detail about this- see Space chapter.

both separate and connect audio-visual content. The screen's shifting relationship with its internal and external boundaries plays an active part in my installation work; especially when sound is used to connect otherwise separate elements.

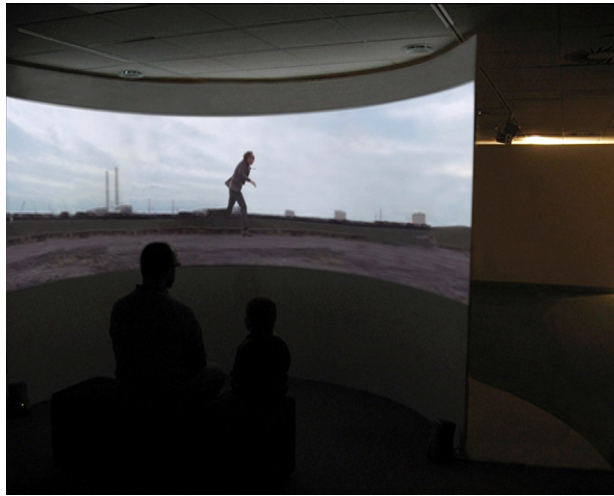


Matte Black Narcissus (2013)

Running Time (2008) also uses sound to bridge a divide, in this case the opposing edges of a single curved screen. Viewers sit within the screen's semi-circular form as a figure projected onto its surface runs in loops around them, sometimes visibly (passing across the screen) and sometimes audibly, as speakers trace his footsteps in a circle around them. This work uses digital technology to reference 19th and 20th Century curved screens, such as the Panorama and Cinerama¹⁷² that enfolded viewers within their visual fields. The screen in *Running Time* did not seem to be part of the work, it was just something that imagery was projected onto. For my PhD research I wanted to create screens with a more integral and sculptural quality within a gallery

¹⁷² A 1950's widescreen format involving three synchronised projections beamed onto a single curved screen

setting, and so I began experimenting with curved, elongated forms resembling the physical structure of a short section of filmstrip, cut away from their source and gently curling in on them selves.



Running Time: Installation Shot – Hannah McClure Gallery (Dundee, 2008)

Curving screens gives them a physical depth while simultaneously accentuating the flatness of their surface; they are brought into the gallery as an object, but also closed off from that space by emphasising their barrier-like qualities. Discussing this role, Stanley Cavell writes “It screens me from the world it holds – that is, screens its existence from me.”¹⁷³ By curling inwards, these freestanding structures create a perceptual and physical distortion between screen as window and object, suggesting a tension between the two roles.



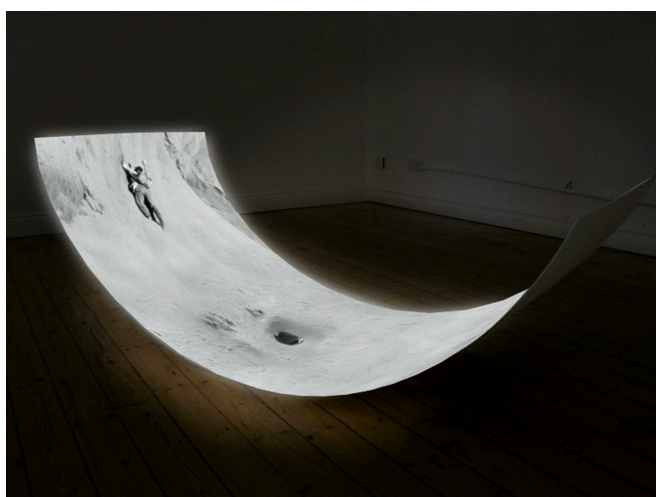
Curved Aluminium Screen

A variety of materials were tested for these screens. Frosted Perspex was the initial choice as it absorbs and retains projected light within its form, an effect

¹⁷³ Stanley Cavell, *The World Viewed: Reflections on the Ontology of Film* (Harvard University Press, 1971), pg.24.

that linked the screen to a filmstrip. This material proved to be too scratch prone and the costs involved in the moulding process were prohibitive. After testing various metals, sheet aluminium was chosen for the unusual effect it has on projected imagery, which seems to hover between physical presence and ghostly apparition. It was also a good material to roll into a curved form and seemed to hold its shape well.

Cataract (2010-11) and *Dune* (2010-11), the two works I made that utilised these screen forms, show figures struggling against natural phenomena, one character is trapped on the edge of a waterfall¹⁷⁴ while another struggles to escape from a sand pit¹⁷⁵. There are no perspectival reference points to create a sense of depth and direction with this imagery; the figures are trapped within shifting, distorted surfaces. Both these works used digital software to transform, extend and loop the original clips, creating a seamless and elongated screen by stitching together a patchwork of numerous frames.



Dune (2010-11)

¹⁷⁴ Buster Keaton in *Our Hospitality* (Keaton, 1923) The digitally extended waterfall also includes sections from 'The Missionary' and 'Apocalypto'. I originally intended to use a scene from *Way Out West* in which Lillian Gish lies unconscious on an ice floe heading towards a waterfall. The film's 'hero' runs across the ice fragments, scoops Gish up just before she reaches the edge and carries her to safety. This clip perfectly references the fragmented flow of images through a projector, Gish occupies a single frozen frame, while her rescuer's motion is the shift between frames, jumping across them to defy fate. The intention was to have the figure jumping off fragments of ice just before they tumbled over the edge, but this proved impossible to produce. After some searching the Keaton clip was found, and I decided it perfectly partnered *Dune*.

¹⁷⁵ *Woman in the Dunes* (Teshigahara, 1964)



Cataract (2010-11)

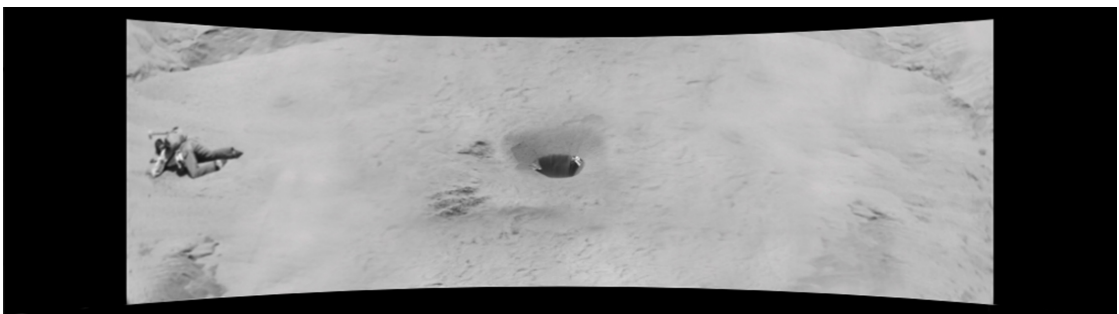
To prevent the projections from appearing warped when they made contact with the curved screen, they were digitally distorted so that the physical and illusory curvatures would balance each other out. This is a modern-day equivalent of a technique used in 18th Century anamorphic illustrations: Distorted drawings were 'corrected' by a mirrored cylinder placed in front of them to create a perceptually unified reflection. By looking into the distorted lens of a cylinder, the viewer formed a 'correct' view of a distorted image created in the past. The distorted lens and image form an intermediate reflection that only exists in its 'corrected' form in this hybrid space between past and present. I wanted to produce screens that produced a similar effect of an image hovering between 20th Century recordings and 21st Century viewing methods.



Anamorph with column 2 (Istvan Orosz, 1992)



Dune (2011) – Composite Panorama



Distorted version designed to fit curved screen

With *Cataract* and *Dune* the curved screens seem to be distorted by the ephemeral form of the waterfall and dune, while the projections appear to be weighed down by the materiality of the screens. The figures, trapped between these physical and immaterial distortions, are cut off from their original narratives. Like Sisyphean ghosts they forlornly attempt to escape a never ending and looped present, but are held back by these forces that suspend them between the film and gallery space. The short loops of the films perfectly match the curved structures they are projected onto, yet despite this precise framing, rather than enfolding the viewer within their imagery (as in *Running Time*) they fold in on themselves, blocking the viewer out while also trapping the struggling figures within their boundaries.¹⁷⁶ These works become self-contained, durational objects within a gallery setting, separated from film's linear progress.

The screens and their content both seem to be distorted by separate forces acting on them: the linear (industrial) transportation of imagery across a screen and the internal (digital) transformation of imagery within a screen. This distortion concentrates the films down into hybrid looping forms caught between

¹⁷⁶ The circle in *24 Times* has a similar quality

the point of a single frame and the linear trajectory of film. The figures occupy a durational trap that does not allow them to recede into the past (like a still image) or to move forward into the future of the film narrative. They struggle endlessly within a perpetual and traumatic present where their actions dissipate into a kinetic motion lacking any subjectivity; no longer subjects within a film, they are now subject to it within a new hybrid form.

Due to the cinematic qualities of this work I decided to produce these screens on a large scale (250 centimetres by 70 centimetres). Initial tests showed that the curved aluminium sheet turned into a rudimentary lens, with projected light concentrating at specific points on its surface, this seriously undermined the quality of the projected image. I attempted to diffuse this effect by buffing the aluminium's surface, and though this helped, the results were not effective enough. The screen side of the aluminium was painted white, but this felt like a compromise as one of the reasons for using this material was for the ghostly image it produced.

The structure's scale also led to minor warpage: when the screen for *Dune* was laid down, its curve flattened out slightly, while the tensile quality of the curved metal in *Cataract* made it difficult to maintain the screen's position against a wall. This project was set aside and, reflecting on this work now, part of the issue was a problem with scale in relation to the gallery setting. Choosing the relevant size of the screens had proved difficult, I was uncertain whether this should reflect the filmstrip or screen, and in the end compromised by settling on a scale somewhere in the middle. The huge scale of the cinema screen (or the minuscule scale of a film frame) takes viewers out of their world. Using a scale similar to the viewer, somehow diminished the oddness of the work.

In the later stages of my PhD *Dune* was remade on a much smaller scale, and this fitted its enclosed world much better. By being less of a presence within a gallery setting the work takes on a more intimate and unusual quality when a viewer happens upon it. As a result the struggles of the trapped figure seem to become simultaneously more traumatic, and more absurd, the tiny size of the screen and projection reflects the shortness of the clip, it no longer has the

'epic' scale or length of a cinematic narrative¹⁷⁷. The shift in scale separates the film space from the gallery within which it is partially enfolded.

Dune perfectly fitted the curved screen's form, whereas *Cataract* always felt as if it was missing something, possibly due to its use of the screen's outer rather than inner curve. Halfway through my PhD I began working with freestanding screens, the type used for slide projections. These devices had a non-descript nature that I used to explore the physical qualities of screens in more subtle ways than the metal forms.

