Representation and Reproduction: a love story

A project submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Matthew Sleeth
B.A. (Cinema Studies)

School of Art
College of Design and Social Context
RMIT University, Melbourne
December, 2013
Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and; any editorial work, paid or unpaid, carried out by a third party is acknowledged; ethics procedures and guidelines have been followed.

Matthew James Sleeth, 2013
Acknowledgements

Like a film, the credits for a PhD should roll on and on. There have been many people who have given their time, advice and passion over the years. Thank you.

I would like to thank my supervisors, Dr Shane Hulbert and Dr Keely Macarow, for their enthusiasm, rigour and attention throughout the project.

I would also like to thank Dr Peter Milne, Dr Michael Spooner and Professor David Thomas for reading early drafts and giving thoughtful advice along the way. Thanks also to Mary-Jo O’Rourke for her sterling copy-editing and proofreading.

Thanks to Dr Les Walkling for his initial supervision and ongoing contribution to my practice, and to Anna Dzenis for her early contribution.

Most importantly, I would like to thank my family for their support and tolerance of my absences, both material and otherwise: my partner Sally-Anne and children Lola, Scarlet and Piper. Thanks, as always, to my parents, Pam and Ian.
Table of Contents

Declaration.................................................................................................................................................. ii
Acknowledgements...................................................................................................................................... iii
Table of Contents....................................................................................................................................... iv
List of Illustrations................................................................................................................................. vii
Abstract...................................................................................................................................................... 1
The Exhibition: Representation and Reproduction: a love story........................................................... 3
List of Exhibition Artworks.................................................................................................................... 4
Research Outcomes: Solo exhibitions...................................................................................................... 32
Research Outcomes: Group exhibitions.................................................................................................. 33
Research Outcomes: Publications............................................................................................................ 34
Chapter One
Introduction: Developing a studio practice through new media......................................................... 35
   Introduction to the project..................................................................................................................... 37
   A personal chronology......................................................................................................................... 37
   Research questions............................................................................................................................. 39
   About the exegesis............................................................................................................................... 40
   New and old: A pre-history of new media.......................................................................................... 41
   In the beginning: The calotype........................................................................................................... 44
   Negatives and positives: The original and the copy............................................................................ 46
   A faster horse: Social conditions for innovation................................................................................ 49
   Nature or nurture: How we are changed by photographic representation......................................... 51
   The biases of new media..................................................................................................................... 53
Chapter Two
Representation and Reproduction......................................................................................................... 55
   Photography as first love...................................................................................................................... 57
   Verisimilitude lost: A moment of clarity............................................................................................. 58
   Art is autobiographical: The image is personal and political............................................................ 59
   Guilt-free abstraction............................................................................................................................ 61
   We can’t paint: Pictorialism and the way backwards......................................................................... 64
   The long march: The path to institutional embrace........................................................................... 66
   The conceptual moment: Photography and contemporary art....................................................... 67
   The poetics of politics: A combination of process and visual seduction.......................................... 68
Chapter Three: Photography
Project One: Pattern Recognition (2008)............................................................................................... 69
   Fusing visual pleasure with conceptual art ....................................................................................... 70
   Objectivity or subjectivity: Methods for evaluating subject matter................................................ 71
   Solving the picture through the accumulation of choice................................................................. 72
<table>
<thead>
<tr>
<th>Chapter Four: Digital Imaging</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Two: Various Positions (2009)</td>
<td>90</td>
</tr>
<tr>
<td>Digital imaging: A genealogy</td>
<td>92</td>
</tr>
<tr>
<td>Narrativity and the single image</td>
<td>93</td>
</tr>
<tr>
<td>Separated at birth: Photography and computers</td>
<td>95</td>
</tr>
<tr>
<td>Born digital</td>
<td>97</td>
</tr>
<tr>
<td>Various Positions</td>
<td>98</td>
</tr>
<tr>
<td>Century Southern Tower Hotel (2008)</td>
<td>101</td>
</tr>
<tr>
<td>Hunting or gathering</td>
<td>102</td>
</tr>
<tr>
<td>The death of painting and photography</td>
<td>106</td>
</tr>
<tr>
<td>The referent: Or the question of any horse in particular</td>
<td>108</td>
</tr>
<tr>
<td>Documents vs pictures</td>
<td>109</td>
</tr>
<tr>
<td>The tyranny of narrative</td>
<td>110</td>
</tr>
<tr>
<td>Everything fails</td>
<td>112</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Five: Moving Image</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Three: Green Shoots (2009)</td>
<td>114</td>
</tr>
<tr>
<td>Sculpting in time</td>
<td>115</td>
</tr>
<tr>
<td>Green Shoots (2009)</td>
<td>117</td>
</tr>
<tr>
<td>Sound</td>
<td>119</td>
</tr>
<tr>
<td>Robert Frank: Still to moving and back again</td>
<td>120</td>
</tr>
<tr>
<td>Still moving images</td>
<td>122</td>
</tr>
<tr>
<td>There is an app for that: Video art in the age of Youtube</td>
<td>124</td>
</tr>
<tr>
<td>Video pioneers: Russians, Anthony McCall, Bill Viola</td>
<td>125</td>
</tr>
<tr>
<td>Narrative and the way forward</td>
<td>127</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Six: Sculpture</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Four: Scale Model for Still Life (2009)</td>
<td>129</td>
</tr>
<tr>
<td>and The Generative Freeway Project (2013)</td>
<td>129</td>
</tr>
<tr>
<td>Restating my assumptions</td>
<td>130</td>
</tr>
<tr>
<td>The technological sublime</td>
<td>131</td>
</tr>
</tbody>
</table>
The Generative Freeway Project (2013) ................................. 133
Scale Model for Still Life (2009) .................................................. 134
3D printing ............................................................................. 136

Chapter Seven: Convergence

Project Five: The Rise and Fall of Western Civilisation (2011) ................. 140
Death of the grand narratives .................................................... 142
Our machines will not save us .................................................. 143
The Rise and Fall of Western Civilisation (2011) ................................ 144
Anxiety and technology .......................................................... 146
Never-ending story ............................................................... 147
Convergence: The photographic in new media ................................ 149

Chapter Eight

Conclusion: New media is photography all the time ....................... 150
Photography in the expanded field ............................................. 152
Giving way ............................................................................. 152
Research questions .................................................................. 153
Conclusions and findings .......................................................... 155
The machine-readable original and the human-readable multiple .... 155
Noun and verb ........................................................................ 157
Performing process .................................................................. 157
The same problems .................................................................. 158
A complex plaything ............................................................... 158
Indexicality ............................................................................. 159
Core experience of 21st century ................................................ 160
Falsification (after Popper) ........................................................ 160
Genealogy .............................................................................. 161

Bibliography

Moving Image, Exhibitions, Publications ........................................ 163
Moving Image ......................................................................... 164
Exhibitions ............................................................................. 166
Publications ........................................................................... 168
Colophon ................................................................................. 188
List of Illustrations

Figure 01: Matthew Sleeth Fire Extinguishers (2004–07) from Pattern Recognition ........................................... 5
Figure 02: Matthew Sleeth Houseplants (2004–07) from Pattern Recognition ...................................................... 6
Figure 03: Matthew Sleeth White (2004) from Pattern Recognition ........................................................................ 7
Figure 04: Matthew Sleeth La Joconde (2005) from Pattern Recognition ................................................................. 8
Figure 05: Matthew Sleeth Century Southern Tower Hotel (2008) from Various Positions ................................... 9
Figure 06: Matthew Sleeth TV Tower (2008) from Various Positions .....................................................................10
Figure 07: Matthew Sleeth Southern Lights, Shinjuku Southern Terrace (2008) from Various Positions ..............11
Figure 08: Matthew Sleeth Millenario Lights, Marunouchi (2008) from Various Positions ..................................12
Figure 09: Matthew Sleeth Wisla River (2008) from Various Positions .................................................................13
Figure 10: Matthew Sleeth Snake Gully (2008) from Various Positions .................................................................14
Figure 11: Matthew Sleeth Heavenly Valley (2008) from Various Positions ..........................................................15
Figure 12: Matthew Sleeth Colour Science [Focus Chart] (2013) .....................................................................16
Figure 13: Matthew Sleeth Green Shoots (2009) video still ................................................................................17
Figure 14: Matthew Sleeth Bali (2010) video still .................................................................................................18
Figure 15: Matthew Sleeth I Don’t See God Up Here (2010) video still .................................................................19
Figure 16: Matthew Sleeth Scale Model for Still Life (2009) installation view .......................................................20
Figure 17: Matthew Sleeth Trophies (2010) installation view .................................................................................21
Figure 18: Matthew Sleeth The Generative Freeway Project (2013) installation view .......................................22
Figure 19: Matthew Sleeth The Generative Freeway Project (2013) installation view .......................................23
Figure 20: Matthew Sleeth The Generative Freeway Project (2013) installation view .......................................24
Figure 21: Matthew Sleeth The Last Carpark (2013) installation view .................................................................25
Figure 22: Matthew Sleeth The Last Carpark (2013) installation view .................................................................26
Figure 23: Matthew Sleeth The Last Carpark (2013) installation view .................................................................27
Figure 24: Matthew Sleeth Genesis (2011) installation view ...............................................................................28
Figure 25: Matthew Sleeth The Rise and Fall of Western Civilisation (2011) installation view ...........................29
Figure 26: Matthew Sleeth The Rise and Fall of Western Civilisation (2011) installation view .........................30
Figure 27: Matthew Sleeth The Rise and Fall of Western Civilisation (2011) installation view .........................31
Figure 028: Ian Sleeth (b. 1944) Matthew 3 yrs, Rebekah 2 yrs, 1976 .................................................................37
Figure 030: M33: Projected, 2003 .........................................................................................................................38
Figure 029: Matthew Sleeth Electronic Dice, 1986 .............................................................................................38
Figure 031: Dan Flavin (1933–1996) Untitled (to Jan and Ron Greenberg) 1972–73, 2003 .................................42
Figure 033: WH Fox Talbot (1800–1877) Seated Figure in the Cloisters, Lacock Abbey, c. 1844 .....................44
Figure 032: John Moffat (1819–1894) William Henry Fox Talbot, 1864 ............................................................44
Figure 034: Joseph Nicéphore Niépce (1765–1833) View from the Window at Le Gras, 1826 .................45
Figure 035: Joseph Nicéphore Niépce (1765–1833) View from the Window at Le Gras, 1826 .................45
Figure 036: Denis Diderot (1713–1784) Dessein, Camera Obscura, 1751 ..........................................................46
Figure 037: Matthew Sleeth Wisla River (2008) .................................................................................................47
List of Illustrations / Page viii