A vertical strip was cut into the front of a screen and then pulled through so that the black reverse hung down the front of the frame. The looped clip of Buster Keaton struggling on the waterfall's edge was then projected onto this section while the rest of the screen remained blank. A flat screen became a three-dimensional form, revealing its dark and warped reverse. By making the screen's unseen surface spill through in this way, an alternative and chaotic element of film is revealed: the contingent, unintentionally captured energies underlying film narrative, the complexity of information stored within each frame, and the infinite connections formed in the interstices between frames that are normally contained within a fixed screen and narrative format. *Cataract* explores this relationship between the material elements of cinema and the transformative energies that flow across and beneath their surface.



Cataract (2010-12)

¹⁷⁷ There is a similarity here with the online GIFs that loop sections of film, again, their fragmented

By abandoning the curved metal screen and replacing it with an altered projection screen, a concern for me was that the sculptural qualities of the installation, along with the connection between image and surface might diminish. But this new version fulfilled these roles while also introducing new elements that connected to different aspects of my research. This work needed to be partially contained within another frame and to be seen to break away from it. The wider screen helps to place it on a threshold between film and gallery space.

Cataract's struggling figure is trapped on the edge of several representational spaces: caught on the cusp of the waterfall in the film space, his celluloid image seems to fight the filmstrip's industrial motion to avoid being swept out of the frame. The digitally looped animation threatens to subsume him within its frame, while he also struggles to hold his position within the screen as the waterfall spills out into the installation space.

The outer frame helps to suggest that this scene has gradually shifted from physical presence (the moment of filming), to a material representation (the filmstrip), to an immaterial digital projection. The struggling figure suggests a futile attempt to maintain position within media which are themselves constantly shifting flows of information.

With its physical structure transferred to digital code, film has undergone a form of existential crisis. The work in this chapter does not attempt to address the question of what or where cinema is today, instead it uses digital media and installation-based screens to both emphasise and rearrange cinema's illusory and physical boundaries. Digitally altering a film's temporality reveals the tense relationship between its audio/visual elements, while physically altering the alignment between a projected image and screen reveals the gaps used to clearly demarcate film and gallery spaces. Both these types of alteration emphasise the shifting layers of represented space and time that film characters and viewers must negotiate when technologies change.

As in the works discussed above, the installations covered in the next chapter also contain disjointed gaps between film-frame and screen. Whereas *First and*

timescale is selected in their size and poor image quality

Last emphasised this disjuncture by showing clearly defined gaps in the boundaries between the film space, projected frame and screen, the following examples use footage that appears to conform to the boundaries of free-standing screens, but beyond the screen's edge a wider digital frame bleeds almost imperceptibly into the viewing space. This work creates a less clearly defined relationship between film's illusory spaces and the gallery's physical space, and as a result these two worlds appear to constantly fold in and out of each other.

Chapter 5. Viewing Space

The disjointed, shifting boundaries between projected light and screen found in a number of my works transform the traditional cinematic relationship between film and viewing spaces. The gallery setting is used as the container for these installations as it provides a zone that is itself caught between worlds. In her essay on the migration of film from cinema to gallery Chrissie Iles talks about the folding of the 'black box' of cinematic illusion into the 'white cube' of the analytical gallery-space¹⁷⁸. As stated earlier, I am not fully convinced about this (literally) black and white distinction between mesmerized, disembodied cinemagoers and actively aware gallery visitors. But the idea of these two spaces folding into each other to form a grey area hovering between these modes of exhibition is a compelling one.

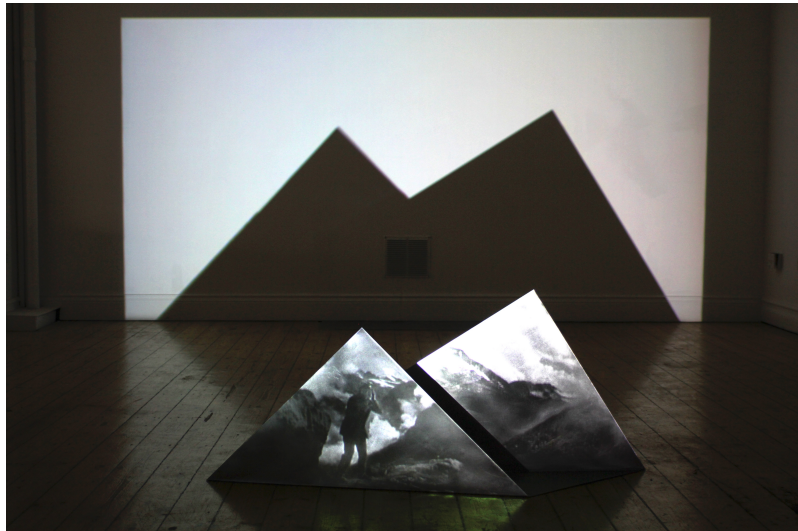
By taking the film projector out of its soundproofed hiding place and repositioning it, centre-stage, within a gallery setting, artists and filmmakers in the 1960's placed the material and mechanical properties of film on clear display. In this sense the gallery method of openly displaying objects did combine with the cinematic projection of disembodied, illusory imagery, creating a new space for contemplating the cinematic experience and its underlying structures.

Yet the distinction between cinema and gallery spaces has become increasingly blurred in the intervening years: firstly with the introduction of video and subsequently with digital technologies that create a new layer of disembodied remove. The relevance given to the filmstrip's structure, revealed by its open display within a gallery, has tended to dissolve away with this shift towards less physically material media. Present-day gallery settings tend to hide the digital equipment used to project imagery, partly because there is increasingly less of it to see, and what there is does not reveal any moving parts.

By using methods outlined in earlier chapters I reintroduce an awareness of the structural qualities of film into galleries, yet within a wider digital framework. This chapter will focus on my use of installation to disrupt the boundaries dividing

¹⁷⁸ Chrissie Iles, *Into the Light: The Projected Image of American Art* (Whitney Museum of American Art, New York, 2001), pg.33.

on-screen film worlds and gallery spaces. This is achieved by distorting the relationship between the projection-beam and screen. These previously stable cinematic elements interact in new ways that force a reconsideration of the relationship between film's material and illusory aspects, as seen from a 21st Century perspective.



First and Last Sounds (2011)

First and Last Sounds involves placing old film footage within the wider context of a clearly visible digital frame, while works such as *24 Times* use digital media to create installations that turn the gallery space itself into that wider frame. This technique of 'stepping back' and containing an old medium within a newer one allows film clips to be viewed from a distance, suspending them above the narrative timelines and physical structures to which they were once fixed in order to create an alternative space for reflection. Viewed from within this digital frame, film's illusory qualities and material structure are rendered down into the same code, yet this removal of film's physical form paradoxically highlights its presence and influence within film narratives.

The works in this chapter also place film scenes within an ill-fitting digital frame, but in these cases the original film space is precisely framed by a physical screen while the wider digital boundaries are deliberately diffused and unclear. This arrangement shifts and distorts the relationship between the material and illusory elements of cinema by appearing to maintain yet also rearrange the standard cinematic configuration between the projected frame, the screen and

the viewing space. Within cinema these elements normally fit together perfectly; the screen's fixed border contains and harnesses the stream of ephemeral imagery passing across it, allowing the filmstrip's mechanical motion to be transferred to the visual content. Digital technology has the potential to destabilize this relationship by shifting the boundaries between film's physical structure and illusory image, allowing once fixed recordings to 'haunt' the zone between film and viewing space. In these works the gallery becomes an extension of the film space, a shifting zone of shadows, warped light and disjointed frames

My work *Light that goes, light that returns* shows a short, looped clip from the film *Alphaville* (Godard, 1964) projected on a freestanding screen. The actor Eddie Constantine is frozen on a single frame yet simultaneously reanimated by a swinging light bulb that shifts his shadow back and forth across a wall behind him. This same onscreen bulb also seems (impossibly) to animate the shadow of the screen.



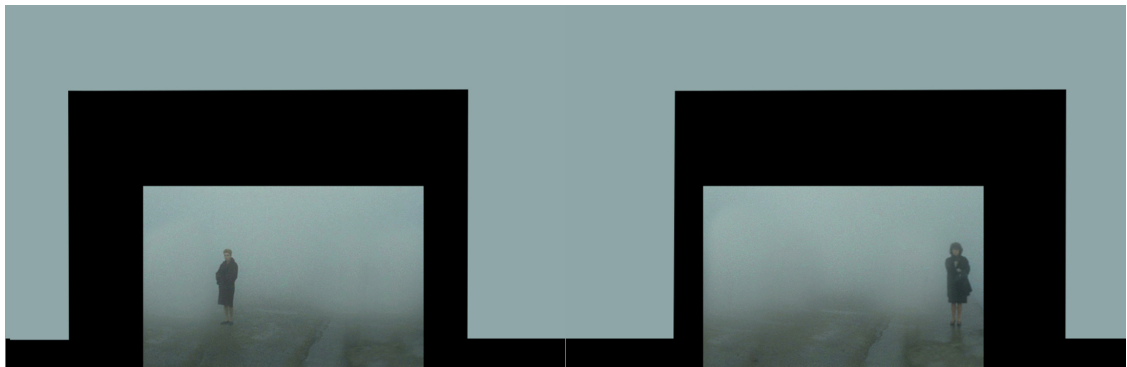
Light that goes, light that returns (2012)

The initial idea for the animated shadow came from the fixed version in *First and Last Sounds*. I wanted a work that tied a screen's shadow closer to the imagery it contained, without drawing too much attention to its presence and without physically distorting the screen. I experimented with a scene from Antonioni's *Red Desert*¹⁷⁹ in which five stationary figures are enveloped in mist. *After Effects* software altered the rate at which the characters appeared and disappeared into the fog, creating an effectively hypnotic result. The film-scene

¹⁷⁹ See also Space chapter (pg143)

was then shrunk down within a larger frame and an animated shadow was digitally added that shifted in relation to the appearance and disappearance of the figures.

During tests it was clear that this idea was flawed. I wanted the shadow to fade away and reappear in unison with the figures, but this was not possible, because the screen's actual shadow would always be visible. Beyond these practical concerns, the connection between the screen's shadow and the ephemeral appearance of the figures was tenuous, there was no thread.



Animated screen shadow using scene from *Red Desert* (Antonioni, 1964)

I began searching for more relevant material and decided that a recently completed work (Untitled) might contain useful elements. In this dual-screen piece sound connected two scenes¹⁸⁰: on the left screen a man talking into a phone is frozen on a single frame, while on the adjacent screen another phone swings from its cord in an empty room. Through this looped action the man's disembodied voice is re-animated, oscillating in volume as the receiver swings towards and away from the screen. I had abandoned this work because it was too close in content to another earlier piece ("*That's all....*"), but I was intrigued by the swinging phone and decided to reinterpret it by using light instead of sound.

¹⁸⁰ The left-hand screen shows Joseph Cotton in a scene from *Shadow of a Doubt* (Hitchcock, 1943). On the right is a looped scene from *The Lady From Shanghai* (Orson Welles, 1947)



Untitled (2006)

Searching for scenes involving swinging light bulbs I found various examples with potential. This lighting effect is a regular trope in cinema, used to create a state of disequilibrium in what has been a previously stable setting, probably the most famous example being the 'reveal' at the finale of *Psycho*. It was the scene from *Alphaville*, however, that struck me as the perfect source for this work. This whole film seems to be about the relationship between light and dark: The title that I chose for the work 'Light That Goes, Light That Returns' comes from a poem read by Anna Karina's character during the film.



Performance (Cammell & Roeg, 1970)



Le Corbeau (Clouzot, 1943)



Psycho (Hitchcock, 1960)

The first version of this work used a freestanding steel screen, but this seemed too incongruous within the gallery setting, there seemed to be little to link it to the work, so I decided to use an old freestanding projection screen instead. This looked more natural, providing the required physical presence without drawing too much attention to itself. Another advantage of using this frame was the physical details it contained that were translated to the silhouette, such as the handle used to pull up the screen. These elements helped to make a stronger physical connection between the screen and shadow.



Light that goes... Early tests

As with *First and Last Sounds* the white frame of the digital projection surrounding the screen's shadow was clearly visible (see above), creating an interesting disjuncture between the physical screen, its animated shadow and the projector's fixed frame. A hybrid space was created that both blurred and exposed the boundaries of film. Yet at the same time, it was too obvious that the silhouette was an animation within a projection that over-spilled the screen; viewers 'got' what was happening immediately. To counteract this the edges of the projection were feathered out to black (see below), removing the projection's border and making it appear that the screen and projection fitted together perfectly, despite there actually being three layers at work, that both conform to, and transcend the screen's boundaries.



Light that goes... Animated shadow

When testing this work it was clear that the screen's digital 'shadow' did not blend in fully with its actual shadow, there was a definite border separating the

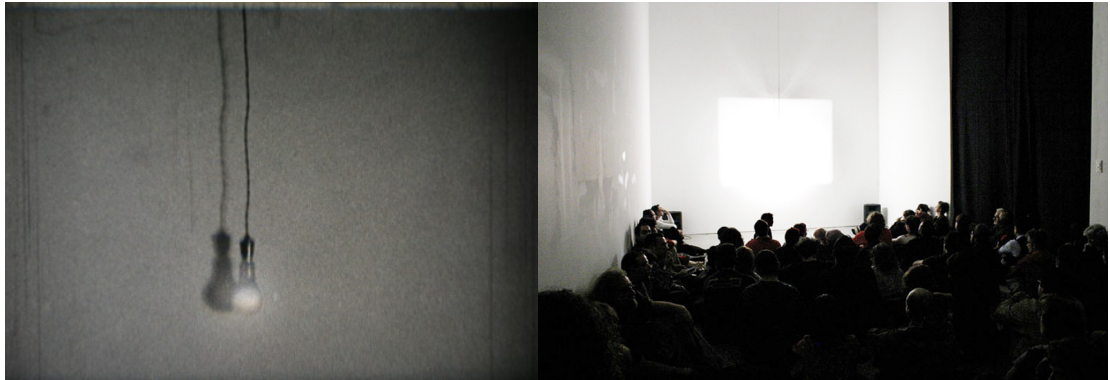
two. The true shadow would always be the darker of the two, because it is the result of the blocking and absence of light, while the animated shadow, no matter how black, is formed from projected light. After further tests the shadows were balanced out by shining an evenly lit ambient light onto the wall. Now the screen's shadow appeared to swing in time with the onscreen bulb, but the effect was subtle enough that it took the viewer a while to notice the impossibility of the shifting shadow. Rather than physically distorting the frame (as in *First and Last Sounds*) it is the shadow itself that materializes and dematerializes the screen in the viewer's perception.

The onscreen light bulb swings in an endless pendulum motion between a black void to the right edge of the frame and the eye of a frozen figure to the left. As the bulb swings, the shadow shifts forward towards this void, only to be pulled back into the orbit of the immobile figure. At each apex of its arcing trajectory the bulb briefly pauses - momentarily halting the whole scene, yet as it swings between these points the light partially reanimates the man with the shadows it casts. This creates the impression that the figure oscillates between a fixed image projected onto a flat screen, and a sentient subject occupying a film space, an odd effect that gives the actor the appearance of being a physical ghost.

In this installation a freestanding screen appears to highlight its own physical presence within a gallery space. As an object onto which light is projected, it casts a shadow. Yet this shadow also acts to subvert the presence it confirms by swaying in time with the 50-year old recording of a light bulb projected onto its surface. This rhythmic motion of the light and shadow materialize then dematerialize the screen, creating a simultaneous sense of proximity and distance. The figure seems frozen in a state of trance, hypnotized by the swaying bulb. The screen's shadow suggests that the viewer, who shares the same space as the screen and the shadow may also enter into a trance-like state when watching this work. This animated shadow creates an alternative space of contemplation for viewers who, as products of the modern era, are used to a stable frame that is now decentred and set adrift.

This distortion exposes edges and gaps that suggest a limbo zone between the film and gallery space that, by implication, the viewer also occupies. When

watching a film at the cinema there is always the awareness of a space beyond the boundaries of the screen: either an unseen space within the film (characters talking off-screen or a landscape panning into vision), or the cinema space shared by the audience. With 'Light that goes...' my intention was to place an analogue film scene within a digital animation to create a new zone of interaction.



Castle I (Malcolm Le Grice, 1968)

Malcolm Le Grice's film installation *Castle 1* (1966) included a light bulb placed directly in front of a screen onto which was projected film footage he had found in the bins of a film-lab. Throughout the screening this bulb was randomly switched on and off, blotting out the film space while revealing the gallery space and audience. The intention of this work was to shift the viewing experience away from passive consumption of imagery towards a more critical awareness of the space and apparatus behind film viewings. The film projector's light-beam contained the imagery that created the illusion of a film space, while the gallery light bulb revealed the structure of the gallery space. These two light sources interacted to create an oscillation between these spaces, across the constantly dissolving and reforming screen.

As with *Light that goes*, *light that returns* a light source alters the fixed boundaries between an onscreen film space and the viewing space. The key difference between these works is that Le Grice uses an off-screen light to create a jarring effect that momentarily pulls viewers back into the space and time they share with other members of the audience. Alternatively, the onscreen light in my work sways in a hypnotic manner that reveals the disjuncture between film and gallery space to the audience, while still transfixing them within the illusion. *Castle I* transports the audience instantly from one world to

the other, whereas *Light that goes...* suggests that they occupy a grey hinterland oscillating between recorded and viewing space.

Digital reconfiguration of old footage reveals a limbo world that is part indexical documentation and part animation. Since the earliest days of animated cartoons the borders between onscreen and off-screen spaces have been blurred in ways that were deemed inappropriate (or technically impossible) for indexical films. A popular illusion in mid-20th century cartoons was to introduce silhouettes, apparently cast by members of the cinema audience as if, on standing up, they were caught in a space between the projector's lightbeam and the screen. The supposed physical presence of these blank figures troubles the boundary between mediated and viewed space.



Bug Vaudeville (Winsor McCay, 1921)



Daffy Duck & Egghead (Tex Avery, 1938)

For this illusion to work, all presence on the audience side of the screen must take the form of an absence created by blocking a section of the animation. This creates a figurative void that reveals audience members, while also questioning their physical presence. These silhouettes appear not just to occupy, but actually to be the gap between the world and its representation. The revelation and intrusion of this void creates a tension between onscreen and off-screen worlds that is often violently removed by onscreen characters. Though used for comedic effect, there is also something intrinsically unsettling about this transgression of the screen's boundaries. *Bug Vaudeville* highlights these traumatic implications: a cartoon spider swings on its thread from the onscreen space and into the cinema, where it's silhouetted form attacks and eats an audience member. Interestingly in the two examples shown above, it is

silhouettes and smoke (the same elements used in my own work) that are able to hover in this space between onscreen animation and offscreen viewing

With *Light that goes, light that returns* the endpoints of the swinging light bulb's arc suggest alternate forms of blindness: one point assaults the man's eye with too much light, while the other fails to illuminate the void he faces. As a flat and frozen image this figure cannot see¹⁸¹, yet as the light swings between these extremes he is partially transformed into an animated and therefore seeing subject within a filmic space. This perpetual shift across the boundary between stillness and motion both denies and allows him vision, while also influencing how he is seen. Cinema's normally hidden oppositions briefly surface, before folding back into the cinematic effect, giving the viewer the simultaneous impression of a frozen image and a sentient subject.



Light that goes... Details

The light-bulb's swinging trajectory between the image's light and dark sections represents film's transportation between frames - the shutter action that momentarily (and imperceptibly) blacks out the screen in order to reveal the next image. Yet in this case the next frame never arrives, the bulb moves into the gap (followed by the man's shadow) but then swings back, appearing to fold the same frame in on itself. There is no shutter and no transportation of frames in this digital projection, instead the imagery is transformed internally, working on the level of the pixel, which is blind to any sense of duration and is therefore able to blend together the still and moving elements of this scene.

¹⁸¹ Obviously a flat image is incapable of seeing- but on a different level a frozen eye would also be incapable of seeing. The eyeball is constantly flickering, but if held still vision fades and eventually disappears as the receptors in the eye stop sending signals to the brain – the figure is caught between frozen blindness and shifting sight.

Unlike the GIF-like version of *Bridge*, where the screen's shifting shadow relates to alterations in the camera's point of view, the shadow in *Light that goes...* seems to be the result of a shifting light source caught between two fixed points (the camera/projector and screen). Rather than an external jump from one frame to another, this work appears to show an internal transformation taking place within a single frame.

This merger is not completely smooth though, the shadows appear to stretch and strain between these states, while the divide that the bulb swings into seems to be distorted and buckled. The perfectly fitting formats of the projector's single point perspective and the fixed screen¹⁸² that once anchored and gave order to film imagery seem to become unmoored. Rather than physically distorting the frame (as with other works made during my PhD research), it is the screen's shadow that is deformed; a gap or disjuncture seems briefly to open up between the projected image and the screen, exposing the disjointed and ill-fitting edges of their frames, subtly referencing the shifting relationship between the physical and the virtual when film is transferred to a digital format.

This installation implies that the physical set-up of projector and screen, though maintaining the semblance of cinema's *dispositif* also reveals an ill-fitting absence. Chris Marker notes a similar quality in televised films: "What we see on TV is the shadow of a film, regret of a film, its nostalgia, its echo – never a real film."¹⁸³ Yet, when discussing the proliferation of projected video art at the 1999 Venice Biennial, Raymond Bellour implies that this space between cinema and its ghostly 'other' might contain creative potential: "By both duplicating cinema and differentiating itself from it, the installations thus also make cinema enter into a history that exceeds it"¹⁸⁴ In this sense I see my looped and layered projections and the installations they occupy as a 'stepping back' from film's original form and narrative content in order to re-evaluate the shifting qualities of cinema. *Light that goes, light that returns*, like other examples of my work, is

¹⁸² The fixed screen anchors the film-reel's multiple shifts in space and time.