Figure 038: Matthew Sleeth  *Cmd + I* (2009) ................................................................. 47
Figure 039: Sergei Eisenstein (1898–1948)  *Alexander Nevsky*, 1938 .......................... 49
Figure 041: Joe Loengard (b. 1934)  *Hands: Richard Avendon*, 1994 ........................ 53
Figure 042: Frederick Sommer (1905–1999)  *Coyotes*, 1945 ....................................... 57
Figure 043: Sebastião Salgado (b. 1944)  *Serra Pelada*, 1986 ...................................... 59
Figure 045: Don McCullin (b. 1935)  *Nine-year-old albino boy clutching an empty corned beef tin, Biafra*, 1969 60
Figure 044: W. Eugene Smith (1918–1978)  *Tomoko and Mother, Minimata, Japan*, 1972  60
Figure 046: Lewis Hine (1874–1940)  *Sadie Pfeifer, a Cotton Mill Spinner, Lancaster, South Carolina*, 1908 61
Figure 047: Dorothea Lange (1895–1965)  *Migrant Mother, Nipomo, California*, 1936 61
Figure 048: László Moholy-Nagy (1895–1946)  *Untitled*, c. 1924 ............................. 62
Figure 049: Matthew Sleeth  *Colour Science [Focus Chart]* (2013) ............................. 63
Figure 050: Matthew Sleeth  *Colour Science [Focus Chart]* (2013) ............................. 63
Figure 051: Matthew Sleeth  *Colour Science [Focus Chart]* (2013) ............................. 64
Figure 052: Constant Puyo (1857–1933)  *Eingeschlafen*, 1897 ................................... 64
Figure 053: Henry Peach Robinson (1830–1901)  *A Holiday in the Wood*, 1860 ............. 65
Figure 054: Alfred Stieglitz (1864–1946)  *Equivalent*, 1926 ....................................... 65
Figure 055: Wynn Bullock (1902–1975)  *The Pilings*, 1958 ...................................... 66
Figure 056: Chris Burden (b. 1946)  *Shoot*, 1971 ....................................................... 67
Figure 057: Chris Burden (b. 1946)  *Trans-fixed*, 1974 ............................................. 67
Figure 058: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 70
Figure 059: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 70
Figure 060: Paul Strand (1890–1976)  *The White Fence, Port Kent, New York*, 1916 71
Figure 061: Stephen Shore (b. 1947)  *El Passo Street, El Passo, Texas*, 1975 ............. 72
Figure 062: Tim Davis (b. 1969)  *Cornelia Rutgers Livingston*, 2003 ....................... 73
Figure 063: Ed Ruscha (b. 1937)  *Twentysix Gasoline Stations* ................................. 74
Figure 065: Matthew Sleeth  *Views of Mount Fuji #5 [Fujikyu Highland Park]* (2004) 75
Figure 064: Matthew Sleeth  *Feet #5 [Tokyo]* (2002) ................................................. 75
Figure 066: Philip-Lorca diCorcia (b. 1951)  *Eddie Anderson; 21 Years Old; Houston, Texas; $20*, 1990 76
Figure 067: Gregory Crewdson (b. 1962)  *Untitled*, 2001 .......................................... 76
Figure 068: Matthew Sleeth  *Untitled #17* (1999) ..................................................... 77
Figure 069: Matthew Sleeth  *Ten Series/106 Photographs* ........................................ 77
Figure 070: Robert Adams (b. 1937)  *Pikes Peak Park, Colorado Springs, Colorado*, 1970  78
Figure 071: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 79
Figure 072: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 79
Figure 073: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 80
Figure 074: Matthew Sleeth  *Pattern Recognition* (2008) ......................................... 80
Figure 075: Caspar David Friedrich (1774–1840)  *The Monk By the Sea*, 1808–10 81
Figure 076: Michael Snow (b. 1929)  *Wavelength*, 1967 .......................................... 82
Figure 077: Andy Warhol (1928–1987)  *Self Portrait*, 1966 ....................................... 83
Figure 078: Bernd (1931–2007) and Hilla (b. 1934) Becher *Water Towers*, 1968–1972 .............................................. 83
Figure 080: Théodore Géricault (1791–1824) *Raft of the Medusa*, 1818–1819 ........................................................... 85
Figure 079: Pieter Brueghel’s (1525–1569) *Hunters in the Snow (Winter)*, 1565 ......................................................... 85
Figure 081: Marina Abramovic (b. 1946) *The Artist is Present*, 2010 ................................................................. 87
Figure 082: Matthew Sleeth *Various Positions* (2009) ................................................................. 91
Figure 083: Matthew Sleeth *Century Southern Tower Hotel* (2008) ................................................................. 92
Figure 084: Matthew Sleeth *Heavenly Valley* (2008) ................................................................. 93
Figure 085: August Sander (1876–1964) *Young Farmers*, 1914 ................................................................. 94
Figure 086: Cindy Sherman (b. 1954) *Untitled Film Still #21*, 1978 ................................................................. 94
Figure 087: Charles Babbage (1791–1871) *Difference Engine No. 2, drawing, c.* 1838 ............................................. 95
Figure 088: Charles Babbage (1791–1871) *Difference Engine No. 1, portion*, 1832 ............................................. 96
Figure 089: Charles Babbage (1791–1871) *Difference Engine punch cards*, 1836 ............................................. 96
Figure 090: Frank Hurley (1885–1962) *Battle of Passchendaele*, 1917 ................................................................. 97
Figure 092: Matthew Sleeth *Various Positions* (2009) ................................................................. 98
Figure 091: *National Geographic* front cover, February 1982 ................................................................. 98
Figure 093: Matthew Sleeth *Various Positions* (2009) ................................................................. 99
Figure 094: Matthew Sleeth *Wisla River* (2008) ................................................................. 99
Figure 095: Lyndal McIlwaine (b. 1973) *Matthew Sleeth marking Wisla River* (2008) ........................................ 100
Figure 096: Matthew Sleeth *Century Southern Tower Hotel* (2008) ................................................................. 101
Figure 097: Andreas Gursky (b. 1955) *Rhine II*, 1999 ................................................................. 102
Figure 098: Ellsworth Kelly (b. 1923) *Train Landscape*, 1952–53 ................................................................. 102
Figure 099: Thomas Struth (b. 1954) *National Gallery I, London 1989*, 1989 .................................................... 103
Figure 100: Philip Lorca diCorcia (b. 1951) *New York*, 1993 ................................................................. 103
Figure 101: Wolfgang Tillmans (b. 1968) *Freischwimmer 151*, 2010 ................................................................. 104
Figure 102: Ellsworth Kelly (b. 1923) *Ground Zero*, 2003 ................................................................. 107
Figure 103: Gerhard Richter (b. 1932) *Atlas*, 1962 ................................................................. 107
Figure 104: Gerhard Richter (b. 1932) *925-1 Strip*, 2012 ................................................................. 108
Figure 105: Paul Graham (b. 1956) *A Shimmer of Possibility*, 2007 ................................................................. 110
Figure 106: Henri Cartier-Bresson (1908–2004) *La Retour, 1945* ................................................................. 115
Figure 107: Chris Marker (1921–2012) *La Jetée*, 1962 ................................................................. 116
Figure 108: Allan Sekula (1951–2013) *Fish Story* ................................................................. 116
Figure 109: Matthew Sleeth *Green Shoots* (2009) ................................................................. 117
Figure 110: Matthew Sleeth *Green Shoots* (2009) ................................................................. 117
Figure 111: Matthew Sleeth *Green Shoots* (2009) ................................................................. 118
Figure 112: Matthew Sleeth *Green Shoots* (2009) ................................................................. 118
Figure 113: Robert Frank (b. 1924) *Hoover Dam, Nevada*, 1956 ................................................................. 119
Figure 114: Robert Frank (b. 1924) *Cocksucker Blues*, 1972 ................................................................. 121
Figure 115: Robert Frank (b. 1924) *Elevator, Miami Beach*, 1958 ................................................................. 121
Figure 116: Robert Frank (b. 1924) *Andrea, Mabou, 1977 (with ship)*, 1976–1977 ................................................................. 122
Figure 117: Bruce Nauman (b. 1941) *Stamping in the Studio*, 1968 ................................................................. 123
Figure 118: Steve McQueen (b. 1969) Drumroll, 1998 .................................................. 123
Figure 119: Dziga Vertov (1896–1954) Man With a Movie Camera, 1929 ........................ 125
Figure 120: Anthony McCall (b. 1940) Line Describing a Cone, 1973 ............................. 125
Figure 121: William Lamson (b. 1977) Line Describing the Sun, 2010 .......................... 126
Figure 122: Bill Viola (b. 1951) Ascending Angel, 2001 .............................................. 127
Figure 123: Erik Kessels (b. 1966) 24 Hours in Photography, 2011 ............................... 127
Figure 124: Matthew Sleeth Green Shoots (2009) ..................................................... 128
Figure 125: Matthew Sleeth Scale Model for Still Life (2009) ....................................... 130
Figure 126: NYC Resistor Sign, 2011 ................................................................. 131
Figure 127: Makerbot Cupcake Prototypes, 2010 ......................................................... 131
Figure 128: Cupcake 3D printer assembly, 2010 ......................................................... 132
Figure 129: Cupcake 3D printer, 2010 ................................................................. 132
Figure 130: Matthew Sleeth The Generative Freeway Project (2013) ............................ 133
Figure 131: Matthew Sleeth The Generative Freeway Project (2013) ............................ 133
Figure 132: Matthew Sleeth The Generative Freeway Project (2013) ............................ 134
Figure 133: Matthew Sleeth Scale Model for Still Life (2009) ....................................... 135
Figure 134: Matthew Sleeth Scale Model for Still Life (2009) ....................................... 135
Figure 135: WH Fox Talbot (1800-1877) Lace, ca. 1845 ............................................. 136
Figure 136: 3D printed toy, 2012 ................................................................. 136
Figure 137: Matthew Sleeth The Generative Freeway Project (2013) ............................ 137
Figure 138: Matthew Sleeth Scale Model for Still Life (2009) ....................................... 137
Figure 140: Unrealised concept drawing ......................................................................... 141
Figure 139: Unrealised concept drawing ......................................................................... 141
Figure 141: Plinth technical drawings ............................................................................. 142
Figure 142: Gallery arc calculations ............................................................................... 142
Figure 143: CNC technical drawings ............................................................................. 143
Figure 144: Arduino code for LED display ..................................................................... 143
Figure 145: Plinth technical drawings ............................................................................. 144
Figure 146: Gallery installation model ........................................................................... 144
Figure 147: Concrete colour tests .................................................................................. 145
Figure 148: Concrete pour (columns) ............................................................................ 145
Figure 149: Concrete pour (span) .................................................................................. 146
Figure 150: Concrete cutting ......................................................................................... 146
Figure 151: Plinth CNC cutting ...................................................................................... 147
Figure 152: Electronics fabrication ................................................................................. 147
Figure 153: Electronics fabrication ................................................................................. 148
Figure 154: Gallery installation ....................................................................................... 148
Figure 155: Installation render ........................................................................................ 149
Figure 156: Matthew Sleeth The Rise and Fall of Western Civilisation (2011) ................. 149
Figure 157: The New Media All Stars ............................................................................ 162
Figure 158: Matthew Sleeth Self Portrait [Polylactic Acid] (2013) .................................. 188
Abstract

This practice-led research project is a visual investigation into the aesthetic, technical and conceptual concerns of new media. The outcome of the research is an exhibition of new media artworks that explores this trajectory and considers how mechanical representation and reproduction can define the scope and conceptual development of a contemporary art practice.

New media art is positioned, for this research project, as works made by an apparatus, via mechanical reproduction. In opposition to old media artworks made by the artist's hand directly transforming the material, new media artworks ultimately embed something of their mechanical nature in their essential character. These artworks are created from a set of instructions developed by the artist, then executed by a machine or series of mechanical processes.

The project investigates the heritage of new media from the announcement of photography and aims to identify the similarities, both conceptual and technical, that inform contemporary processes including digital images, moving image, 3D printing and digital fabrication. Through my artworks and comparison with earlier artworks and technologies, I locate the methods through which each process addresses the problems and possibilities of its predecessors.

The research positions photography as the scaffolding for new media, a platform to consider new visual languages and new narrative possibilities. Photography can be treated as an expanded idea, rather than simply a medium. Everything is photography all the time. The key outcome of this research is that photography is the organising structure through which to view our relationship with all other new media.
As I moved through the research project, each medium gave way to the next as it provided solutions to the concerns of previous works: serial photographic grids to digital images, digital images to moving images, moving images to 3D printed sculpture, 3D printed sculpture to a fusion of digitally fabricated media to create an installation composed entirely of the human-readable multiples created from the machine-readable original.

*The Rise and Fall of Western Civilisation* (2011) can be seen as the proof of concept for this position. As the concluding work in this project, *The Rise and Fall of Western Civilisation* (2011) embodies the whole context of the research as all new media elements are created from a set of machine-readable instructions to create the human-readable objects that form the installation: therefore new media is photography all the time.

The PhD project was ultimately an artistic study of mechanical representation and reproduction that positions contemporary new media as a logical progression from photography, rather than a rupture, and that in my research, all new media is essentially photography, all of the time.
Representation and Reproduction: a love story

The Exhibition: Representation and Reproduction: a love story

School of Art Gallery
RMIT University
March 2014
List of Exhibition Artworks

Figure 01: Matthew Sleeth *Fire Extinguishers* (2004–07) from *Pattern Recognition* .......................................................... 5
Figure 02: Matthew Sleeth *Houseplants* (2004-07) from *Pattern Recognition* ................................................................. 6
Figure 03: Matthew Sleeth *White* (2004) from *Pattern Recognition* ................................................................................. 7
Figure 04: Matthew Sleeth *La Joconde* (2005) from *Pattern Recognition* ................................................................. 7
Figure 05: Matthew Sleeth *Century Southern Tower Hotel* (2008) from *Various Positions* ................................................. 9
Figure 06: Matthew Sleeth *TV Tower* (2008) from *Various Positions* ................................................................. 10
Figure 07: Matthew Sleeth *Southern Lights, Shinjuku Southern Terrace* (2008) from *Various Positions* ................. 11
Figure 08: Matthew Sleeth *Millenario Lights, Marunouchi* (2008) from *Various Positions* ................................................................. 12
Figure 09: Matthew Sleeth *Wisla River* (2008) from *Various Positions* ................................................................. 13
Figure 10: Matthew Sleeth *Snake Gully* (2008) from *Various Positions* ................................................................. 14
Figure 11: Matthew Sleeth *Heavenly Valley* (2008) from *Various Positions* ................................................................. 15
Figure 12: Matthew Sleeth *Colour Science [Focus Chart]* (2013) ........................................................................ 16
Figure 13: Matthew Sleeth *Green Shoots* (2009) video still ..................................................................................... 17
Figure 14: Matthew Sleeth *Bali* (2010) video still ................................................................................................. 18
Figure 15: Matthew Sleeth *I Don’t See God Up Here* (2010) video still ................................................................. 19
Figure 16: Matthew Sleeth *Scale Model for Still Life* (2009) installation view ......................................................... 20
Figure 17: Matthew Sleeth *Trophies* (2010) installation view .................................................................................. 21
Figure 18: Matthew Sleeth *The Generative Freeway Project* (2013) installation view ................................................. 22
Figure 19: Matthew Sleeth *The Generative Freeway Project* (2013) installation view ................................................. 23
Figure 20: Matthew Sleeth *The Generative Freeway Project* (2013) installation view ................................................. 24
Figure 21: Matthew Sleeth *The Last Carpark* (2013) installation view ................................................................. 25
Figure 22: Matthew Sleeth *The Last Carpark* (2013) installation view ................................................................. 26
Figure 23: Matthew Sleeth *The Last Carpark* (2013) installation view ................................................................. 27
Figure 24: Matthew Sleeth *Genesis* (2011) installation view .................................................................................. 28
Figure 25: Matthew Sleeth *The Rise and Fall of Western Civilisation* (2011) installation view ............................. 29
Figure 26: Matthew Sleeth *The Rise and Fall of Western Civilisation* (2011) installation view ............................. 30
Figure 27: Matthew Sleeth *The Rise and Fall of Western Civilisation* (2011) installation view ............................. 31
Figure 01: Matthew Sleeth *Fire Extinguishers (2004–07)* from *Pattern Recognition*
Set of 9 images, installation size 168 x 198 cm, type C prints (optical), mounted on Dibond aluminium.
Matthew Sleeth \textit{Houseplants (2004–07)} from \textit{Pattern Recognition}