¹⁸³ Line from Chris Marker's, *Immemory* CD-ROM, quoted by Raymond Bellour- *The Cinema Spectator: A Special Memory, chpt in Audiences, Ian Christie (ed) (Amsterdam University Press, 2010), pg.211.*

¹⁸⁴ Raymond Bellour, *Of An Other Cinema - chpt in Art and the Moving Image: A Critical Reader, Tanya Leighton (ed), (Tate Publishing, London, 2008), pg.407.*

caught between film and its digitally echoing representation, appearing to fit perfectly the boundaries of the screen, yet also revealing its edges.

By maintaining the semblance of a regular screen this work seems to provide a stable container for the film, but through the use of digital animation this relationship is seen to be constantly torqueing and twisting. The projected imagery seems to disembody the screen itself, partially removing it from the gallery in order to inhabit the film space; or conversely the film space infiltrates the gallery and as the gallery space becomes part of the image. Animation, with its ability to stretch and distort representations of reality into any form, takes hold of the rigid boundaries of film to reveal something else. When contemplating this ability of animation to undermine our world JP Tellote states:

“It is warped or phobic, filled with our darkest anxieties...whereas our conventional sense of space is rather that which we carefully construct – with frames, vanishing points, and the artfully controlled perspective – as a kind of distraction, even protection from the reality of life.”¹⁸⁵

The shifting shadows in this work disrupt the relationship between film and viewing space, but clearly, the light sources that created this effect are equally distorted. Two light forms seem to influence each other here: The fixed single-point perspective of the projection beam somehow becomes distorted by the imagery of the swinging bulb it contains. It is uncertain whether this distortion is within the beam and influences the screen, or whether it is the swinging representation of light on the screen that creates the animated shadow. Either way, the fixed beam and the tethered light bulb maintain a semblance of order; the light and shadows shift, but anchored in place by the screen and projector, are unable to separate fully from their sources.

Alternatively *24 Times* present a fully fragmented viewpoint: a circle of monitors display hundreds of clips showing photographers snapping away from numerous angles, their camera flashes sending the viewers' shadows spinning through the gallery space. Viewers are fully immersed in this fragmented zone created by the disconnection between frame and image. Every element detaches itself as cinema spins out of control in a chaotic burst of energy.

¹⁸⁵ JP Tellote, *Animating Space* (The University Press of Kentucky, 2010), pg.54.

In this installation it is not just film subjects, but also viewers who are caught up in the decentred relationships the work creates. The shifting shadow in *Light that goes, light that returns*, as well as implying a distorting transformation between the film world and its digital transformation, could also relate to the shifting perspective of the gallery viewer, now able to see the screen from different angles, rather than being fixed in place like the cinema viewer.

Just as the swinging shadow appears both to confirm and question the screen's physical presence in *Light that goes...* so too the animated shadows flickering around the gallery walls in *24 Times* diffuse and dislocate the viewer's shadows. Fragmented and looped audio/visual recordings turn the gallery into an extension of film spaces that have lost their fixed viewpoint. The screen no longer anchors these recordings; instead it creates new combinations and connections between the disparate elements that make up the installation.



Flash - Installation Shots (2012)

Flash (2012) uses footage from *24 Times* to create an installation following similar themes to "*Light that goes...*" Shots of camera flashes firing (in the direction of the gallery wall) are edited together and then projected onto a freestanding screen. As a flash goes off the screen's shadow briefly distorts according to its angle and direction. This effect is far more arbitrary and disjointed than in "*Light that goes...*", where stillness is an anchor or axis around which motion is tethered. In *Flash*, the taking of a photograph warps and fragments the screen as if revealing the incompatible edges between photography and cinema. Occasionally, a rapid succession of flashes will create

an animated effect on the screen's shadow, shifting it across the wall in a disjointed motion.

The disjuncture between screen and image in this installation highlights the abrupt shifts in space and time created by film editing that are normally contained by a cinema screen's fixed frame. *Flash* explores and disrupts the fragmented spaces between different film worlds in relation to the screen and viewing space. The on-screen flash distorts the projection, sending it on a tangent that confuses the relationship between the flat surface of the screen and the film's illusory depth. Clips previously contained within conventional film narratives and displayed within fixed frames, are placed within an installation that seems to cut them loose from these surfaces and boundaries to reveal multiple viewpoints and angles.

Silhouettes are a regular motif in my work, alluding to the shadows projected onto screens as light passed through the material surface of film. The disjointed shadows I create have separated from their material form, just as the film imagery has been digitally separated from the medium that once physically contained it. This act brings to mind *Peter Schlemihl*¹⁸⁶ being tricked into parting with his shadow. In an illustration to this story by George Cruikshank the shadow appears to be on the verge of entering the dense shadows of a forest, an act that would result in the loss of identity of Peter. Similarly, the shadows in "*Light that goes, light that returns*" seem on the verge of separating from their 'bodies'.

¹⁸⁶ Adelbert von Chamisso (1814)



Peter Schlemihl's Miraculous Story (illustration, George Cruikshank, 1861)

In *Light that goes, light that returns* the frozen character's shadow shifts towards the shadowy void to the right, only to be pulled back. Carl Dreyer's *Vampyr* is filled with examples of bodily separation, both visual and audio. In one scene a soldier enters a room, followed shortly after by his shadow. Throughout the whole film spatial and temporal gaps separate voices and shadows from the bodies that supposedly produced them. This partial disembodiment is perhaps more disturbing than complete separation¹⁸⁷; the desynchronised voice or shadow becomes the 'other', an echo that produces a gap within which a sense of self can be lost.



Vampyr (Carl Dreyer, 1932)

With *Light that goes...* digital technology creates a new layer of separation that holds up a mirror to analogue cinema, revealing its disjointed form through the

¹⁸⁷ Later films in this genre would completely remove the vampire's shadow and reflection

screen's animated shadow. Celluloid film and its projected shadow (for example a running figure) are separate yet attached, in the sense that light passes through film's physical surface to create a projected image, the act of disembodiment is mechanically synchronised to resemble bodily motion. With films transferred to digital formats this connection between the physical and represented body is removed.

The relationship between silhouette and light is also explored in my work *Shadowplay I* (2012). A boy makes rudimentary animations by placing his hands in front of a gas lamp, which acts as an alternative and internal light source, casting the primitive images he creates onto the far wall of the room he occupies. Standing between him and the shadow are two digitally frozen figures who are reanimated by the flickering gaslamp, a subtle and vaguely unsettling shift in lighting that suspends the figures between photographic past and filmic present. This technique allows three forms of animation to combine: the primitive gas-lit silhouette, the filmed scene of the seated boy and the digital freezing and reanimation of the standing figures. The unnerving totemic quality of the shadow emerging from the vignettted darkness surrounding the frame's edge suggests a glimpse of hidden fears and traumas. This is intensified by the complex relationship between stillness and motion formed by the digital alteration of the film's temporal structure, implying that these underlying emotions are revealed by shifts in technology and the alternative viewpoints such changes create.



Composite made up of several frames from *The Leopard Man* (Tourneur, 1943)

As with *Time Machine I* and *II*¹⁸⁸ this work has the appearance of a *tableau vivant* in which multiple temporal and spatial representations appear to share the same frame. Something seemed to be missing in this work; the imagery felt almost too contained within its frame, so I decided to create an alternative version (*Shadowplay II*) that would incorporate the gallery space within the work.

Onto a free-standing screen is projected a close-up clip of the boy sitting in front of the gas-light, though the results of his actions are not visible onscreen. On the gallery wall behind the screen the gas lamp appears to send the projector's fixed beam off on a tangent, creating an impossible shadow animation within the viewing space that is perfectly synchronised with the boy's onscreen motions and the flickering of the gas. This animation, not fully in the film world or the gallery, merges together and distorts the recorded analogue light and projected digital light, raising questions about the image's location. Three types of light are caught up in the lamp, the gas light, the analogue recording of the light and the digital projection of that recording - all three seem to contribute to the shadow puppet. The screen seems to act like both a solid object, a window and a prism that displays and diffracts the cone of light travelling from the projector, splitting it between the recorded past and viewed present. As in *Light that goes..* the screen's objecthood is questioned by the animated shadow, while this silhouette also implies that the projected image of the boy has a physical form.



Shadowplay II (2012)

¹⁸⁸ Discussed in the *Time* chapter (pg112)

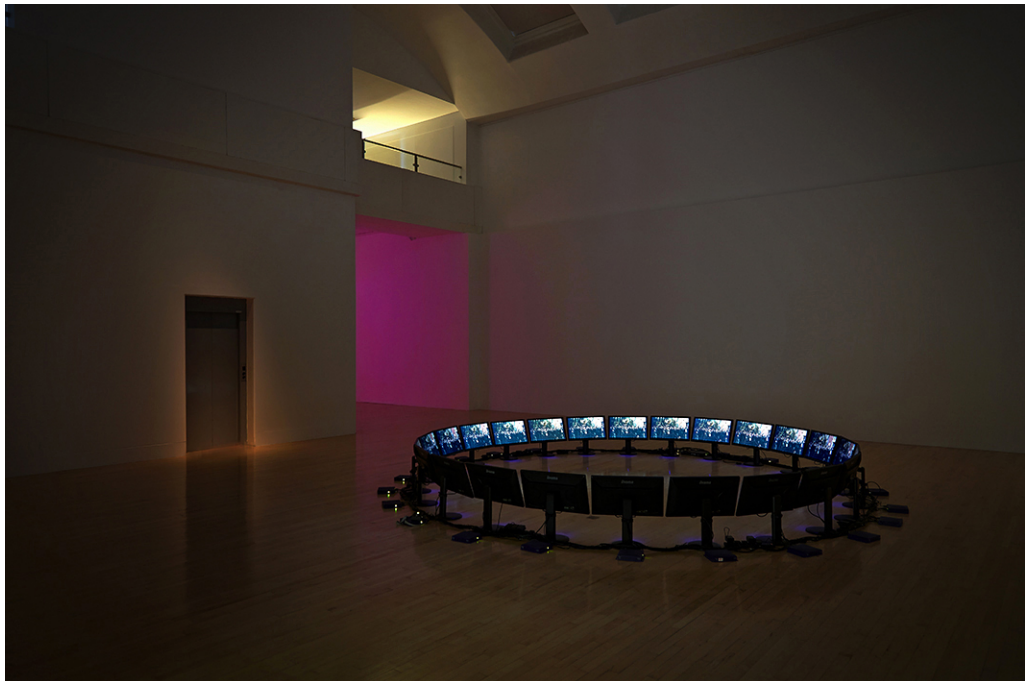
With *Shadowplay II* the recorded past, though seemingly contained within the boundaries of the free-standing screen, appears to influence the wider frame of the gallery setting. Oddly, the digitally animated shadow of the boy's hands seem more physically present than his onscreen image - suggesting the blocking of projected light by a living body rather than a strip of film.

Projecting film dematerialises its celluloid base, which is cast as a shifting shadow onto a flat screen. Digital transfer confuses this relationship by physically removing the film-strip, turning its projected ghost into the shadow of a shadow. Yet this double haunting that *Shadowplay II* represents, and that all the work created during this practice-led research have alluded to, does have the effect of reintensifying film's connection with the physical world, while simultaneously distancing it from the temporal and spatial laws and boundaries to which it once adhered. For me this paradoxical state exists in the disjointed spaces that this PhD has set out to reveal and explore.

Chapter 6. Conclusion

The practice-led research carried out during this PhD culminated in a large-scale solo exhibition: *Pursuit of a Shadow* at Talbot Rice Gallery (May-July 2014, Edinburgh). This show took place after the initial draft of my thesis had been completed; it is therefore fitting within this conclusion to reflect on these works (previously described in isolation) as connected elements within the wider frame of the gallery space. These new combinations will be discussed in relation to my existing research, but also with regard to their potential for creating new and unexpected directions for future studies.

The open-plan nature of the gallery space made the overlapping of light and sound recordings from different installations unavoidable, but I saw this as an important attribute, enabling viewers to contemplate the exhibition as a whole rather than focusing on individual works. The layout of the installations allowed recordings to spill out into inter-zones that could be rearranged and reinterpreted by visitors passing through these space, creating a random viewing model unavailable in the more fixed boundaries of cinema spaces.



Intermission II's rhythmic light infiltrating the *24 Times* installation

The first chapter of this thesis focused on *24 Times*, and because this was written before the installation was exhibited alongside other work¹⁸⁹, it was referred to as a single entity. Key areas covered included how digital technology, combined with physical installations, could explore and rearrange the underlying qualities of film's structure. The interconnected quality of the work revealed film's kinetic energy by spreading it out across multiple synchronised monitors, rather than focusing it down into a single frame. This allowed imagery room to breath; viewers could see the transportation from one frame to another that enables the animation of frozen images.

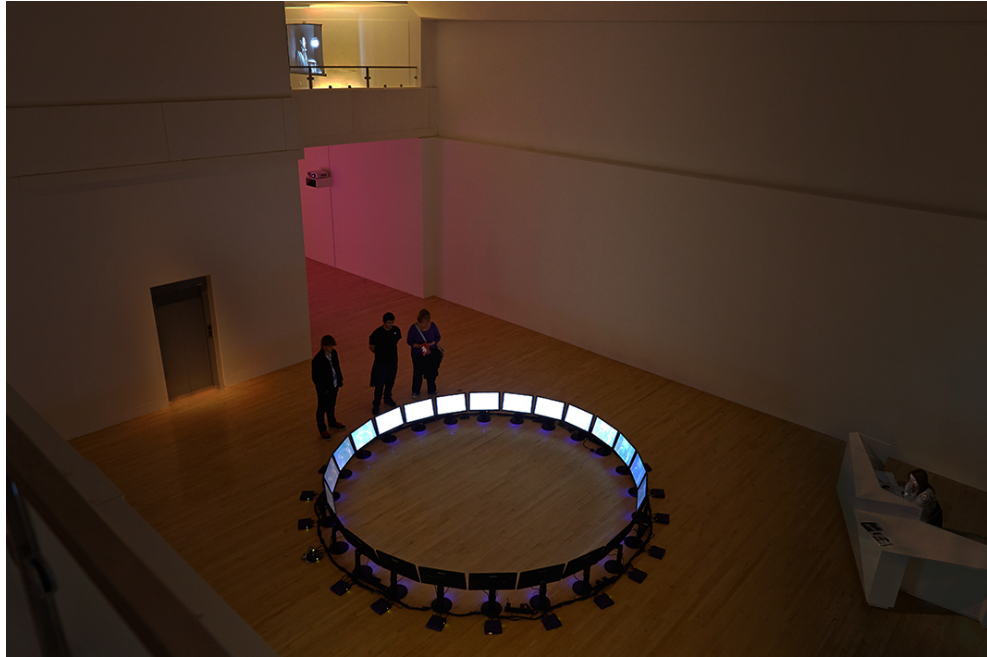
When *24 Times* was exhibited in close proximity to *Intermission II*¹⁹⁰ the zone between the two works formed a new space for reflection. The cold white light and mechanical sounds of *24 Times* and the warm, breathing rhythm of *Intermission II* bled into and transformed each other's boundaries. Fluctuating parameters, previously discussed in relation to individual works, could now be reinterpreted within the wider frame of the gallery.



Intermission II with *24 Times* in the background

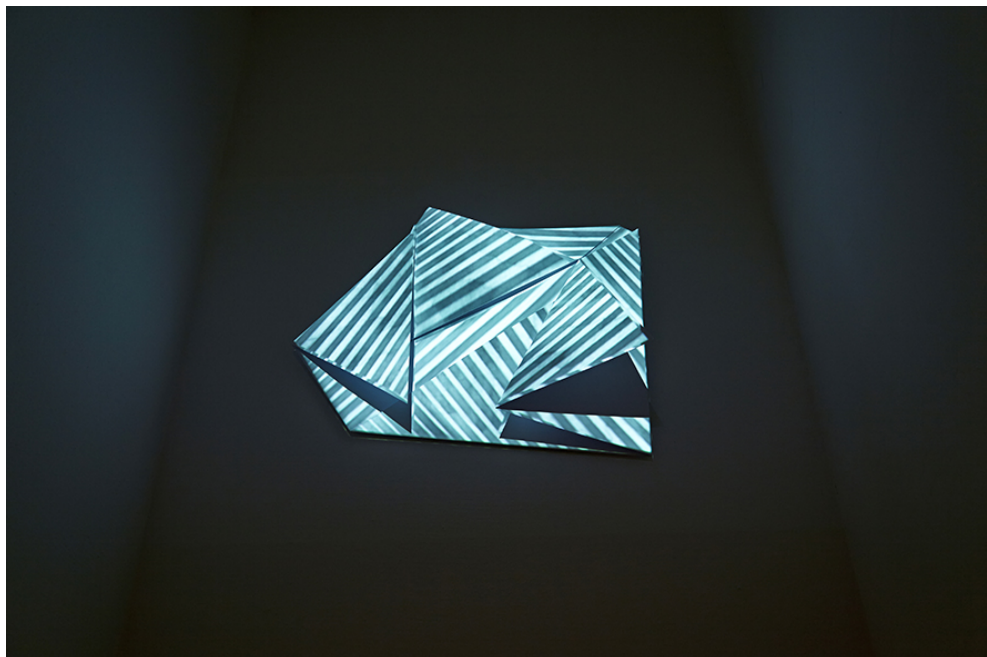
¹⁸⁹ The work had been exhibited by itself at Berwick Film Festival (Berwick upon Tweed, 2012)

¹⁹⁰ These two works made up the ground floor of the Talbot Rice show



24 Times viewed from the upper gallery

Installation layouts were intrinsic to the nature of the show. The merger of mechanical and bodily rhythms in the downstairs space seemed more closely tied to the material world. As the viewer passed through the gallery the exhibition was designed to give the appearance of floating upwards - from the floor-based *24 Times*, to *Intermission II*'s screen placed high on the wall, to *Intermission I*, located in the fold of the stairwell.



Intermission I viewed from the base of the stairs

Intermission I occupied a space between the material concerns of the lower floor and the digital 'afterlife' of film, explored more fully in the upper gallery. The figure endlessly running down a staircase, in and out of the screen's shadowy folds, is caught between these worlds. Locating this work in the stairwell between floors linked together the film sequence, the folded screen and the gallery architecture. The viewer negotiated the stairs to see the work from alternative angles, directly influenced the perception of the folded screen and projected image. This link between viewer, gallery and onscreen spaces was pivotal in exploring how the disjointed and over-lapping zones between film, screen and viewing space (created by the merger of different technologies) can be utilized within an art practice.



Intermission I viewed from the top of the stairs

Vanishing Point produced a similar connection between physical and representational spaces, with the deep perspective of the film scene mirrored in the corridor housing the projection. The fluctuation of the film frame in and out of the screen followed the viewer's pace as they walked towards or away from the work. This also acted to hold the onscreen figure in perpetual limbo, caught between two alternative methods of representing motion: The transportation of

multiple projected frames across a screen (analogue) and the internal transformation of pixels within a single frame (digital).¹⁹¹



Vanishing Point – Installation Shots

The work on the gallery's upper floor used techniques that produced a simultaneous sense of material presence and illusory absence for both the work and the viewer. Screens were torn and distorted to highlight their presence as objects, while film scenes were digitally altered to either fit these frames or spill

¹⁹¹ This merger of analogue and digital motion can also be found in the inter-zone between *24 Times* and *Intermission II*

out across their borders in ways that questioned the screen's presence within the gallery. This created a simultaneously embodied and disembodied viewpoint that shifted through different layers of film representation, allowing gallery visitors to observe film's internal structure, while also stepping back to contemplate its content from a self-reflexive distance.



Pursuit of a Shadow – Upper Floor

The objective here was not to confront audiences with the underlying structure of an increasingly obsolete medium, but rather to reflect on cinema as an intricate amalgam of overlapping technologies from different eras, caught in an endless cycle of flux and renewal. The gaps opened up in these installations highlight these hybrid zones where different spaces and times fold together and interact, reinterpreting the physical and represented worlds that both film characters and viewers negotiate.