Set of 12 images, installation size 168 x 269 cm, type C prints (optical), mounted on Dibond aluminium.
Figure 03: Matthew Sleeth *White* (2004) from *Pattern Recognition*
Set of 12 images, installation size 168 x 269 cm, type C prints (optical), mounted on Dibond aluminium.
Figure 04: Matthew Sleeth La Joconde (2005) from Pattern Recognition
Set of 9 images, installation size 168 x 198 cm, type C prints (optical), mounted on Dibond aluminium.
Figure 05: Matthew Sleeth *Century Southern Tower Hotel (2008)* from *Various Positions*
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 06: Matthew Sleeth *TV Tower* (2008) from *Various Positions*
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 07: Matthew Sleeth *Southern Lights, Shinjuku Southern Terrace* (2008) from *Various Positions*
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 08: Matthew Sleeth  *Millenario Lights, Marunouchi* (2008) from *Various Positions*  
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 09: Matthew Sleeth  *Wisla River* (2008) from *Various Positions*  
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 10: Matthew Sleeth *Snake Gully* (2008) from *Various Positions*
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 11: Matthew Sleeth *Heavenly Valley* (2008) from Various Positions
186 x 232 cm, type C print (digital), Diasec, aluminium.
Figure 12: Matthew Sleeth *Colour Science [Focus Chart] (2013)*
213 x 152 cm, pigment ink print, mounted on Dibond aluminium, framed.
Figure 13: Matthew Sleeth *Green Shoots (2009)* video still
19:26 minutes, single channel HD video, 16:9, stereo sound, soundtrack: Byron Scullin.
Figure 14: Matthew Sleeth Bali (2010) video still
27:21 minutes, single channel HD video, 16:9, stereo sound, soundtrack: Byron Scullin.
Figure 15: Matthew Sleeth *I Don’t See God Up Here* (2010) video still
28:46 minutes, three channel HD video, 16:9, stereo sound, soundtrack: Wally Gunn, viola: Biddy Connor.
Figure 16: Matthew Sleeth *Scale Model for Still Life (2009)* installation view
50(w) x 50(h) x 25(d) cm, stereolithography, epoxy resin, glue.
Figure 17: Matthew Sleeth *Trophies (2010)* installation view
Installation size 50(w) x 50(h) x 15(d) cm, selective laser sintering, polyamide nylon, dye.
Figure 18: Matthew Sleeth *The Generative Freeway Project (2013)* installation view
Installation size 700(w) x 80(h) x 800(d) cm
Custom hardware, custom software, PLA plastic, glue.
Figure 19: Matthew Sleeth *The Generative Freeway Project (2013)* installation view
Installation size 700(w) x 80(h) x 800(d) cm
Custom hardware, custom software, PLA plastic, glue.
Figure 20: Matthew Sleeth *The Generative Freeway Project (2013)* installation view
Installation size 700(w) x 80(h) x 800(d) cm
Custom hardware, custom software, PLA plastic, glue.
Figure 21: Matthew Sleeth *The Last Carpark* (2013) installation view
Installation size 508(w) x 50(h) x 558(d) cm
Custom hardware, custom software, PLA plastic, tape.
Figure 22: Matthew Sleeth *The Last Carpark (2013)* installation view
Installation size 508(w) x 50(h) x 558(d) cm
Custom hardware, custom software, PLA plastic, tape.
Figure 23: Matthew Sleeth *The Last Carpark (2013)* installation view
Installation size 508(w) x 50(h) x 558(d) cm
Custom hardware, custom software, PLA plastic, tape.
Figure 24: Matthew Sleeth *Genesis* (2011) installation view
Installation size 40(w) x 15(h) x 25(d) cm
Stereolithography, epoxy resin, polyjet matrix, acrylic photopolymers, OLED screen, Linux computer, custom software, LED, concrete, glue.
Figure 25: Matthew Sleeth *The Rise and Fall of Western Civilisation (2011)* installation view
30(w) x 256(h) x 2312(d) cm
Concrete, plywood, aluminium, custom hardware, custom software, LCD screens, LED screens, electroluminescent film, LEDs, PVC, reflective film, UV ink.
Figure 26: Matthew Sleeth *The Rise and Fall of Western Civilisation (2011)* installation view
30(w) x 256(h) x 2312(d) cm
Concrete, plywood, aluminium, custom hardware, custom software, LCD screens, LED screens, electroluminescent film, LEDs, PVC, reflective film, UV ink.
Figure 27: Matthew Sleeth *The Rise and Fall of Western Civilisation (2011)* installation view
30(w) x 256(h) x 2312(d) cm
Concrete, plywood, aluminium, custom hardware, custom software, LCD screens, LED screens, electroluminescent film, LEDs, PVC, reflective film, UV ink.
Research Outcomes: Solo exhibitions

2013

The Last Carpark, WestSpace, Melbourne (Liquid Architecture Festival of Sound Art)
The Generative Freeway Project, Tin Sheds Gallery, Sydney (ISEA 2013)

2011

The Rise and Fall Of Western Civilisation [And Other Obvious Metaphors], Claire Oliver Gallery, New York

2009

Various Positions [Parts 1–6], Claire Oliver Gallery, New York

2008

Pattern Recognition, Sophie Gannon Gallery/multiple site specific public installations, Melbourne International Arts Festival, Melbourne
Matthew Sleeth, Claire Oliver Gallery, Next 08 at Art Chicago
Ten Series, Aperture Gallery, New York

2007

Matthew Sleeth: Photographs, Galleri Hornbaek, Denmark
Matthew Sleeth: 2004–07, Josef Lebovic Gallery at The Depot Gallery, Sydney
Matthew Sleeth, Art Sydney 07, Royal Hall of Industries, Sydney
Ten Series, Australian Centre for Photography, Sydney
Mixed Tape, Sophie Gannon Gallery, Melbourne
Mixed Tape, The Convent Gallery, Daylesford, Victoria (Daylesford Foto Biennale)
12 Views of Mount Fuji, Jan Manton Art, Brisbane
Research Outcomes: Group exhibitions

2013
Melbourne Now, National Gallery of Victoria, Melbourne
Recent Acquisitions, National Gallery of Australia, Canberra
Beyond Bling, Claire Oliver Gallery, New York
China Stories, Tsereteli Museum of Modern Art, Tbilisi
Things, National Library of Australia, Canberra

2012
Negotiating This World, National Gallery of Victoria, Melbourne
Lumens Festival, Suzhou, China & Federation Square, Melbourne
Art On Art, Gold Coast City Gallery, Queensland
The Open Door, Redland Art Gallery, Queensland

2011
LUMEN Festival of Video Art, Staten Island Waterfront, New York
The Typhoon Continues and So Do You, Flux Factory, New York

2010
Contemporary Encounters, National Gallery of Victoria, Melbourne
Marks Of Honour, Photographers’ Gallery, London
Tropical Lab, La Salle Gallery, Singapore
Weapons of Mass Consumption, Town Hall Gallery, Melbourne
Snapshot: Contemporary Photo Media, La Trobe University Museum of Art, Melbourne
Research Outcomes: Publications


Lyons. 2012, *more...The Architecture of Lyons*, Melbourne: Thames & Hudson


Elliott, H. 2010, *Snapshot: Contemporary Photo Media*, Melbourne: La Trobe University


Dean, B. 2007, *12 Views Of Mount Fuji*, Brisbane: Jan Manton Art
Representation and Reproduction: a love story

Chapter One

Introduction: Developing a studio practice through new media
Our fine arts were developed, their types and uses were established, in times very different from the present, by men whose power of action upon things was insignificant in comparison with ours. But the amazing growth of our techniques, the adaptability and precision they have attained, the ideas and habits they are creating, make it a certainty that profound changes are impending in the ancient craft of the Beautiful. In all the arts there is a physical component which can no longer be considered or treated as it used to be, which cannot remain unaffected by our modern knowledge and power. For the last twenty years neither matter nor space nor time has been what it was from time immemorial. We must expect great innovations to transform the entire technique of the arts, thereby affecting artistic invention itself and perhaps even bringing about an amazing change in our very notion of art.

Paul Valéry (1871–1945, France)


(quoted after Walter Benjamin)

(emphasis added)
Introduction to the project

This research project culminated in the exhibition Representation and Reproduction: A love story presented at RMIT University School of Art Gallery in Melbourne, Australia in March 2014. The exhibition artworks are the outcome of theoretical and practice-led research on the traditions and history of mechanically reproduced art. The artworks produced during this research project demonstrate the relationships between an artist’s practice (mine) and the significance of considering how incorporating research into an art practice can ultimately contribute to expanding ways of thinking and making.

A personal chronology

Melbourne, 1988. I was 15 years old and it was a particularly long, hot Melbourne summer. My parents had ended a marathon Commodore 64 session and sent me outside. We had just moved house, and I found my father’s darkroom equipment packed away in the corner of the storeroom. Over the rest of the summer I set up the darkroom and learnt to make black and white prints.

As people do when they first discover photography, I began to make pictures of everything around me: my room, my sister and parents, our dog, and even posters of the bands I liked, and started giving them away to my friends.

My father was a keen amateur photographer who would disappear into the darkroom to process his prints for the local camera club’s competitions, often enlisting my sister and me as models. When I was around 10 years old, I remember Dad taking me into the darkroom after dinner and lifting me up to see the black and white image develop in the chemicals. It did – and still does – seem like magic.
Also in 1988, I took a computer science class at high school. For the first year we were not allowed to touch the computers,\footnote{Apple Macintosh SEs} so for the first year we wrote algorithms in notebooks and our teacher graded them and marked syntax errors with a red pen.

A year or two earlier, my friend Rafiq and I had started to make electronic projects. We found a place in Sandringham that sold the parts, and begged our mothers to drive us there when we had the money. We built electronic dice and bugging devices that transmitted to our FM radios, hiding them in our siblings’ rooms (phonography?).

At La Trobe University, I majored in cinema studies, but was mainly interested in photography and documentary film. It was an exciting time for documentary cinema, with new personal and political films replacing older voice-of-god documentaries. Around the time I began my studies, a number of landmark films were made: Ross McElwee’s (b. 1947, US) \textit{Sherman’s March} (1986), Errol Morris’ s (b. 1948) \textit{The Thin Blue Line} (1988) and Michael Moore’s (b. 1954) \textit{Roger and Me} (1989).

Melbourne, 1993. Along with Helen Frajman (b. 1953, Poland), Peter Milne (b. 1960, Australia), Ricky Maynard (b. 1953, Australia) and Tania Jovanavic (b. 1962, Australia) I became a founding member of the M.33 photographic collective. M.33 was established to provide a platform to publish, exhibit and teach photography and is still active. Over the years, it has involved the energies of a large number of people who were a formative influence on my practice.


Melbourne, 2013. Over the past two decades my interests have rotated through photography, electronics, computers, cinema – and back again. These early passions have become the platforms
Research questions

The project began with a series of research questions exploring photographic narrativity and presentation techniques, dealing with ways that narrative can be explored through media art practice.

Research questions at the beginning of the project were:

- How are narrative strategies related to the technological and cultural developments in photographic theory and practice?
- What subjects and processes are the most effective combinations and how can they inform photographic imagery?
- What are the most effective ways to present images so as to enhance the reading and recognising of their narrative structures and outcomes?

These questions formed the basis of the research, shifting along the way to become research statements, or issues, rather than specific questions. Through the practice, these questions constitute the conditions for exploring more specific directions for the research, rather than simple questions to answer.

The reason for this approach to the research questions is that they were answered early in the project. Through Pattern Recognition (2008) and Various Positions (2009), it became evident that strategies, processes and presentation determine narrativity in various states and forms, more than
actual subject matter. For this reason, the project became a search for languages of narrativity rather than strategies for content and presentation.

The methodology also became the practice. For the purposes of this exegesis, rather than outline a specific chapter on methodology, this is woven throughout the document, and culminates in a practice that is designed through a research methodology.

**About the exegesis**

The exegesis is an introduction to the PhD project, titled *Reproduction and Representation: a love story*, and provides a platform to engage with two concurrent research activities:

- practice-led research, evidenced through the visual outcomes and descriptive interactions
- contextual research, evidenced through connecting artists, histories, theories and ideas to my artworks

Rather than separate the exegesis and Appropriate Durable Record (ADR) into two documents, these are combined to present the research and creative findings as an integrated whole.

Chapter Two – Representation and Reproduction considers the process of mechanical representation and reproduction in relation to the nature of their technical conditions and the shifting perceptions within the art world to these processes. My research is situated within this technical and conceptual genealogy, with consideration of the interplay between these forces.

Chapter Three – Project One: *Pattern Recognition* (2008) describes the first phase of the project in relation to the context that influenced their making. *Pattern Recognition* (2008) is a series of nine photographic matrixes consisting of between nine and twelve 50 x 61 cm photographs.
Each matrix consists of a typology of unremarkable subject matter and considers the relationship between form, content, and presentation in photographic narrativity.

Chapter Four – Project Two: Various Positions (2009) features eight large-format diasec-mounted digital images from my 2009 exhibition at Claire Oliver Gallery (New York). This area of research investigates the relationship of individual images to serial imagery and the possibilities of layering digital images “through” a print, rather than across a series of prints. Questions of subjectivity and objectivity in photography are considered in relation to the research.

Chapter Five – Project Three: Green Shoots (2009) adds duration to the research with moving image video installation work. Green Shoots explores the effects of stretching a series of images through time, rather than a grided matrix of images or through a digitally layered image.

Chapter Six – Project Four: Scale Model for Still Life (2009) and The Generative Freeway Project (2013) investigates returning the referent in photography back to three dimensions through 3D printing.

Chapter Seven – Project Five: The Rise and Fall of Western Civilisation (2011) evaluates the possibilities of fusing these processes of mechanical representationa and reproduction in a single artwork.

**New and old: A pre-history of new media**

New media practices have not emerged from a cultural vacuum. “New media” implies an “old media”; they are the logical extension of the aesthetic, technical and conceptual concerns that have developed over many decades across many media, with the source of this heritage being the invention of photography.
The project began with an investigation into new and old media as a way of defining research parameters and identifying the direction of the practice. For the purposes of this research, new media refers to those artworks made by a mechanical or electronic apparatus (Flusser 2000, p.14), via intervention and reproduction. In opposition to new media is old media, which refers to artworks made by the artist’s hand directly transforming some kind of material. New media artworks are often made with digital processes, but not exclusively, and embed something of their mechanical nature in their essential character.

Principally, new media artworks are created from a set of instructions developed by the artist, then executed by a machine or series of mechanical processes. These sets of instructions form the basis for exploring new media art in this project: the investigation is not limited to photography or “traditional” ideas of digital new media, and considers other forms of instructions based on artworks and movements. The idea of artwork made through instructions guided by the initial stages of – defining parameters and identifying with the choice of device.

Art historian Frank Popper (b. 1918, Czech Republic) discusses the development of new media since photography in *Art of the Electronic Age* and notes the sustained preoccupation of 20th-century art with emerging imaging technologies, ‘which combined aesthetic and social preoccupations with an up-to-date technology’ (Popper 1993, p.14).