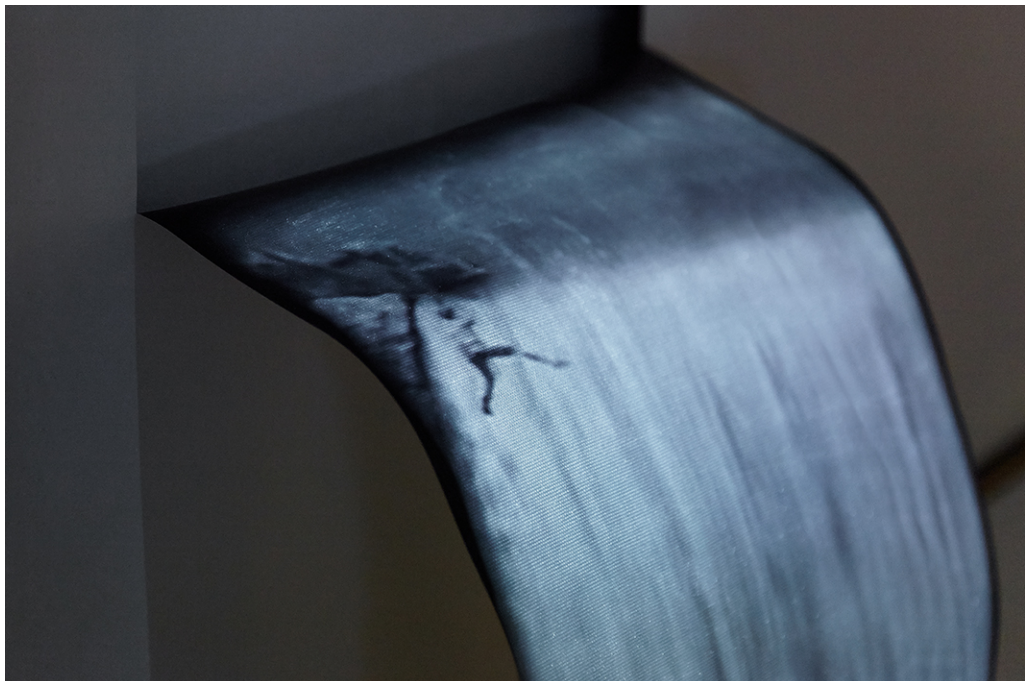
Ephemeral elements such as shadows, reflections, water, echoes and fog were recurring themes in the film clips used, these elusive, often overlooked details in film drifted between the desynchronised spaces opened up in my work, helping to form new connections and variations. In *Light that goes light that returns* a freestanding screen's presence in the gallery is transformed by a swinging light bulb projected onto its surface and the impossible shadow it casts. Within the gallery half-light a shifting overlap draws the screen back and forth between film and gallery space. As there is no distortion of the screen, and the projected

overlap is disguised, the effect of this work was perhaps the subtlest in the exhibition¹⁹², with the recorded light of the film world seeming to interact with the projected light of the gallery installation.



"Light that goes, Light that returns" – Installation Shot

Exhibited in the same space, *Cataract* uses the arcing form of a waterfall to combine the material qualities of a screen with the recorded space projected onto its surface. A figure is caught in a hybrid limbo, on the brink between representational and physical space, and between the competing energies of analogue and digital motion that flow across and beneath the surface of the moving imagery.



Cataract – Installation Detail

¹⁹² Some viewers watching the screen did not notice the shifting shadow on the wall behind.

Neither fully holding on to cinema's past, nor completely letting go of it in favour of new media, my research occupies a similar 'between space' within which film's previously fixed boundaries are distorted and stretched. This technique allows the exploration of the rich dialogues opening up between recordings and media from different eras.

Both *Dune* and *First and Last* use folded or curved screens to simultaneously separate and merge film and gallery spaces. With *Dune* the curved screen has the same form as the onscreen sand trap, giving both a spatial presence, yet also highlighting their role as flat representations.



Dune – Installation Shot

First and Last was the only totally self-contained work installed in the show, occupying a separate room where no light and little sound from other works bled through. This was appropriate for a work in which sound, imagery and the screen structure are all folded in on themselves to create a defined, yet disjointed interplay between object and image, between the recorded past and viewed present.



First & Last Sounds – Installation Shot

Cinema's traditional viewing model blocks out all visual information beyond the screen's periphery, yet when the auditorium lights come on at a film's conclusion, perception is momentarily jarred as viewers reacclimatise to the off-screen world. With digital devices¹⁹³ the boundaries between on and off-screen switch endlessly back and forth, with users occupying a grey area as they dip in and out of film-space.

By distorting 20th Century cinema through the prism of a gallery space and the immaterial viewing patterns of new media, the installations in this exhibition also fluctuated between immersion and distance. These hybrid works have a greater creative potential for my research than purely digital spaces (such as the internet) that are more separated from the established viewing model of cinema¹⁹⁴.

Folding media into each other within these hybrid settings created new zones of interaction between film as a material document of times past, and as a ghostly illusion within the present. As Erika Balsom states "...the museum and the

¹⁹³ This is also true of an earlier technology, television. Yet the ability to digitally control the flow of a film, intensifies this shift between immersion and separation.

¹⁹⁴ The monitors in *24 Times* would be the obvious exception here, yet there combined structural form within an installation clearly references the filmstrip.

gallery now serve as sites at which to think beyond and re-imagine the tension and overlap between fiction and documentary...”¹⁹⁵.

Even the most obscure of films can now be tracked-down online, while new viewing patterns allow them to be read and reread like books. This opens up the opportunity for a unique form of research, not just for what it reveals about film’s structure and content, but for the expanded framework it introduces, within which analogue and digital elements can interact. Beyond solely writing about how the digitization of films has transformed how they are perceived, I actually use these technological changes within my research. This ‘hands-on’ approach uncovers a wealth of information and artistic potential not attainable in purely theoretical research.

The value of this approach was made clear when presenting papers at film conferences in the later stages of my PhD. As an artist with no formal training in film studies this was a daunting experience, but disseminating theoretical research through my art practice enabled me to clearly express complex ideas in a unique manner.

Presenting a paper covering the durational nature of film in relation to memory, illusion and the physical world would have been an ominous task for me. Showing a film clip relating to these issues: a flashback scene in *Goodbye Mr Chips* where ‘Chips’ (on his deathbed) remembers first meeting his wife, would be a better method of expressing these issues. Yet by showing *First and Last*, a work that incorporates this scene into an installation highlighting these concerns, I could further discuss how new media is capable of returning film footage to an ‘out-of-time’ state¹⁹⁶. Due to the regulated motion of film and the fixed relationship between projected frame and screen, cinema viewers are immersed in film time in a similar way to ‘real’ time. *First an Last* desynchronises time/space (by freezing, looping and slowing down audio-visual footage, as well as folding the projected image/screen) creating a gap/delay between viewers and the onscreen time that allowed them to ‘step back’ and contemplate alternative forms of duration and memory. This approach was very

¹⁹⁵ Erika Balsom, *Exhibiting Cinema in Contemporary Art* (Amsterdam University Press, 2013), pg.156.

¹⁹⁶ Photography, by freezing time creates this state, the filmstrip – a collection of frozen images imitates the flow of time by reanimating still frames.

well received by academics whose grounding in Fine Art was as limited as mine in film theory.

Though clearly evident in my final exhibition, I was unable to fully explore the phenomenological aspects of cinema within this thesis. Though widely covered by theorists, this subject would benefit from a combination of theoretical and practice-led research. Looking into how the overlapping human senses are influenced by film, and how these relationships change with the introduction of new technologies will be an area of more in-depth post-PhD study.

Working with 'found-footage' was an intrinsic aspect of my research and I intend to build on this field in future work, but also plan to start shooting my own films. This will require a higher level of collaboration than my current work, a direction that I wish to develop.

In *Pursuit of a Shadow* the gallery acted as a wider frame for the installations, intertwining with and enriching my practical and theoretical research. This new space helped to both reveal and transform film's structural qualities by offering viewers a distance from which to re-evaluate the nature of 20th Century analogue recordings as viewed through 21st Century digital technology.

The altered and ill-fitting frames in these installations highlighted the disjointed, yet fertile relationship between film space, screen and gallery. These merging, fluctuating gaps occupied a 'grey zone' that mirrored my research into the hybrid spaces produced by technological changes within audio-visual representation. The ease with which films can now be digitally rearranged allows alternative viewpoints to coexist and interact within an audience's senses. The parameters of analogue film, once carefully constrained within a strict viewing model, can now be loosened up to create hybrid representations of space and time within which to examine and connect the fragmented and ever-changing components that make up the cinematic experience.

Appendix: List of Works (1997 – 2013)

Pre-PhD

Tape (1997-98)



Installation: Seven medium-format stereoscopic transparencies displayed within light boxes

Content: Images of abandoned audiotape littering the streets. Looped recordings of the tape content.

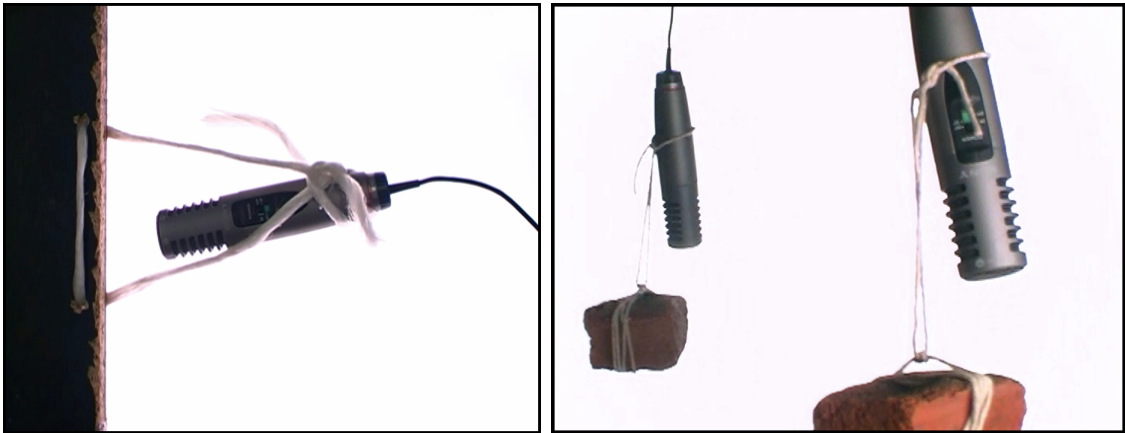
Street/Studio (1999-2000)



Installation: Two synchronised monitors

Content: Left – Random pedestrians filmed from a high vantage point.
Right – A foley artist creating sound effects for pedestrian actions.

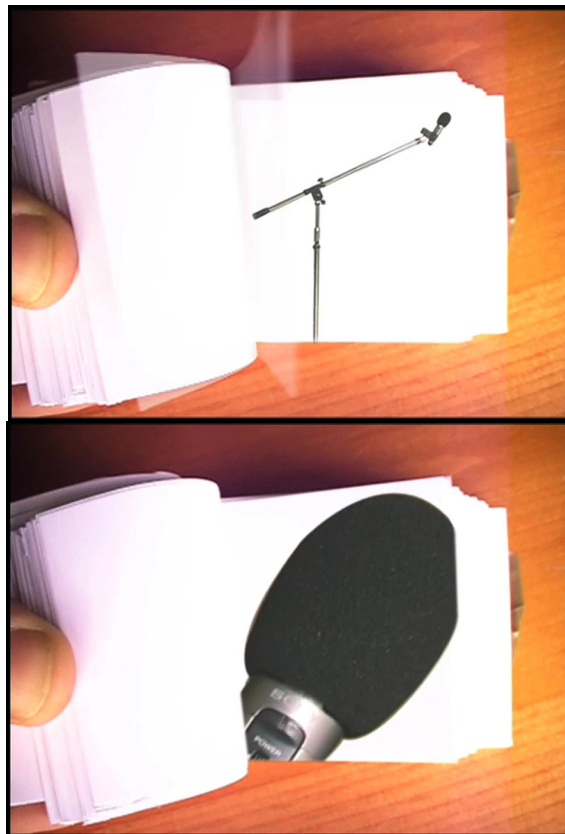
Audio Transitions- Drag & Mirror (2000/01)



Installation: Four videos displayed on four monitors

Content: Blank white screens transitioning to blank black screens. Microphones are used to create and record the physical transition. All videos were of different lengths, creating random patterns of light and sound in the installation.