Popper refers to Dada painter Francis Picabia (1879–1953, France), who claimed that ‘The genius of the modern world is the machine, and that in machine art we can discover a living form of expression’ (Popper 1993, p.11). The Russian Constructivist Kazimir Malevich (1879–1935, Ukraine) was interested in aerial photography as a way of seeing the world with ‘machine vision’ (Milner 1996, p.152). His fellow Constructivist Vladimir Tatlin (1885–1953, Russia) was
making kinetic sculptures around 1915, although it was not until the 1950s that kinetic art came into its own (Popper 1993, p.12). By the 1960s, electronic art developed from the research of artists involved in the early Kinetic and Lumio-Kinetic movements (Popper 1993, p.16), with artists including Dan Flavin (1933–1996, US) and Bruce Nauman (b. 1941, US) making use of fluorescent and neon lighting.

Australian digital media theorist Darren Tofts (b. 1960) suggests in *Interzone* (Tofts 2005, p.8) that new media, although he prefers the term ‘media art’, begins with the PC (personal computer) era, the period beginning in the early 1980s that brought the digital era to the mainstream. Tofts defines media art as ‘art practices in which the computer is the predominant medium’ (Tofts 2005, p.8). Artist and pioneering new media theorist Lev Manovich (b. 1960, Russia) sees computer graphics through the prism of cinema as the source of new media and suggests cinema found ‘new life as the toolbox of the computer user’ and takes this idea further when he suggests ‘cinema’s aesthetic strategies have become basic organisational principles of computer software’ (Manovich 2001, p.86).

Others see the cultural shift from modernity to postmodernity marking the shift from old media to new media (Lister et al. 2003, p.10), while media theorist Douglas Rushkoff (b. 1961, America) considers the internet and networked culture as the beginnings of new media (Rushkoff 2010, p.16). However, my research positions reproduction through the lens as defining the preliminary source through which all new media can trace its roots, and the beginning of this lens-based reproduction was photography.

---

2 The key models in the mass adoption of personal computers for the home and education were the Commodore 64 (released in 1982) and the Apple IIe (released in 1983). Both were relatively cheap with a small physical footprint and were much easier to use than earlier Unix-based mainframe systems. These computers initially entered mainstream use, as opposed to elite government and academic use, through gaming (Commodore 64) or educational applications (Apple IIe) (Tofts 2005, p.8).

3 The camera lucida and camera obscura preceded photography; they required the hand of the artist to trace an image or the image was temporarily projected rather than fixed. These conditions restrained the influence of these techniques within the broader culture.
Underpinning my discussion is the view that all instances of a photograph are copies of the original, perhaps with some variation in density or scale, but conceptually intended as exact copies of the original. German literary critic and philosopher Walter Benjamin (1892–1940) when comparing the new photographic process to old media modes of artmaking, wrote that ‘To ask for the “authentic” print makes no sense’ (Benjamin 1968, p.224).

Recorded sound and field recordings as discrete artworks have similarly been omitted from my discussion as I wish to focus on visual new media, primarily due to the nature of my own art practice.4 Through these definitions and strategies of approaching new media artworks, I began with a sustained period of research into the possibilities these technologies provide when viewed through the frameworks of the history of photography and precedents in contemporary art.

In the beginning: The calotype

There are multiple histories of the dawn of new media, with many places to start. It is possible to consider the birth of new media as 28 December 1895 at Salon Indien du Grand Café with the first public screening of projected cinema by Auguste (1862–1954, France) and Louis Lumière (1864–1948, France) or with the Sony Portapak video camera in 1967 and Andy Warhol's (1928–1987, US) early video art or with the emergence of interactive video games such as Atari's Pong (1972) (Armes 1985, p.9).

For me, there is a clear date to celebrate the birth of new media. It is Monday 8 February 1841, when English inventor William Henry Fox Talbot (1800–1877) was granted patent #8842 for his calotype ‘photogenic drawing’ process5 (Batchen 1999a, p.227).

---

4 The practice of field recording is often referred to as “phonography”, sharing a linguistic expression of their similarity in process.

5 Talbot was known to refer to his process as the talbotype; however, the calotype is the name that is usually used, after the Greek root kalos (beautiful) (Lavédrine 2009, p.224). For a detailed explanation of the process see edinphoto.org.uk.
Talbot’s process built on the work of several people working at the same time or slightly earlier. Between 1790 and 1839 there were at least 20 people from seven European countries working towards a photographic process (Batchen 1999a p.ix; Batchen 2008, p.7). Those making the most progress were English inventors John Herschel⁶ (1792–1871) and Thomas Wedgwood⁶ (1771–1805) and Frenchman Hippolyte Bayard (1801–1887) (Davenport 1991; Gernsheim 1982; Lavèdrine 2009). Other processes had succeeded in fixing a shadow; notably Joseph Niépce (1765–1833, France) made an image with a camera obscura of the courtyard of his family estate from his workroom window in 1826. Niépce called his process ‘heliography’ (sun writing) and his image titled View from the Window at Le Gras (1826) is generally accepted as the first permanent photographic image (Barnard 2007, p.101). French inventor and entrepreneur Louis Daguerre (1787–1851, France) then worked with Niépce until his death to develop the popular daguerreotype process, with a more stable and clear image than the heliograph.⁷

In terms of new media, these early experiments had many of the same problems as old media including drawing and painting, in that they required a large investment of labour-intensive craft and, more importantly, they produced only a single original image. The calotype, and its negative, was both a technical and conceptual leap, marking the point where media becomes a set of artist created instructions, departing from its hand-crafted forebears, particularly printmaking⁸ and painting, to become “new”.

---

⁶ Wedgwood’s early experiments with making pictures were intended to aid children in early education, as he thought young brains best absorb information visually. He was the first person to develop a technique to record an image of reflected light and fix it to permanent media (paper and white leather) (Marien 2006, p.8).

⁷ Daguerre wrote a letter to Niépce in 1828 in which he expressed his enthusiasm for their research, saying ‘I am burning with desire to see your experiments from nature’ (Batchen 1999a, p.ix).

⁸ I recognise it may have been possible to begin my discussion of the dawn of new media with printmaking rather than early photographic processes. Printmaking techniques such as lithography and engraving predated photography and could be seen as the first instances of the mechanically produced image, especially as the matrix was often a negative of the printed image. Although photography inherited many of its conventions from printmaking, including the distribution of limited edition prints and a machine-readable original, there are two key differences for my purposes. Firstly, printmakers often considered each print an original, rather than an identical copy from the matrix, due to variations caused by material instability and environmental conditions. Secondly, the matrix was almost always created by the artist’s hand with a drawing-like process, rather than by a mechanical process.
Negatives and positives: The original and the copy

Talbot’s calotype was a paradigm shift. Talbot brought together a range of divergent ideas and techniques, and saw them converge in one direction: the intermediate negative. Talbot had imagined the model for future photographic reproduction; as Bertrand Lavédrine (b. 1958, France) observes in *Photographs of the Past*, he came ‘close to describing the model that would define modern photography – the negative–positive system, one that would entirely eclipse the daguerreotype process’ (Lavédrine 2009, p.224).

Previously, the image projected by the lens had been captured on the sensitised surface and this would be fixed and displayed. All this changed with the invention of the calotype and the mechanical intermediate step that was created, and now the negative projected image was recorded by the camera and could then be infinitely reproduced. This paradigm shift was reproducing the recording rather than reproducing the scene in front of the lens.

Talbot’s invention was the first process to produce a “negative”, from which an infinite number of “positive” prints could be made. The introduction of this concept, with one original and many exact copies, was revolutionary and marked the dawn of mechanically reproduced culture. Previously, almost all art, with the exception of etching and lithographic printmaking and cast sculpture, had a direct relationship to the hand that created it. Each work was made by the hand of the artist; therefore, producing multiples of the object cost a multiple of the artist’s labour and material expense.

Batchen points out that negatives are rarely discussed or exhibited throughout the history of photography. The terms “negative” and “positive” were coined by Herschel, a contemporary of Talbot and on whose work Talbot was building (Hughes 2012, p.47). “Exact” is true for practical purposes but technically all prints vary slightly, caused by factors such as manufacturing tolerances, heat, humidity etc, but the variation compared to handmade multiples is negligible.
photography as they are the symbol of photography’s reproducibility; he goes as far as to call them ‘truly the repressed, dark side of photography’ (Batchen 2013, para. 14). The negative had not been discussed in a contemporary art context as it reminds audiences (read collectors) of the loss of the artwork’s aura and its close relationship to the mechanics of capitalist mass production as it relates to consumer products.

In my research and practice the essential character of new media is the mechanical reproduction of potentially multiple works from a set of logical instructions. This is something we have been taught and prepared for – both technically and conceptually – by the invention of photography. Through the history of new media, this negative–original bias has been repeated in all its forms.

The pattern of machine-readable original and human-readable multiple appears in film (negative and projected image), video and television (electronic signals and screen image), computers both in hardware (coded logic/semi-conductors and screen/printed output) and software (coded data/ algorithms and application), internet (server and clients) and digital fabrication (CAD model and 3D print/CNC milled object).

This condition of mechanical reproduction through a machine-readable set of instructions is central to my practice. My practice, traced through this exegesis, demonstrates how the idea of the negative and instruction permeates not only my process, but also how I consider the conceptual. New media becomes “new subject”.

The negative condition of photography has been such an important platform for thinking about this research that sometimes in my work it becomes the subject as well as the process, as in

---

11 While I do not see this as an algorithm, it is very close. The definition of an algorithm is usually ‘A finite list of well defined logical instructions for calculating a function’ (Gupta 2008, p.1).
Chapter One: Introduction

Cmd + I (2009), a manipulated digital inversion of the image referring to the aesthetic of the negative. Often I will make a negative print of a work to more fully understand its composition, such as the opposite studio process image of Wisła River (2008).

**Dissemination and exhibition value**

True, ‘A work of art has always been reproducible. Man-made artefacts could always be imitated by men’ (Benjamin 1968, p.218). However, before photography this was usually either the aberration of forgery or part of the apprenticeship process whereby a master teaches his students by imitation. Reproduction being accepted and built into the process was something entirely new, as imitation is not reproduction.

In parallel with the limitations of production, there were equivalent constraints in terms of distribution and the way a work entered the culture. Each work occupied time and space in a linear fashion; that is, if you wanted to see a work, you had to travel to its location or you had to commission your own original – expensive and slightly different – version. Photography and the process of mechanical reproduction have changed the work’s relationship to time and space by making it available in different locations at the same time, exponentially increasing its potential audience.

Jacques Derrida (1930–2004, Algeria) discussed the concept of dissemination (Derrida 2004) as both the dispersal of meanings and the loss, or dissipation, of meanings (Batchen 2013, para. 12), a process that has its roots in the invention of the calotype and machine-readable original, while for Rosalind Krauss (b. 1941, US) photography and its reproducibility were, through cinema, the beginnings of the post-medium condition (Krauss 2000, p.25).

---

12 The title *Cmd+i* refers to the Adobe Photoshop keyboard shortcut for inverting (making negative) an image.
In *The Work of Art in the Age of Mechanical Reproduction* (1936), Benjamin identifies the dynamic where the original work forfeits its “cult” value: ‘That which withers in the age of mechanical reproduction is the aura of the work of art’ (Benjamin 1968, p.221). This liberation of distribution had political and social dimensions; not only can more people access the work, but as this cost is reduced, people from various strata of society can experience works of art.

To compensate the work for its loss of cult value, it gains “exhibition” value, which frees it from ‘the place where it happens to be … permitting the reproduction to meet the beholder or listener in his own particular situation, it reactivates the object reproduced’ (Benjamin 1968, p.220).

This shift in the social relations of mechanical representation and distribution leads to the conclusion that Talbot’s achievement marks the beginning of distributed media and networked visual culture. The first time works of art moved fluidly, cheaply and quickly around a society was through photography, a pattern we can now see in contemporary media: film, television and the internet (Manovich 2001, p.64). Manovich identifies this path as the underlying argument in *The Language of New Media* that:

> In the computer age, cinema, along with other established cultural forms, indeed becomes precisely a code. It is now used to communicate all types of data and experiences. (Manovich 2001, p.333)

Figure 039 represents an analysis of the patterns in filmmaker Sergei Eisenstein’s (1898–1948, Russia) early work *Alexander Nevsky* (1938) which Manovich uses to demonstrate the ‘code’ structure of cinema (Manovich 2013, para. 3).

**A faster horse: Social conditions for innovation**

Most of the science for the invention of photography was in place at least half a century before its
announcement in 1839 (Coe 1976). As a culture, lens grinding was understood and utilised from the 16th century through telescopes and eye glasses and the projected images through the camera lucida and camera obscura as an aid to artists’ drawings, with detailed diagrams dating back to 1545 (Gernsheim 1986, p.4).

The chemistry of light-sensitive compounds had also been extensively explored, in part by Wedgwood and Herschel at the turn of the 19th century (Hughes 2012, p.47; Talbot 1843). This knowledge was widely understood by those involved in the development of photography and was disseminated through the Royal Societies and science journals of the day to a wider artistic and scientific community beyond the key participants (Arago 1839).

The development of photography highlights a pattern that would be repeated often during the story of new media: that a society brings a technology into being when it is needed, when there is a desire and a problem to be solved.13 Indeed, part of the work of technological invention is to ‘Transform the circumstances in which the technologist labours creating fertile ground for innovation’ (Winston 1998, p.2). The pattern of technological progress is that science alone is not enough. Photographic historian Geoffrey Batchen (b. 1956, New Zealand) discusses at length in his book *Burning With Desire* the process by which a society wills a new technology into being through ‘desire’ (Batchen 1999a, pp.54–103).

Photography was invented when as a culture we were ready to embrace it (Batchen 1999b, p.12). Increasingly populated cities had grown with the Industrial Revolution, which helped to facilitate a community of interested pioneers and to communicate its developments. The Industrial Revolution also provided a market of freshly wealthy middle class merchants and entrepreneurs who became:

13 There are strong parallels here with the invention of other new media, particularly personal computers and digital photography.
A widely expanded audience that was literate, financially comfortable, and had a certain amount of leisure time. An enormous working class was newly concentrated in metropolitan areas, literate to a degree, and hungry for news, human interest, and entertainment in written and visual – especially visual – form (Goldberg 2010, p.212).

By the mid 19th century, the knowledge of how to fix an image existed; this interpretation of the moment of invention is given by art historian Heinrich Schwarz (1894-1974, Czech Republic):

The year of Daguerre’s invention, as in every important invention, meant nothing but the moment when the acquired knowledge had become so convincing and the need of realizing this invention so pressing that it could no longer be delayed by any difficulties or obstacles (Schwarz 1985, p.86).

**Nature or nurture: How we are changed by photographic representation**

Not long after the invention of photography, European societies realised it had begun to change their personal relationships with each other, their loved ones and the departed. Power relationships had begun to change between governments and their citizens – especially its criminals, prisoners and colonised, who were now more accurately catalogued and controlled.

Most importantly, photography changed those societies’ relationship to the world and its representation. As English academic Sean Cubitt (b. 1953) writes:

From the perspective of the photographic apparatus, society is only a feedback mechanism for improving its functions ... Cameras program both photographers and viewers in a determinist vision (Cubitt 2010, p.3).

The genius of photography was to make a two-dimensional, lens-based abstraction of our three-dimensional world so convincing to human brains (and emotions) that it ceased to feel like the
artificial construction it was and started to feel like a version of the real – photography has started
to feel like nature. In her 2012 lecture at the Centre for Contemporary Photography in Melbourne,
New Zealand photographer Anne Noble (b. 1954) spoke of this dynamic: ‘Photography is very
good at showing us something we think is being represented and then a rupture between what is
there in the image’ (Noble 2012).

Vilém Flusser (1920–1991, Czech Republic) discussed this feedback loop between our bodies and
the systems we create in his 1991 article Cows 14 (Flusser 2013). He writes:

Man projects models in order to modify reality. Such models are taken from the
human body. For example: The weaver’s loom has as its model the human finger, and
the telegraph is modelled on the human nervous system. (Flusser 2013, p.377).

Flusser suggests the pattern is to forget the biological model behind the system and adopt it as a
‘model for human knowledge and behaviour ... Steam engines are taken as models for the man
of the 18th century, chemical factories in the 19th century, and cybernetic apparatuses today’
(Flusser 2013, p.377).

As the camera design has evolved to approximate a model of the human eye, Flusser’s feedback
dynamic clearly applies to photography. It helps us understand, in part, how modern society has
been conditioned by photography: ‘We are actively generating our tools ... but it is also true that
those tools are striking back and generating us’ (Flusser 2013, p.375).

Our media-saturated societies have become “photographic” and a photographic way of seeing is
becoming embedded in our culture. A lens-based view of the world has come to feel like nature,
and a world in which all images are mechanically and cheaply reproduced and distributed has

---

14 Unpublished until the September 2013 issue of Art Forum magazine (Flusser 2013, pp.375-77).
changed our relationship to visual culture and the power relationships that developed around the scarcity of images. Pioneering colour photographer and academic Stephen Shore (b. 1947, US) has observed this effect in his book *The Nature Of Photographs* as ‘what an engineer would call a feedback loop’ (Shore 2007, p.132).

**The biases of new media**

Underpinning my research is the question: What are the biases of different media? All media and all technologies have biases reflecting the patterns of outcomes their processes tend to produce in the aggregate. In his book *Program or Be Programmed*, Rushkoff describes the dynamic in relation to the difference between analogue and digital photography:

> It may be true that “guns don’t kill people, people kill people”; but guns are a technology more biased to killing people than, say, clock radios ... Film based photography and its expensive processes were biased toward scarcity, while digital photography is biased toward immediate and widespread distribution (Rushkoff 2010, p.26).

Rather than make hierarchical judgements about various media, both old and new, I would prefer to think about the biases embedded in the process of each media – what does it do well, what does it do badly, what sort of images does it tend to produce?

This exegesis will consider where these technological biases lie in each of the media employed in the research through the legacy provided to new media by the invention of the calotype. The concept of the negative, the machine-readable original that produces a potentially infinite number of human-readable copies and the instruction set that complements this, lies at the heart of my practice and this research.
Although it is possible to “read” the content of a black-and-white negative by holding it up to the light and recognising the areas of light and dark tones and the objects they would correspond to, the image still needs to be “decoded” by an enlarger (with photographic paper/chemicals) – most importantly, it is created with the intention of being read by a machine.
Chapter Two

Representation and Reproduction: a love story
New media objects are cultural objects; thus, any new media object – whether a web site, computer game, or digital image – can be said to represent, as well as help construct, some outside referent: a physically existing object, historical information presented in other documents, a system of categories currently employed by culture as a whole or by particular social groups. As is the case with all cultural representations, new media representations are also inevitably biased.

Lev Manovich (b. 1960, Russia)

*The Language of New Media* (2001), p.15
(emphasis added)
Photography as first love

All artists fall in love with their mediums for different reasons. Photographers are often seduced by the magic of light, the freezing of time, the arresting of death\(^1\) or the possibility of a passport to unfamiliar worlds\(^2\) – the allure of the photographic medium means different things to different people. For me, it was the magic of photographic representation and reproduction.\(^3\)

For American artist and writer Frederick Sommer (1905–1999), the idea of representation was expressed through photography’s sensitised surfaces:

I’m interested in sensitized surfaces … We favor situations and relationships that enable us, through sensitized conditions, to play on ourselves as instruments … It is with sensitized surfaces, rather than with photography itself, that I am concerned (Sommer 1979, p.63).

For artist and educator Gregory Crewdson (b. 1962, US), it was more personal, as he explains in a public conversation with Naomi Cass (b. 1957, England), director of Melbourne’s Centre for Contemporary Photography:

Most artists are drawn to their medium to try to create meaning and make sense of the world. All of us understand we live in a chaotic, random world where things seem out of control. The process of making art is the process of trying to establish order and meaning – even just for a moment (Crewdson & Cass 2013).

---

\(^1\) French cultural theorist Roland Barthes suggests all photography is about death, from the moment a latent image is exposed and becomes entirely about the death of the subject (Barthes 2000, p.92). American writer Susan Sontag (1933–2004) has said ‘All photographs are momento mori’ (Sontag 1977, p.15).

\(^2\) American documentary photographer Nina Berman (b. 1960, US) has written that her projects are ‘a magical passport into people’s lives with no permanent strings attached’ (Steacy 2012, p.17).

\(^3\) The sense of magic was not lost on the early pioneers of photography; both Daguerre and Niépce used the phrase ‘spontaneous reproduction’ to describe their process (Batchen 1999, p.90).
Chapter Two: Representation and Reproduction

Verisimilitude lost: A moment of clarity

Frederick Sommer’s understanding of why he was drawn to his medium and the relationship between its technical and psychological elements provides a rare moment of clarity. There is something quite abstract and poetic about making images that appear to be a trace of the world, but when removed from space and time, this verisimilitude vanishes and acts like an abstraction of the real, a poetics of representation.

Argentine essayist and poet Jorge Luis Borges (1899–1986) wrote a short story, On Exactitude in Science (1946), in which he tells of an empire whose cartographers were so skilled they ‘struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it’ (Borges 1999, p.325). Of course, a one-to-one scale map is a perfect representation of the territory, but it is not much help as a navigational aid. This poetic version of the “map–territory” problem – the idea that an abstraction derived from something is not the thing itself – is a wonderful way to think about photography’s relationship to the real. That is to say, do not confuse models of the real with reality itself; a photograph of a horse is not a horse.

The concept of verisimilitude, or the idea that something which existed in the world can be seen in the art object, is important in my research into mechanical representation and reproduction. The key precondition for this effect to function is the suspension of disbelief: the viewer must be able to see through the constructed nature of the artwork to see a “truth” that can be anchored back to their experience of the world. As a popular form of verisimilitude, photography, and later cinema, became an important way to promote the willing suspension of disbelief in telling our stories.

New media blurs the line between map and territory, when the simulation is encoded into a set of instructions. French cultural theorist Jean Baudrillard (1929-2007) calls this condition ‘hyperreal’,
as he explains in his book *Simulacra and Simulation*:

Today abstraction is no longer that of the map, the double, the mirror, or the concept. Simulation is no longer that of a territory, a referential being or substance. It is the generation by models of a real without origin or reality: A hyperreal. The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory – precession of simulacra – that engenders the territory (Baudrillard 1994, p.1).

**Art is autobiographical: The image is personal and political**

Art comes from our accumulated experiences and cultural influences that determine not only who we are, but how we relate to our world. A series of critical moments in my practice have culminated in milestone projects that explore the connection between the artist as practitioner and the evolving social, technological and theoretical shifts within photography as a medium.

Initially, my interest in photography was the documentary and street work that dominated the medium for most of its history; as English photo historian Gerry Badger (b. 1948) writes of his own passion: ‘For me, the documentary, or the “documentary mode”, remains not only the core of the medium, but the source of its greatest potency’ (Badger 2010, p.7).

Specifically the photographic books of Sebastião Salgado (b. 1944, Brazil) including *An Uncertain Grace* (1992) and *Workers* (1993) and the photo-essays of W. Eugene Smith (1918–1978, US) for *Life* magazine were early influences. While I am sympathetic to the humanist politics of their work, I am mainly concerned with the aesthetic and formal possibilities of photography.

Most of the documentary photographers I have encountered believed their work would change society. This was almost the foundation article of faith for the humanist tradition of photography.
and documentary film, from *Life* magazine photographer W. Eugene Smith’s images recording the effects of mercury poisoning in the Japanese fishing village of Minamata (1975) to Don McCullin’s (b. 1935, England) photographs of famine and war in Biafra (1970). McCullin writes, ‘I wanted only to show the world the results of man’s inhumanity to man’ (1994, p.78). These works were intended to facilitate change.

One of the few photographers of this era who opposed this partisan approach to documentary photography was Walker Evans (1903–1975). In a 1974 interview with the alumni magazine of his former employer, Yale University, he discussed the political tendency in his peers’ work and the his view of the “documentary photographer” label:

> I’m pleased to hear you say that, because I didn’t like the label … I never took it upon myself to change the world. And those contemporaries of mine who were going around falling for the idea that they were going to bring down the United States government make a new world were just asses to me. I knew by then that nobody was going to do that (Evans 1974, para. 12).

Rather than viewing documentary photography as the social, political and often moral endeavour that it had been considered since the early documentary work of Lewis Hine (1874–1940, US), Evans saw the genre as an aesthetic and narrative style (Sapir 1998, p.1). He considered documentary more effectively approached as a visual strategy for making enduring images:

> Documentary: That’s a sophisticated and misleading word. And not really clear … The term should be documentary style … You see, a document has a use, whereas art is really useless. Therefore art is never a document, although it can adopt that style (Rosenblum 1971, p.340).

The assumption embedded in much documentary photography was that an inevitable cause-and-effect relationship would emerge between showing an audience images of injustice and the
community demanding social change. Implicit in this social contract was the assumption that the image contained a version of the “truth” of a given situation. Hine was unusually sophisticated for this time in understanding the possibility for photographs to manipulate; when addressing a group of social workers in 1909 he said ‘the integrity of the photograph is often rudely shaken, for while photographs may not lie, liars may photograph’ (Guimond 1991, p.20).

For a while there was some effect to this social contract and some notable examples of its success, particularly Hine’s photographs of child labourers in the textile industry and the Farm Securities Administration’s project (1935–1944) in the United States, which documented the rural effects of the Great Depression with the intention of paving the way for the New Deal under President Roosevelt (1882–1945, US). Dorothea Lange’s (1895–1965, US) 1936 portrait of Florence Thompson with three of her seven children, an image known as Migrant Mother, was a successful example of the humanist strategy that helped build public support for government payments to the most affected areas during the Depression (Street 2004, p.125).

**Guilt-free abstraction**

Photography’s magic trick is the illusion of faithful representation. The medium’s ability to appear to be doing one thing – accurately representing the world – is contradicted by its mechanical removal of the subject from its spatial and temporal context, thus creating the abstraction. This is not the same as the formal abstraction found in painting and sculpture, which does not indexically correspond to a figurative object in the world. Photography’s abstraction is figurative.

On the prospective student section of Bard College’s website, there is an explanation of the three-

---

4 Although Evans’ work was aesthetically and formally progressive at the time, it was still seen in some circles as primarily socially, rather than artistically, motivated. Ansel Adams, an early activist for photography to be seen as fine art by museums and the art establishment (and an early activist for environmental causes), said somewhat hypocritically, in reference to the FSA project which included Evans’ work, ‘What you’ve got are not photographers. They’re a bunch of sociologists with cameras’ (Himes 2012, para. 6). The implication was that they understood the photographic content rather than the photographic form.
part process the college deploys to train students that demonstrates an unusual understanding of photography. Part two is an analogy between photographic techniques and written vocabulary, part three suggests a student’s passions and preconceptions are the student’s content, while part one positions photography as:

Gaining a conscious or intuitive understanding of the visual language of photography, that is, how the world is translated into a photograph and how a photograph orders in space and time the segment of the world that it shows. This is a photograph’s grammar (Bard College 2013, para. 2).

The figurative abstraction in the photographic process removes the subject from our experience of time and space, through visual devices such as framing, perspective and shutter speeds, thereby creating new moments that are unobservable through human sight. While teaching at the Bauhaus, new media pioneer László Moholy-Nagy (1895–1946, Hungary) called the ability of photography to create a way of seeing that was not available to the human eye, ‘the new vision’ (Moholy-Nagy 1938).

The tension between representation and abstraction has been a constant in contemporary art for almost 100 years. For example, Duchamp’s ready-made Fountain (1917) was a “figurative” object; the meaning of the work was not represented by its form but by its altered context plus the title. Making meaning was a constant problem for early abstraction, one that Duchamp seems to have solved. We could generalise this equation: object plus text equals meaning, with abstraction as the hinge (Scheldahl 2013, para. 10).