Flip (2003)



Installation: Monitor

Content: Digital animation - A flipbook representation showing a zoom into a microphone. As the image gets closer the flickering noise of the pages increases.

**“I wish there could be an invention that bottled up memory like perfume”
(2004)**



Installation: Looped Projection.

Content: Digitally distorted film scene showing a couple in an open-top car. They are frozen on a single frame while the backdrop behind them spins in an endless loop.

Film Source: *Rebecca* (Hitchcock, 1940)

“We’ll revisit the scenes of our youth” 2004



Installation: Two adjacent rear-projections

Content: A couple frozen in front of a scrolling painted backdrop. Behind the scenes an aged man powers the mechanisms behind this fantasy. Ghostly reflections and cigarette smoke create a bridge between still and moving layers.

Film Source: *Letter From an Unknown Woman* (Max Ophuls, 1948)

"Her celluloid self" (2005)



Installation: Projection

Content: A couple watching a film are frozen, yet the flickering light from the projector subtly reanimates them.

Film Source – *Sunset Boulevard* (Billy Wilder, 1950)

"That's all..." (2005)



Installation: 2 wall-mounted monitors

Content: A figure is frozen mid-word while his voice is being recorded. By merging moving and still elements his voice becomes impossibly frozen. In a lower screen another character attempts to decipher/restart the voice.

Film Sources – Top: *In the Heat of the Night* (Norman Jewison, 1967)
Bottom: *The Conversation* (Francis Ford Coppola, 1974)

“We’re going for a trip across the water” (2006)



Installation: Aluminium screen suspended in a gallery space. Imagery is projected onto both sides of the screen.

Content: A couple row a boat in endless circles on a lake. A 360-degree panorama loops behind them. This is a still image constructed of hundreds of film frames stitched together and then fed back into the film space using *After Effects* software.

Film Source: *Sunrise* (F.W Murnau, 1927)

***Untitled* (2006/07)**



Installation: Splitscreen projection/monitor

Content: A frozen figure speaking into a phone has his voice reanimated by the modulation of the swinging receiver on the other end of the line.

Film Sources – Left: *Shadow of a Doubt* (Hitchcock, 1943)

Right: *The Lady from Shanghai* (Orson Welles, 1947)

Moonscape (2007)



Installation: Widescreen Projection.

Content: An endlessly looping panorama of the moon's rotating surface, made up of several painted backdrops from 1950's B movies. Made in the decade before the moon landings, this imagery is caught between a sense of the future for its contemporary audience, but a sense of the past for 21st Century viewers.

Film Sources: Various 1950's Sci-Fi film backdrops

Running Time (2007/08)



Installation: Large curved screen onto which is projected a panoramic video

Content: A running figure is caught in an absurd Sisyphean struggle to escape an endlessly circling landscape. A dramatic soundtrack appears to highlight his struggle, yet is itself an element of the loop that encloses him. The tensions between cinematic motion and the underlying still frames from which it is composed are highlighted here.

Film Source: *Get Carter* (Mike Hodges, 1971)

PhD Work

Dead Ends (2010)



Installation: Wall mounted light-boxes.

Content: Photographic images of film-reels where the final frame reveals a death scene that appears to connect to the physical presence of the reel itself.

Film Source: Various

Bullet Time (2010)



Installation: Aluminium screen suspended in the middle of a gallery space. Numerous mp3 players and sets of speakers spread around the walls, floor and ceiling of the space.

Content: A freeze- frame of a gun being fired, with smoke floating from the barrel and out of the frame. The sound of a bullet ricocheting endlessly through the space.

Film Source: *Once Upon a Time in the West* (Sergio Leone, 1968)

Crash (2010)

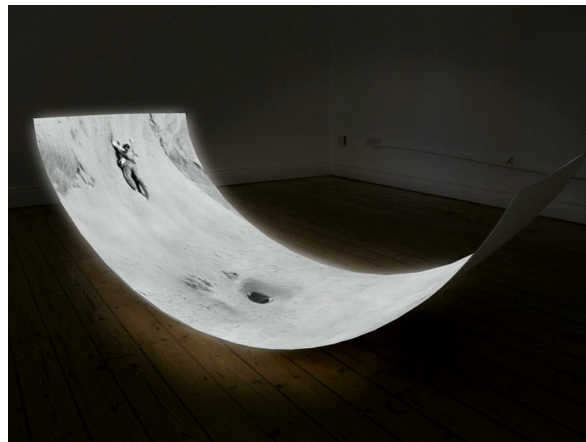


Installation: Steel screen (6'x2') painted white, then folded over to reveal untreated and rusting reverse. Leant up against wall.

Content: High speed car chase on the painted front and a crash scene on the reverse.

Film Sources: Left: *Amorres Perros* (Alejandro Gonzalez Inarritu, 2000)
Right: *Marathon Man* (John Schlesinger, 1976)

Dune (2010/11)

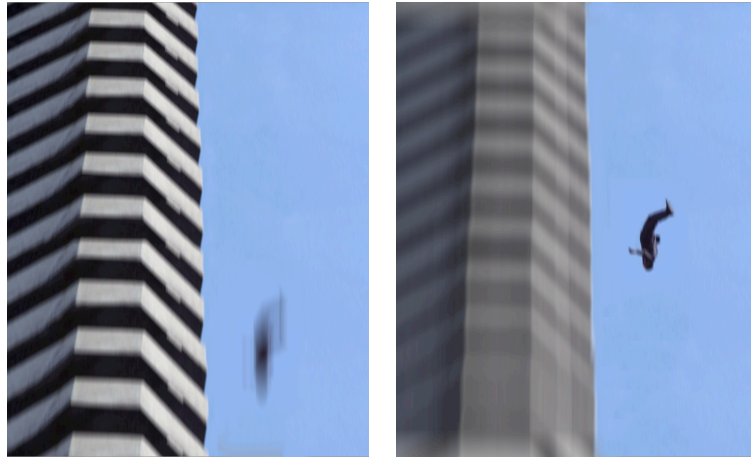


Installation: Curved steel screen (65cm x 22cm) painted white on the inside of the curve, untreated and rusting on the outside.

Content: The futile attempts of a man to escape a sand-dune. This projected image is digitally distorted so that when it combines with the curved screen it straightens out.

Film Source: *Woman in the Dunes* (Hiroshi Teshigahara, 1964)

Fall (2011)



Installation: Monitor mounted on a wall in a vertical format.

Content: A figure falling from a building. A camera appears to shift speeds, either following the faller down, making the building whizz past in a blur, or halting so that the figure falls in a blur through the frame.

Film Source: *Get Carter* (Mike Hodges, 1971)

24 Times (2008/12)



Installation: Twenty-four Monitors formed into an inward facing circle, each attached to a 'daisy-chain' of twenty-four media-players that are all attached to a single 'master' computer which synchronises the audiovisual content to play exactly the same footage with a one-frame delay to each adjacent monitor.

Content: Numerous film clips showing characters taking flash photographs. Scenes edited together at the point of the flash.

Film Sources: Various.

Medium (2010/11)



Installation: A suspended screen with back-projected image.

Content: A two-second long clip of actor Joseph Cotton blowing a smoke-ring, stretched out to last for three minutes.

Film Source: *Shadow of a Doubt* (Alfred Hitchcock, 1943).

First and Last Sounds (2011)





Installation: A floor-mounted projector beams an image onto a steel screen folded to resemble the mountain landscape of the film clip. The projection frame bleeds over the edge of the screen to cast a silhouette of the screen onto the gallery wall. Numerous mp3 players and speakers distributed through the gallery space.

Content: A man calling out across a mountain range, with his voice echoing endlessly through the space.

Film Sources: *Goodbye Mr Chips* (Sam Wood, 1939)

Intermission I (2011/12)



Installation: A folded card screen mounted on a wall.

Content: A man running down an ascending escalator.

Film Sources: *A Matter of Life and Death* (Pressburger & Powell, 1946).

Time Machine I (2011)



Time Machine II (2011/12)

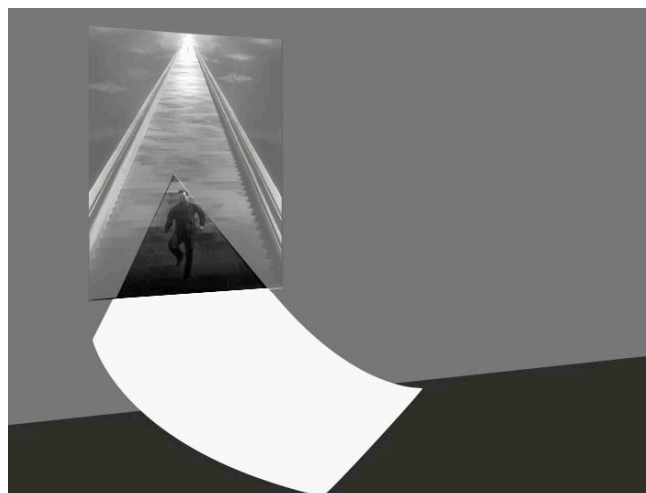


Installation: Wall mounted screens and projectors

Content: Clips in which still, slowed down, normal speed and looped actions share the same frame.

Film Source: *The Time Machine* (George Pal, 1960).

Jacob's Ladder (2011)



Installation: Screen which appears to have slipped off the wall to which it was mounted and is now slumped half against the wall and half on the floor.

Content: A man running down an escalator that appears to stretch off into infinity. The figure is caught in the only section of the screen that still contains a section of the projected image. Here appears to be caught between the illusory film space and the physical world of the gallery.

Film Sources: *A Matter of Life and Death* (Pressburger & Powell, 1946)

Cataract (2010/12)



Installation: A free-standing screen with a vertical strip cut out and pulled through the frame. Imagery is projected onto this section.

Content: A figure clinging onto a rope, suspended on the edge of a waterfall.

Film Source: *Our Hospitality* (Buster Keaton, 1923).

Light that goes, light that returns (2012)



Installation: Free-standing screen with an image that over-spills the screen onto the wall behind.

Content: A figure frozen on a single frame, but then apparently reanimated by a swinging lightbulb. The screen's shadow swinging in unison with the light.

Film Source: *Alphaville* (Jean-Luc Godard, 1965)

Shadow play I (2012)



Installation: Wall mounted screen and projection

Content: Film footage of a young boy holding his hands in front of a lamp to create shadow puppets. Between him and the shadows he creates two figures are fixed on a single frame, but also gently reanimated by the flickering lamp.