Spanish painter, sculptor and printmaker Pablo Picasso (1881–1973) made strong arguments against abstraction. His view was that there can be no such thing as non-figuration, that everything represents something: ‘All things appear to us in the form of figures, a person an object, a circle
are all figures; they act upon us more or less intensely’ (Barr 1955, p.273). Picasso added that without reference to things we experience as real, art sacrifices its one indispensable quality: drama (Scheldahl 2013, para. 6). Perhaps it is this absence of drama that draws us to abstraction during times of crisis; when there is too much drama in our lives, we do not seek it in our art.

To create recent artworks, I employed drum scanning – a photographic process of lens vision – to make images that I consider a form of guilt-free abstraction. Color Science [Focus Chart] (2013), one of a series of scans made from the tools of colour management, is a representational abstraction. This represents an inversion of conventional abstraction – a formal abstraction from a figurative scene – rather, this image is a formal indexical image from an abstract referent. Scanning proves an ideal technique for some images as such rigorous framing and even illumination would not be possible with a camera.

American abstract expressionist Jackson Pollock (1912–1956) was once asked: ‘Why don’t you paint appearances, why don’t you paint objects?’ He replied: ‘We have machines to replicate objects. I want to get a more modern essence of the nature of experience, the nature of reality’ (BBC Four 2013).

Pollock is referencing photography, suggesting that only through the artist’s hand, and not a machine, is it possible to make rigorous images that function as contemporary art, that become a ‘a more modern essence of the nature of experience, the nature of reality’. While the function of the mechanical apparatus produces the image, the “art” in this process resides in the set of instructions provided by the artist. American photographer Ansel Adams (1902–1984) calls this process ‘visualisation’ – the connection of all things to the final photographic print. In the first book of his seminal series on photography, The Camera (1980), he outlines a process where:

The entire emotional–mental process of creating a photograph ... includes the ability
to anticipate a finished image before making the exposure, so that the procedures employed will contribute to achieving the desired result (Adams 1980, p.1).

The artist’s hand is present in mechanical reproduction through the choreography of machines, providing instructions that determine the camera’s behaviour, from processing the negative or digital file to producing the exhibition print. Photography has a unique language, and how well an artist understands this language determines the quality of these instructions.

**We can’t paint: Pictorialism and the way backwards**

Pollock’s criticism of photography haunts the medium – since its announcement in 1839, the identification of photography as art has been hindered by its mechanical stain (Arago 1839, pp.4–8). The early history of photography bears these scars and leads directly to the Pictorial movement with Henry Peach Robinson’s (1830–1901, England) book *The Pictorial Effect in Photography* (1869) (Robinson 1869).

While pursuing its objective to raise photography to the level of traditional fine arts, Pictorialism imitated the formal qualities and genres of painting, often to the point of parody; Constant Puyo’s (1857–1933, France) photogravure *Eingeschlafen* (1897) is a representative example. Russian critic Osip Brik (1888–1945) expressed his frustration with the medium’s demonstration of its insecurities when he criticised photographers for ‘imitating the appearance of oil paintings in order to attain the social status which is attached to the concept of the artist’ (Burgin 1982, p.163).

As Pictorialism looked to the past in order to mimic the qualities considered to define art at the time, it failed to move photography forward and can be seen as a low point on the journey

---

5 I refer to Daguerre’s announcement at the French Academy of Sciences on January 7 as it is not disputed, in contrast to the invention date of photography, which is still the subject of much disagreement. The invention of photography is better thought of as the culmination of several technical discoveries over a long period of time by a number of people.
to establish photography as a medium of the imagination, rather than a technical innovation (Eisinger 1998, p.67). Former pictorialist-in-chief Alfred Stieglitz (1864–1946, US) wrote, ‘It is high time that the stupidity and sham in pictorial photography be struck a solar plexus blow ... Claims of art won’t do’ (Peterson 1997, p.38) as he considered the shift in direction of his own photographic work towards modernism.

A critique of photography as a mechanical art not only locates the “art” in photography in the wrong place, but also in painting and sculpture. This critical dead end positions the value of painting and sculpture in the quality of their craft, where the success of the artwork depends entirely on the artist’s hand–eye coordination, rather than on their conceptual imagination.

So Pollock is misguided: photography, even though it is figurative, is no less formally complex in the way it gets to the ‘nature of experience, the nature of reality’ than Pollock’s methods. At the same time, artists such as Wynn Bullock (1902–1975, US) and Minor White (1908–1976, US) were undertaking work that was as sincere and visceral an exploration of the metaphysics of images as the work of the abstract expressionists.

Perhaps the most effective example of photography’s ability to explore ‘the nature of reality’ is through Alfred Stieglitz’s concept of equivalence. The Equivalents (1925–1934) series of images separated the subject from the response generated by its representation. They often featured mundane subject matter, such as Stieglitz’s clouds, and were photographed with adventurous composition and lighting to produce a symbolic emotional response that for Stieglitz ‘Are a picture of the chaos in the world, and my relationship to that chaos’ (Whelan 1995, p.512). The subject was secondary to the formal devices employed to generate the drama of its representation. White also explored Stieglitz’s concept of ‘equivalents’, producing a number of images that redefined the relationship between the subject of a photograph and the viewer’s response (White 1963, p.17).

---

6 This is similar to the concept of synesthesia; however, instead of triggering an equivalent sensory response, the image generated an emotional response.
The long march: The path to institutional embrace

As a medium of mechanical abstraction, photography, until the 1960s, was still positioned as something other than a valued form of art. Institutions struggled with a framework for dealing with photography as fine art, partly because it was caught between old and new media. The medium had inherited elements from painting, printmaking and cinema, as English cultural theorist Victor Burgin (b. 1941) observes:

Photography, sharing the static image with painting, the camera with film, tends to be placed “between” these two mediums, but it is encountered in a fundamentally different way from either of them (Burgin 1982, p.142).

The manner in which we encounter photography proves to be both its Achilles heel and a clue to redemption. Old media, such as traditional painting and sculpture, usually required people to make not only a conscious decision to expose themselves to these experiences, but an investment of time and money.7 In contrast, photography is usually encountered incidentally: as family portraits on the mantelpiece, in magazine advertising, billboards and newspapers. However, when museums embraced the medium, it was experienced by the public with the same expenditure of time and effort as old media objects, in a context of rarity that reminded viewers of the “value” of what they were seeing.

Burgin considers this era of transition, including the museum context (1950s–60s), to be the photographic medium’s coming of age (Burgin 1982, p.213). Photography critic John Szarkowski (1925–2007, US) and hand-picked successor to the inaugural curator of photography at MOMA, Edward Steichen (1879–1973, Luxembourg), were the driving force in this transition, with

---

7 The exception would be sculpture when experienced as public art including statues or monuments, which are encountered through everyday social intercourse.
MOMA providing an influential and visible stage. Steichen’s popular exhibition *The Family of Man* (1955) is often considered the breakthrough for photography on the path to institutional embrace (Burgin 1982, p.214).

**The conceptual moment: Photography and contemporary art**

Photography staked its claim for legitimacy as contemporary art partly by demonstrating its independence from the political and economic institutions that fuelled the medium’s rise and its saturation of popular culture. This strategy was effectively demonstrated by Conceptual Art’s embrace of the medium in the 1960s. Photography was employed purely as a recording methodology to time-shift the experience of durational performance, with many conceptual artists becoming amateur photographers (Morgan 2002, p.49). Any aesthetic seduction, including colour materials, was carefully avoided, to foreground the image’s function as art; this was a deliberate strategy to remove the image from any association with its applied heritage.

The importance of the conceptual moment in art was to establish photography as a medium within Contemporary Art as underscored by Burgin:

> One thing Conceptual Art has done, apart from underlining the central importance of theory, is to make the photograph an important tool of practice. The consequence of such moves has been to further render the categorical distinction between art and photography ill-founded and irrelevant (Burgin 1982, p.39).

Chris Burden’s (b. 1946, US) documentation of his *Shoot* (1971) and *Trans-fixed* (1974) performances provide an example of the aesthetic and documentary intention of this application of photography within conceptual art of this period. Burden asked a colleague to shoot him in the arm with a rifle and organised for the performance to be photographed, audio-recorded and...
videotaped in a direct vernacular style.8

**The Poetics of politics: A combination of process and visual seduction**

For this practice-led research project, I wanted to create works that investigated the possibilities of fusing these positions and drawing from the aesthetic, conceptual and political legacies of various media of mechanical reproduction.

The research methodology would consider which of these media, combined with various conceptual and content strategies, would lead to the most visceral and effective works. I would focus on works that translated patterns of social structures into visual experiences in which the process revealed the structures of these relationships. The main subject of my research would be the visual language of photography and the seduction of mechanical representation and reproduction.

---

8 The photographs and video footage were exhibited at the New Museum (New York) as part of Burden’s survey exhibition *Extreme Measures* (02/10/13–12/01/14).
Representation and Reproduction: a love story

Chapter Three: Photography

Project One: *Pattern Recognition* (2008)
Fusing visual pleasure with conceptual art

Chapter Three explores the positions of objectivity and subjectivity as methodologies for determining the approach to content. Linked with parametric strategies borrowed from Conceptual Art, these core elements of contemporary photographic practice can be used to challenge and make redundant the traditional values of the evaluation of subject matter in photography.

What has emerged from this investigation is the idea and process for *Pattern Recognition* (2008).

Media theorist Marshall McLuhan (1911–1980, Canada) considers pattern recognition to be one of the essential conditions of the media age:

> Our electronically configured world has forced us to move from the habit of data classification to the mode of pattern recognition. We can no longer build serially block by block step-by-step because instant communication ensures that all factors of the environment and of experience coexist in a state of active interplay (MacLuhan 1967, p.63).

Manovich confirms this view and considers pattern recognition to be the primary tool that our culture has developed to harvest the benefits of the new media landscape, as we move from a poverty of images and information to an abundance:

> Rather than having to generalize from small samples or rely on our intuition, we can study exact cultural patterns formed by millions of cultural texts ... But how do you “read” through billions of Twitter posts, blogs, Flickr photos, or YouTube videos in practice? That is, how do you read for patterns? (Manovich 2011, p.1)
Objectivity or subjectivity: Methods for evaluating subject matter

In addition to the questions of aesthetics and politics that influenced my early photographic practice, I was keenly aware of the key theoretical arguments informing the medium during the 1990s. These centred around ideas of “subjectivity” versus “objectivity” and debated the position of the photographic image in relation to the real.

Objectivity and subjectivity refer to the photographer’s relationship to the scene in front of the lens and to what degree there is “interference” or manipulation, either directly while making the exposure or later in post-production. I realised this was really a discussion between pictures and documents (Edwards 2006, pp.12–19). The former was a repudiation of Pictorialism’s anti-realism in its imitation of painting subjectivity and an attempt to forge native language for lens vision, as seen in Paul Strand’s (1890–1976, US) insistence on ‘complete uniqueness of means’ and ‘absolute unqualified objectivity’ (Sekula 1984, p.48). While the latter was a function of photography’s ambition to take its place in contemporary art and transfer the perceived authorship of the image from the apparatus to the artist, as curator and critic Abigail Solomon-Godeau (b. 1948, US) has pointed out, this battle was ‘consistently waged in terms of the camera’s ability to express the subjectivity and unique personal vision of the photographer’ (Solomon-Godeau 1991, p.79).

In my practice, I understood these positions as a continuum, rather than as binary facts. As theorist and photographer Allan Sekula (1951–2013, US) pointed out, at either end of this spectrum is ‘a naive faith in both the privileged “subjectivity” of the artist at one extreme and the fundamental “objectivity” of the photographic realism at the other’ (Sekula 1984, p.74).
Solving the picture through the accumulation of choice

A photograph is, by definition, the result of a series of decisions that embed everything the photographer knows and has seen. Each of these little decisions carries an aesthetic and technical consequence that influences how the image affects the viewer. English photographer David Hurn (b. 1934) reflects on the subjective nature of his own practice:

As to objectivity, it does not exist. In my own photography I have two fundamental controls: where I stand and when I press the button. Both are very subjective choices so the end result, the picture, is bound to be equally subjective (Hurn & Jay 1997, pp.40-41).

Stephen Shore notes that in this process of ‘bringing order to the situation, a photographer solves a picture, more than composes one’ (Shore 2007, p.53). Pattern Recognition is the material byproduct of these combined choices, influences and experiences, choices that include: subject matter, camera model and format, film or digital sensor, black and white or colour, ISO rating, lens focal length and type, aperture and shutter speed settings, how to frame the scene, what to include/exclude, which image to select for presentation, do I crop the final image, what post-production techniques are used, how is the image presented and where?

These all combine to make the final image the result of my accumulated knowledge, everything I have learned from every work I have made until that point. This aspect of creating images was understood by Smith:

Up to and including the instant of exposure, the photographer is working in an undeniably subjective way. By his choice of technical approach (which is a tool of emotional control), by his selection of the subject matter to be held within the confines of his negative area,
and by his decision as to the exact, climactic instant of exposure, he is blending the variables of interpretation into an emotional whole (Smith 1948, p.4).

The photographer would use lighting, composition, framing, editing and all the formal tools of the medium, including moving people and things around the frame, to make the most powerful and effective image possible in the situation. Szarkowski (1925–2007, US) drew attention to the constructed nature of photography when he said ‘a picture is after all only a picture, a concrete kind of fiction’ (Eggelston 1976, p.14).

This generation of practitioners, particularly Tim Davis (b. 1969, Malawi) and Alec Soth (b. 1969, US), saw documentary photography as closer to poetry than to journalism and were embracing the formal artifice of the medium while utilising its indexical nature in order to create an emotional truth that refers to our lived experience. These artists had a strong desire to engage with the world outside the studio and part of their times; Davis has said, ‘I knew that I had to synthesise those two practices somehow [journalistic and formal]. That was my lot in life’ (Ahlander 2011, p.1).