Film Source: *The Leopard Man* (Tourneur, 1943)

Shadow Play II (2012)



Installation: Free-standing screen with an image that over-spills the screen onto the wall behind.

Content: Film footage of a young boy holding his hands in front of a lamp to create shadow puppets. On the gallery wall beyond the screen is a shadow puppet that corresponds to the boy's hand gestures.

Film Source: *The Leopard Man* (Tourneur, 1943)

***Tunnel* (2012)**



Film Source: *The Trial* (Orson Welles, 1962)

Installation: Free-standing screen with an image that over-spills the screen onto the wall behind.

Content: Looped film footage of a man running through a back-lit tunnel. As the figure runs numerous times through the tunnel, his body and shadow get progressively out of synchronisation with each other. The man's body remains confined within the screen's boundaries, while his shadow appears to break free, moving through the gallery space.

Flash (2012)



Installation: Free-standing screen with an image that over-spills the screen onto the wall behind.

Content: Numerous films clips showing characters taking flash photographs. Scenes edited together at the point of the flash. When the camera flashes go off the direction of their pulse of light appears to effect the screen and its shadow.

Film Source: Various

Bridge (2012/13)



Installation: Stereoscopic video displayed on an ipad

Content: A stereoscopic scene of Newcastle's High Level Bridge made up of two adjacent frames showing the same bridge from slightly different angles to create a three-dimensional effect. These two scenes, one showing an old film clip of Michael Caine running through the bridge, and the other showing a recent digital recording, are separated by 40 years.

Film Source: *Get Carter* (Mike Hodges, 1971)

Bridge II (2013)



Installation: Projection onto a suspended screen

Content: Two scenes showing the same bridge from a slightly different angle cut back and forward to create a GIF style sense of disjointed space. Onto the gallery wall behind the projection the suspended screen's shadow oscillates back and forth in relation to the camera's shift in perspective.

Film Source: *Get Carter* (Mike Hodges, 1971)

Vanishing Point (2013)

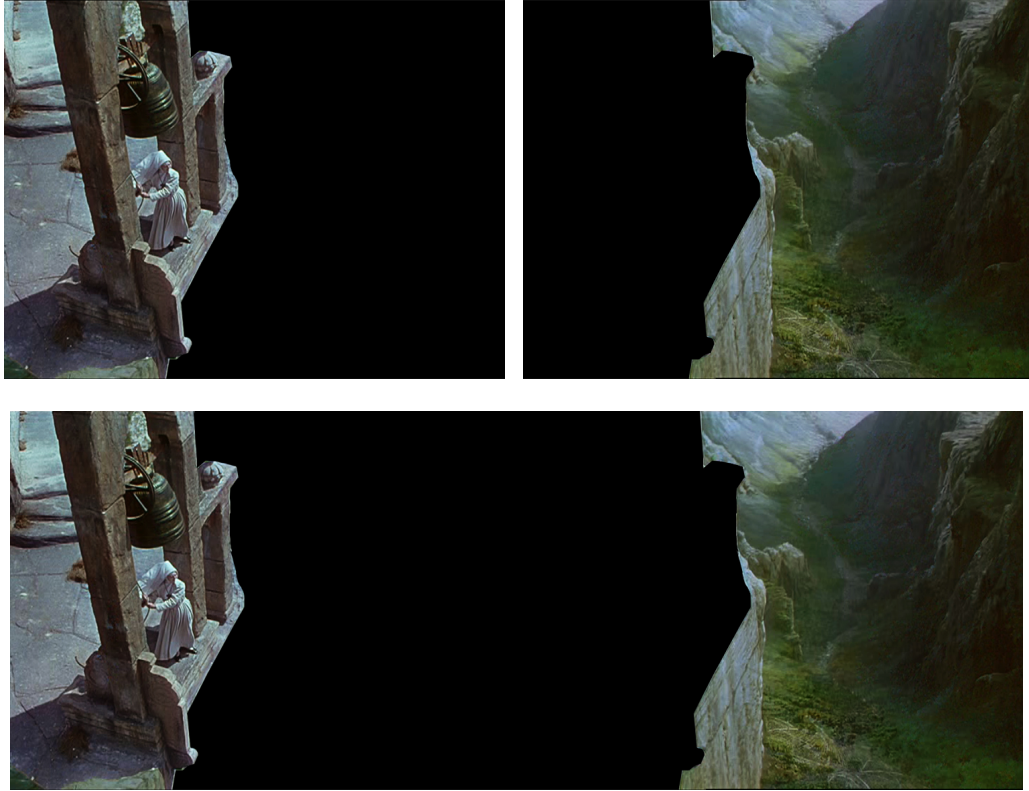


Installation: Free-standing screen with an image that contracts in and out of the screen's boundaries.

Content: Looped film footage of a woman walking towards the camera. The frame moves in the opposite direction to her, keeping her at the same scale despite her constant motion.

Film Source: *The Third Man* (Carol Reed, 1949)

Matte Black Narcissus (2013)



Installation: An extended screen fixed to a wall

Content: An endlessly looped film clip showing a nun tolling a bell. The frame has been divided back into its two original recordings that had been connected through the use of a matte. The film section of the nun's actions are now separated from the painted backdrop of a Himilayan chasm.

Film Source: *Black Narcissus* (Pressburger & Powell, 1947)

Zither (2013)

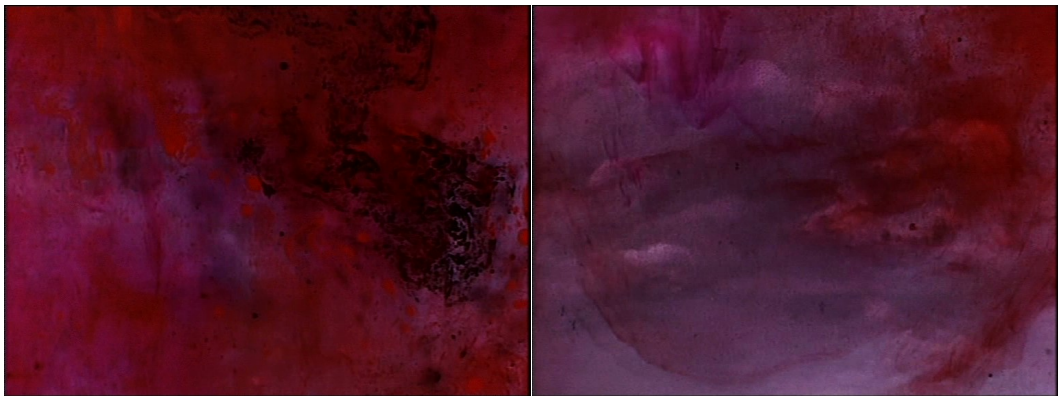


Installation: An extended screen fixed to a wall

Content: Digitally reanimated footage showing a looped and layered scene of a woman walking down a road. Various sections of her path down the road are looped and layered over each other to create multiple shots of the different stages of her walk.

Film Source: *The Third Man* (Carol Reed, 1949)

Intermission II (2013)



Installation: Aluminium screen fixed to a wall, with a 15cm gap between screen and wall. A projected frame that contracts in and out of the screen's boundaries, following a soundtrack of rhythmic breathing.

Content: Animated footage showing the transition from a man's corporeal body (depicted by bright red fluids) to his inner dream state (depicted by a painted backdrop of celestial clouds). Soundtrack of a regular breathing pattern with a mechanical edge.

Film Source: *A Matter of Life and Death* (Pressburger & Powell, 1946)

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Filmography

"I wish there could be an invention that bottled up memory like perfume" (2004)

Film Source: *Rebecca* (Alfred Hitchcock, 1940, US)

"We'll revisit the scenes of our youth" 2004

Film Source: *Letter From an Unknown Woman* (Max Ophuls, 1948, US)

"Her celluloid self" (2005)

Film Source – *Sunset Boulevard* (Billy Wilder, 1950, US)

"That's all..." (2005)

Film Sources:

Top: *In the Heat of the Night* (Norman Jewison, 1967, US)

Bottom: *The Conversation* (Francis Ford Coppola, 1974, US)

"We're going for a trip across the water" (2006)

Film Source: *Sunrise* (F.W Murnau, 1927, US)

Untitled (2006/07)

Film Sources:

Left: *Shadow of a Doubt* (Alfred Hitchcock, 1943, US)

Right: *The Lady from Shanghai* (Orson Welles, 1947, US)

Moonscape (2007)

Film Sources: Various 1950's Sci-Fi film backdrops

Running Time (2007/08)

Film Source: *Get Carter* (Mike Hodges, 1971, UK)

PhD Work

Dead Ends (2010)

Film Source: Various

Bullet Time (2010)

Film Source: *Once Upon a Time in the West* (Sergio Leone, 1968, US/Italy)

Crash (2010)

Film Sources:

Left: *Amorres Perros* (Alejandro Gonzalez Inarritu, 2000, Mexico)

Right: *Marathon Man* (John Schlesinger, 1976, US)

Dune (2010/11)

Film Source: *Woman in the Dunes* (Hiroshi Teshigahara, 1964, Japan)

Fall (2011)

Film Source: *Get Carter* (Mike Hodges, 1971, UK)

24 Times (2008/12)

Film Sources: Various

Medium (2010/11)

Film Source: *Shadow of a Doubt* (Alfred Hitchcock, 1943, US)

First and Last Sounds (2011)

Film Source: *Goodbye Mr Chips* (Sam Wood, 1939, UK)

Intermission I (2011/12)

Film Sources: *A Matter of Life and Death* (Pressburger & Powell, 1946, UK)

Time Machine I (2011)

Time Machine II (2011/12)

Film Source: *The Time Machine* (George Pal, 1960, US)

Jacob's Ladder (2011)

Film Sources: *A Matter of Life and Death* (Pressburger & Powell, 1946, UK)

Cataract (2010/12)

Film Source: *Our Hospitality* (Buster Keaton, 1923, US)

Light that goes, light that returns (2012)

Film Source: *Alphaville* (Jean-Luc Godard, 1965, France)

Shadow play I (2012)

Shadow Play II (2012)

Film Source: *The Leopard Man* (Jacques Tourneur, 1943, US)

Tunnel (2012)

Film Source: *The Trial* (Orson Welles, 1962, France/Italy/Germany)

***Flash* (2012)**

Film Source: Various

Bridge (2012/13)

Bridge II (2013)

Film Source: *Get Carter* (Mike Hodges, 1971, UK)

Vanishing Point (2013)

Film Source: *The Third Man* (Carol Reed, 1949, UK)

Matte Black Narcissus (2013)

Film Source: *Black Narcissus* (Pressburger & Powell, 1947, UK)

Zither (2013)

Film Source: *The Third Man* (Carol Reed, 1949, UK)

Intermission II (2013)

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