In addition to his photographic work Davis is also a published poet (Ahlander 2011, p.1), while Soth claims poetry as a key influence on his photography: ‘[Photography] is very related to poetry. It’s suggestive and fragmentary and unsatisfying in a lot of ways. It’s the art of limitation: framing the world’ (Jaeger 2010, p.185). This approach resonated with the way I thought about my work; as Frank said, ‘when people look at my photographs I want them to feel the way they do when they want to read a line of a poem twice’ (Greenough & Brookman 1994, p.98). I wanted to make images that were visually seductive, while engaging with the times I was living in: the poetics of

---

1 A wonderful quote from documentary photographer W. Eugene Smith; when asked about how he used available light, he replied: ‘Available light is any damn light that is available!’

2 Scottish filmmaker John Grierson (1898–1972) is credited with first using the term “documentary” to refer to non-fiction films. He saw the genre as being much closer to poetry than transcription; his approach is encapsulated by his definition: ‘Documentary is the creative treatment of actuality.’

3 See Smart Poets’ Society published in Jacket #2 (Davis 1997).
Fossilised light: The referent in photography

In order to make the subjective and poetic images in *Pattern Recognition*, albeit with an indexical relationship to the real, the photographs still needed a surface to reflect its ‘fossilised light’ (Mitchell 1994, p.23), in order to achieve the ‘superior evidential efficacy that has frequently been ascribed to the special bond between fugitive reality and permanent image’ (Mitchell 1994, p.23).

French media philosopher Roland Barthes (1915–1980) wrote about the special relationship photography has to the scene it is reproducing: ‘Photography’s referent is not the same as the referent of other systems of representation’. He continues by contrasting this with painting, which can ‘feign reality without having seen it’ (Barthes 2000, pp.76–7).

New media theoretician and academic William J. Mitchell (1944–2010, Australia) effectively illustrated the difference between old media and photographic representation with his example of painting an angel. Mitchell pointed out that ‘The nonexistence of angels need not prevent you from painting a picture of one, but it certainly prevents you from taking a photograph of one’ (Mitchell 1994, p.29).

Conceptual documentary: Fusing the best of both worlds

During this phase of the research, I was searching for a strategy that permitted an “algorithmic” approach to subject matter, allowing me to address social and political concerns via image content more indirectly.

My work became strongly influenced by the Conceptual Art of the 1960s, in particular the artist...
books of Ed Ruscha (b. 1937, US) and the performance art of Burden and its documentation. The idea of making a work by creating a set of instructions, then testing how these play out in the world, was extremely appealing. I experienced this method of working as similar to the process of creating a photographic print: the camera creates a “negative”, a set of instructions which are decoded by the enlarger to produce the final print. Or, as Ansel Adams put it, ‘The negative is comparable to the composer’s score and the print to its performance’ (Benson 2008, p.160).

Along with several of my peers, including photographers Stephen Gill (b. 1971, England) and Mathieu Pernot (b. 1970, France), I made work that appropriated the processes of street and documentary photography and combined this with a structured approach to content borrowed from the strategies of conceptual art. Early examples of these projects include Feet (2002), a series of “portraits” of body language on the Tokyo subway featuring the lower half portion of the body, and 12 Views of Mount Fuji (2004–06). These projects became part of a movement that would be called ‘Conceptual Documentary’ photography.

Australian art critic and academic Melissa Miles (b. 1974) defines Conceptual Documentary as an extension of the modern compulsion to organise and control information:

The term Conceptual Documentary has been used increasingly in recent years in response to certain shifts in documentary photography. By making sense of the world via an emphasis upon documentation, selection, editing and a cool, distanced and analytical aesthetic (Miles 2010, p.49).

Conceptual Documentary emerged partly from the sense among a younger generation of photographers that wandering around with a camera looking for interesting subject matter had run its course and was beginning to look tired. This problem is the difference between something interesting in the world and an interesting picture.

4 Adams’ early career and training was as a concert pianist (Jennings 2000, p.12).
An awareness of the diminishing returns and conceptual dead ends of 1990s staged photography was also starting to be felt. Initially, staged photography had been a breath of fresh air when positioned against the dominant humanist documentary work of the late 1980s to early 1990s. I am thinking particularly of Philip-Lorca diCorcia’s (b. 1951) Hustlers series (1989–1993) featuring cinematic staged portraits of young male prostitutes in Los Angeles and Gregory Crewdson’s Twilight series (1998–2002).

As this style developed, there were many practices that made significant contributions, but innovation was giving way to safe patterns and works often became mannered. By the late 1990s a range of artists were remaking the same picture while only varying the models, who were inserted into a cleanly lit, generic urban setting. British photographer Hannah Starkey’s (b. 1971, Northern Ireland) pictures of women in contemporary urban situations represent a good example of a promising early idea becoming formulaic (Starkey & Jobey 2007). Gerry Badger has written about this dynamic in relation to staged images: ‘There is far too much work around that uses the fabricated tableaux and art historical references as a crutch’ (Badger 2010, p.242).

When discussing my work, Tour of Duty (1999–2000) (see figure 68), Badger observes that the event in front of the camera is less important than the manner with which it is interpreted and universalised, commenting on ‘… the whole business of news reporting, and how that itself affects the nature of events’ (Badger 2007, p.226).

The structural approach of Conceptual Documentary addressed the perceived lack of rigour often associated with street photography, while the image-gathering process being located outside the studio provided a counterpoint to the apparent lack of engagement with the social world generated by the technical and narrative demands of staged photography. Such a working method retained the underlying strengths of both traditions, while mitigating some of their key drawbacks.
Ten Series/106 Photographs: The way forward

Ten Series/106 Photographs contained the conceptual concerns and seductive visual language that my practice was dealing with up until that point: the serial and sequential bias of photography, the combination of conceptual parameters with visual seduction and the privileging of the formal qualities of photography over subject matter.

As Australian curator Bec Dean (b. 1976) wrote in her afterword to the book:

Sleeth shares an interest in the quotidian, and specifically how subjects, objects, and structures from the everyday can be categorized, numbered, decontextualized, or recontextualized (Sleeth & Dean 2008, p.96).

In Ten Series/106 Photographs (Aperture, New York, 2008), it became apparent that I risked making the same project over and over, only with different subject matter. The work I was making had found a structure and aesthetic that I enjoyed; however, I had taken this aspect as far as I could go. The only way to continue would have been to make the same works with different content.

Repetition became a focus of my work. While producing Ten Series/106 Photographs, I immersed myself in a body of work that was fundamentally about repetition. Although some of the early projects that comprise Pattern Recognition (2008) were published in the Ten Series/106 Photographs book, Pattern Recognition, was conceived as a project to build on the conceptual documentary ideas of Ten Series/106 Photographs while testing ideas about subject matter in photography. The intention was to make work whose subject was the lack of an (interesting) subject.
The problem of representation in photography

The primary issue explored in this phase of the research was to explore the question of subject matter through *Pattern Recognition*. I sought to address this area of research by inverting one of the key assumptions of the documentary/objective approach to photography: that an interesting subject will lead to an interesting image, with little intervention other than the photographic process. The primary methodology was to choose subjects not present in the landmark works of the medium’s history, in order to consider the idea of what was “worth” focusing photographing.

The current technical accessibility of photography increases the risk of swapping subject matter and repeating the same projects with different content once you have an effective template. I wanted to explore the effectiveness of situating the emotional power of the images within their formal qualities, rather than the process of their making and focussing on the objects in front of the camera. I was seeking to utilise the very nature of photography and new media – reproducability and repeatability – as both the method and the concept.

American photographer Robert Adams (b. 1937) has thought about this repetitive tendency in photography and provides an interesting alternative approach to locating value in photographs; he writes in *Why People Photograph*:

> When photographers get beyond copying the achievements of others, or just repeating their own accidental first successes, they learn that they do not know where in the world they will find pictures. Nobody does. Each photograph that works is a revelation to its supposed creator (Adams 2005, p.15).

In the past, each analogue photographic exposure was relatively expensive and time-consuming
and there was a cost to photographing low-value subjects.\(^5\) In the era of digital photography this financial penalty has been removed and the question of what should be photographed is now a purely cultural one. Therefore, a leading question for this project was: are the most interesting photographs made from the most interesting subjects?

**Pattern Recognition (2008)**

*Pattern Recognition* was an experiment with removing traditional photographic narrative and content. While it is not possible to completely remove content in photography, as there needs to be something in front of the lens to reflect light, I wanted to remove traditionally appropriate content and challenge ideas of what subjects should be photographed and how to construct an interesting image from this position. Instead of starting with a subject and trying to make an interesting pictorial rendering – my previous position – I decided to start with a process – a set of parameters – and try to create an interesting picture.

*Pattern Recognition* takes a number of banal subjects and tests whether these can become visually seductive and conceptually rigorous works. There are nine works comprising the project including: *Plane Spotting* (2003–08), *White* (2004), *Abandoned Umbrellas* (2004), *Fire Extinguishers* (2004–07), *Houseplants* (2004–07), *La Joconde* (2005), *Security* (2005–08), *Ground Zero* (2006), *Monitors* (2006). For this exegesis I have chosen to focus my discussion on two related works, *Fire Extinguishers* and *Houseplants*. These subjects have no intrinsic value as spectacle, but find their opportunities for generating visual sensation through the language of photography. The subjects are banal and often encountered in our everyday lives, especially in the non-places that comprise the bulk of our urban experience such as airports, shopping centres and government bureaucracies. The formal qualities of colour and light combined with the nature of lens-vision – focus, depth of field and shutter speed – are the tools that remain to engage the viewer.

\(^5\) I am using “low value” to refer to both commercial and cultural value.
American composer John Cage (1912–1992) gave an indication of this approach to making a substantial single work from a series of quotidian images:

If something is boring after two minutes, try it for four. If it’s still boring, then eight. Then sixteen. Then thirty-two. Eventually one discovers that it is not boring at all (Cage 1973, p.93).

Thinking partly about what photography does well, I was also thinking about what people do well, which is to recognise patterns. We are not very good at high-level cognitive thinking, but are extremely efficient at pattern recognition. American physicist and science writer Mark Buchanan (b. 1961) suggests:

Recognizing patterns is one of the key traits that have made us successful – it is one of the things that we do well. We are only moderately good at deductive logic, and we make only moderate use of it. But we are superb at seeing or recognizing or matching patterns … in problems of complication, then, we look for patterns (Buchanan 2007, p.110).

There were two levels of pattern recognition incorporated into the project. The first was internal, the patterns of repeated subjects within each series. The second was a strategy to repeat the series within the public presentation of the work. To this end, I partnered with the Melbourne International Arts Festival to present 32 instances of the project installed across billboards, screens, public spaces and galleries (see figures 70 and 71). The viewer would recognise the patterns within the projects, then as they moved through the city during the festival would see patterns of the repeated series across various sites.

The process of visually revealing the patterns within a given subject with a strategy of pre-defined parameters turns the artwork into an experiment with a hypothesis to be tested. Taking the
hypothesis (subject) and the set of parameters (methodology), I would then go into the world and “conduct” the experiments. This phase draws on the classic methodology of street photography (Robert Frank, Lee Friedlander, Gary Winogrand), perhaps photography’s default position, and combines this with the medium’s ability to render seductive images, while being open to chance and random encounters.

**Romanticism and conceptualism: Sublime structures**

*Pattern Recognition* fuses two powerful movements from the history of art, Romanticism and Conceptualism, and relates them to my research and practice. Applying these frameworks to the current processes and technologies of mechanical reproduction attempts to find the location of affect and power in the image. The conceptual moment in art moved photography past the accepted conventions of what was suitable content for serious art, while the Romantics explored how an image should move and perhaps terrify us – the terror and the beauty of the sublime. Of particular interest were the seascapes of Joseph Mallord William Turner (1775–1851, England) and the description of light in the works of Caspar David Friedrich (1774–1840, Germany). These provided points of departure to consider how an image could use light and composition to generate an emotional response from the viewer.

Conceptual artist and filmmaker Michael Snow (b. 1929, Canada) and American artist Ed Ruscha informed this period of my research, as they were essentially playing games. Both artists set the parameters for their projects, such as Ruscha’s photographs *Every Building on the Sunset Strip* (1966) and *Twentysix Gasoline Stations* (1963) on Route 66. The boundaries were set and then the artists went out into the world and tested their ideas. These were not studio practices cut off from the their times and social conditions, nor were they naive humanist projects divorced from the formal concerns of their mediums and cultural discourse.
The creative blending of “the world”, contemporary cultural debates and art history was the driving idea behind my practice at this time. Snow’s experimental film *Wavelength* (1967) features a slow zoom across a room that lasts most of the film’s forty-five minutes until a photograph of the sea comes into focus. The subject, indeed, the entire content of this film is the formal qualities of cinema and provides a lesson in how to think about “content”.

**Failure is always an option**

A key attraction of *Pattern Recognition* was that it could fail. I was going out into the world with an idea, testing whether it was valid and evaluating what returned. Paul Graham (b. 1956, England) eloquently discusses the joys of finding and organising subject matter outside the studio:

> The more pre-planned it is the less room for surprise, for the world to talk back, for the idea to find itself, allowing ambivalence and ambiguity to seep in, and sometimes those are more important than certainty and clarity ... you dance with life itself when you form the meaningless world into photographs, then form those photographs into a meaningful world (Graham 2010, para. 17).

Through a process of repetition, the images formed patterns which revealed more than the individual images, more than the sum of their parts. Put differently, one fire extinguisher is just a fire extinguisher; hundreds of fire extinguishers is a comment on the contemporary spaces we create for ourselves and our need to foster the illusion of our control over nature. Ruscha’s *Twentysix Gasoline Stations* (1963) is the key reference in this area; although he and I take different positions in relation to the aesthetic function of the images, the underlying concept is similar. Ruscha’s project used a repeating motif to make a conceptual and political statement that would not have been possible in a single image. The cumulative impact of the decision to repeat one subject in a consistent manner creates the meaning in this work.
The matrix: Creating order from chaos

In *Pattern Recognition* I wanted to create a single image from a matrix\(^6\) of images, a picture composed of a series of pictures. The key was to make a self-contained work that was clearly constructed from discrete images. I was aware of previous photographic works along similar lines, including Andy Warhol’s (1928–1987, US) silkscreen *Self-Portrait* (1966) and Bernd (Germany, 1931–2007) and Hilla (b. 1934, Germany) Becher’s typologies. While these were effective on their own terms, they were not models for my purposes. The Bechers’ prints were individually framed, which led to the images being read as separate works (as was their intention), and Warhol’s silkscreens mounted on a single canvas, which led them to function as a collage.

During this period of research, I maintained the belief that a successful artwork must be a combination of both execution and concept; these are not mutually exclusive and do not negate each other,\(^7\) instead of privileging the idea over visual pleasure in the image, as the majority of Conceptual Art had done. From the works of Ruscha to the images of Burden’s and Marina Abramovic’s (b. 1946, Serbia) performances, the photograph as document or container of information was significantly privileged over its capacity as an aesthetic object. As Burgin writes:

> One thing conceptual art has done, apart from underlining the central importance of theory, is to make the photograph an important tool of practice. The consequence of such moves has been to further render the categorical distinction between art and photography ill-founded and irrelevant (Burgin 1982, p.39).

Another key premise of *Pattern Recognition* was the idea that the process of making the work

---

6 “Matrix” is a printmaking term to describe the surface of the medium (e.g. wood, metal, linoleum) that, combined with ink, holds the image prior to its transfer to paper or other material. I am using it here to refer to the legacy of printmaking technologies in the practice of photography.

7 *The New Yorker*’s art critic Jerry Saltz (b. 1951, US) has called art ‘the ability to embed thought in material’ (Saltz 2012).
was an important part of the content of the work. The “art” in these works lay in selecting the typologies that revealed the patterns in the world, then putting myself into a position to organise them in time and space (image capture) and arrange the images in the studio into a form that allows them to function as a single image (editing). A similar strategy is employed by Australian conceptual artist Robert Rooney (b. 1937), who claims that for him:

Creativity is a matter of choosing something and structuring it. Originality is something talked about by people with nothing in their heads. Choosing and structuring is the creative process (Delany 2013, para. 2).

**Hitchcock and the MacGuffin**

While working on the *Pattern Recognition* project, I began to investigate the cinematic idea of “the MacGuffin” and how I might incorporate this concept into my artworks. In a 1939 lecture at Columbia University, filmmaker Alfred Hitchcock (1899–1980, England) outlined a narrative device he called ‘the MacGuffin’.

This is a plot device that is unimportant in itself, but serves as an excuse to drive into deeper elements of the narrative. Hitchcock clarified the term by saying, ‘In crook stories it is almost always the necklace and in spy stories it is most always the papers’ (Keen 2013, p.106). This device “distracts” the audience with simple narrative while it is being seduced with a subtext of more complex ideas.

The MacGuffin employed in *Pattern Recognition* is its quotidian subject matter. This strategy allowed me to shift conceptual focus away from the object the camera was representing and concentrate on how it was being represented. While the subjects of these pictures are nominally fire extinguishers and houseplants, the real subject of these images is the process of photography.
This highly structured approach to content facilitates a formally seductive image without the art historical baggage that comes with abstraction. It is important to me that the image remains figurative, as photographic abstraction becomes an entirely different discussion. Abstraction in photography introduces a set of references and problems that engage more productively with the history of painting.

**History painting and narrative**

History painting is one area of painting I have been concerned with through the research as something of a “control group” for single-image narrativity. The best of these works pre-empt a photographic quality in their extraordinary understanding of lighting and narrative. The single-image narratives of history understood how to make pictures composed of pictures in order to tell a story in a single painting. Many of Pieter Brueghel’s (1525–1569, Netherlands) works appear to have foreshadowed a photographic visual language; an example is *Hunters in the Snow (Winter)* (1565) with its diminishing perspective and (decisive) moment of peak action as hunters pass by. The works of Théodore Géricault (1791–1824, France) display a sense of dramatic lighting and storytelling that has influenced a number of contemporary photographers, notably Crewdson and Bill Henson (b. 1955, Australia). Géricault’s work including *The Raft of the Medusa* (1818–19) has informed my thinking about photographic narrative and the aesthetic possibilities of light.

Canadian writer and artist Jeff Wall’s (b. 1946) comparison between the different motivations of classic photography and painting is interesting here:

> Such photographs, no matter how good they are, are devoted to the revealing of the subject matter. But that’s not what modern painting is about. Modern painting is about making paintings, and therefore about finding the occasion or motifs that will make that possible (Campany 2011, p.108).
Wall’s quote highlights one of the key differences between the traditions of painting and photography, by revealing their opposing relationships to their subject matter. Wall suggests that photography has traditionally made pictures in service of its subject, that the “content” of the image has been privileged at the expense of its picture-making possibilities, while painting has generally chosen its subject in service of the picture-making process and for qualities that reflect the type of image the painter is seeking to make. *Pattern Recognition* is the first body of work in which I have sought to incorporate painting’s relegating of subject matter to the service of the image into my practice.

The primary methodology in revising the position of subject matter within my photographic work has been to incorporate specific ideas from Conceptual Art in terms of the parameters determining subject matter. There are two levels in this dynamic; the first is the choice of “global” project subject and the second is the specific content of each image and its relation to other images in the project, which is usually determined by a set of pre-defined parameters.

The key departure in this work from traditional Conceptualism of the 1960s to contemporary derivatives was the desire to combine a rigorous idea with a sense of visual pleasure. The overwhelming condition of most Conceptual Art was an intentional aesthetic dryness, usually as a strategy to locate the work in a high-art context and differentiate it from applied commercial media. The implication was that ideas were serious and high-brow and visual pleasure was frivolous and low-brow. Therefore, in early conceptual works of the 1960s, artists such as Ruscha used photography strictly as a recording device to make an indexical reproduction of what was in front of the lens.

Photography and video were often employed as a method of recording the “performance” of an artwork and it was this documentation of “the work” that was exhibited by artists like Abramovic and Burden. There was a clear distinction between the “art” and its “documentation”. While
the video and photographs were exhibited in galleries, neither the artists or curators considered them art when they were made; rather, they were the containers through which the art was communicated. An interesting legacy of this strategy is that the 1960s generation of performance artists became pioneers of film, video and photography in a contemporary art context. Abramovic’s museum survey *The Artist Is Present* (MOMA, New York, 14/3–31/5/2010) was essentially an exhibition of lens-based media.

The parametric aspects of 1960s Conceptualism remain important to my practice in terms of structuring decisions relating to content, but I depart from the tradition where it denies visual pleasure. Wall has eloquently discussed this problem of Conceptual Art’s denial of the visual in his public conversation with David Company:

> The anti-aestheticism of Conceptual Art and its deferrals, its antagonism toward the pictorial and its negation of visual pleasure seemed to be playing themselves out in increasingly empty gestures (Campany 2011, p.3).

This effect can partly be explained by the cultural dynamics of the 1960s–70s and the perception of the need to clearly define the distinctions between high and low culture. The cultural ecology has changed significantly over the last decade, largely due to the penetration of the internet and personal electronic devices. This has now reached the point where the fusing of these binary positions is a cultural advantage, rather than a handicap. We now have a more intimate and hands-on relationship with our applied media; most of us are both producers and consumers, which has accelerated the dismantling of the barrier between high and low culture. American filmmaker Harmony Korine (b. 1973, US) provides a passionate understanding of the opportunities for artists:

---

8 These artworks are created as the expression of a range of parameters set by the artist.
There’s no such thing as high or low, it’s all been exploded. There is no underground or above-ground, there’s nothing that’s alternative at a point of post-everything, so it’s all about finding the spirit inside, and the logic, and making your own connections (Hawker 2013, para. 21).

**Moving on: Or avoiding swapping out subject matter**

Often it is difficult to know when to end a body of work and move on. Several years ago I began to see a pattern in my research practice when I made productive decisions to move on. Usually, this was when a particular approach stopped working or it stopped producing new ideas or was keeping me from a better idea. This dynamic has held for the research presented in this chapter. Towards the end of the *Pattern Recognition* project, after I had made nine typologies, it became clear that there were limited ways to move forward without repeating previous works or simply cycling through subject matter. The options seemed limited to finding different types of fire extinguishers or houseplants, or replacing them with an equivalent subject.

In my practice, one project transitions to the next by seeking to solve the problems of the current work with the next work. This research methodology usually contains a moment where I simultaneously realise I have found a solution to a conceptual or process barrier and then immediately understand that this solution raises other barriers. Rather than seeing this as a problem, I now consider this the engine of progress, the way my work moves forward.

The opportunity to move forward in this situation was to look at different methods of layering a narrative and creating visually seductive images, while maintaining my interest in subject matter and what content is “worth” photographing.

My aim is now to build an archive of images through a series of image-capture parameters that
provide the raw material to create a single work from a grid of discrete images. The picture composed of pictures, for my work, had its genesis in history painting, but would have its future in digital imaging. The next stage in the process to explore a complex single work would come from a layering of narrative through a single image, rather than a single work composed of a series of images.

The relationship to new media again resides in the negative – that becomes the source to produce the reproductions. If the pattern was the negative, and the matrix, and the reproduction, how might I continue to translate this in my practice? The next project (and chapter) explore this ongoing concern.
Representation and Reproduction: a love story

Chapter Four: Digital Imaging

Project Two: Various Positions (2009)
Chapter Four explores a sense of the limitations of discrete projects comprising linear serial images or matrixes of single images combined to form a single work. The problems encountered in each phase of the research often become the catalyst that leads directly to the next. Everything learned from all previous artworks is focused on solving the current creative problem in seeking to make images that can communicate narrative while generating a sustained emotional response from the viewer.

The process of digital layering fuses the benefits of candid street photography with the control of a staged image. Rather than controlling the staging in front of the camera, the lighting and tone are controlled after the capture phase with post production software. This has aesthetic benefits in two ways; firstly, it is possible to create worlds digitally that would not be possible practically, given the nature and physics of light. Secondly, I am able to make a more transparent and candid image without the constraints of lighting and a cinema crew, a method that would require using actors to recreate observed moments.

_Century Southern Tower Hotel_ (2008) is essentially about the tension between staged photography and found narratives, and how the work functions differently from both a purely “candid” picture and a purely “staged” picture. The fusion of these modes of photography, traditionally the two (opposing) default positions throughout its history, is one of the new possibilities created through the use of digital tools.

The key to my positioning of _Century Southern Tower Hotel_ as a fusion of the best of both traditions of photography is this distinction. It allows me to foreground the assumptions we make about the photographic image to control audience responses to my images. _Various Positions_, the

---

1 “Practical” is a film industry term for effects and lighting sources that happen in camera, in the world of the film, as opposed to being generated digitally.

2 This method of recreation was employed by Jeff Wall in the pre-digital era. Wall would observe a moment in the street and then recreate it with actors and controlled lighting in the studio. _Mimic_ (1999) is an example of this methodology (Campany 2011, p.63).
exhibition that included *Century Southern Tower Hotel*, was conceived as an exploration of this idea. Each image was made with a different technical process and/or conceptual position, from entirely staged, to straight documentary to digitally compositing to a fusion of several positions – this denied the audience the ability to make assumptions about an image based on the image that preceded or followed it. This is the opportunity of digital; to use the assumptions we make as a culture regarding the authenticity of photography and subvert them with digital abstractions.

### Digital imaging: A genealogy

Using a matrix of single images to make a single work, a picture made of pictures, implies a single work layered with images. Digital imaging presents the opportunity to layer multiple source images through a single picture. This makes space and time shifting possible within a single image, rather than across a series of images. This was an aspect of digital imaging that had the potential to move my research into photographic narrativity forward in ways that were not possible or practical with analogue image-making, while resolving some of the concerns in relation to linear narratives with serial and matrix images.

It is possible to think of previous works as a series of images stretched across an X axis and the matrix images of *Pattern Recognition* stretched across both the X and Y axes, whereas digital processes made it possible to layer a series of source images through the Z axis to form a single picture.

Through the digital abstraction of digital layers, each source image can be thought of as a piece of glass laid on top of the next, with each layer showing only a portion of the image chosen by the artist (Hosie-Bounar 2011, p.117). When viewed from above, this abstraction provides a view from the top layer through to the bottom layer, a vertical (Z axis), almost three-dimensional image that when exported is flattened to a two-dimensional image (see figure 84). It was this aspect of
digital imaging I wanted to employ in my research into single-image narrativity.

Unlike many histories of new media (Winston 1998) that endorse McLuhan’s view ‘that media history proceeds by breaks with the past and sudden leaps into the future’ (McLuhan 1994; Walkling et al. 2011, para. 2), new media, and therefore digital imaging, represent the logical progression of analogue photography. Analogue photographic knowledges becomes a “philosophical” way of thinking about digital imaging.

Digital imaging is the distillation of analogue photographic thinking, rather than its end (Walkling 2005, para. 2). Analogue knowledge is embedded in digital processes and has been translated into algorithms and user interfaces with a much lower technical and financial barrier to entry (Mactaggart 2010, p.144). However, all the problems of photographic composition remain; how to deal with the frame, how to deal with indexical representation, how to deal with the language of depth of field, shutter speed and selective focus.

Most of all, the problem of what to point the camera at remains. Graham notes the continuity of the formal questions of photography in the digital age when he observes, ‘The fact that it’s a piece of silicon recording the light rather than a piece of gelatin doesn’t make such a big difference’ (Schuman 2010, p.39). Shore is likewise concerned with this problem when he writes, ‘A photographer starts with the messiness of the world and selects a picture’ (Shore 2007, p.37).

**Narrativity and the single image**

With the models of assembly and dissemination made possible by page reproduction ... In the late 1960s, Pop and Conceptualism were committed serial, sequential and para-archival procedures ... Meanwhile, photographers continuing to make art in the guise of photожournalism or documentary tended to exhibit their work according to the conventions of the page based photo-essay (Campany 2011, pp.6–7).
This section of my research challenges the seriality that dominates the history of photography and argues that a single image should be enough. Throughout the history of photography, the bias in constructing narrativity has been towards serial imagery, a linear set of images. As English artist and critic David Campany (b. 1967) observes above, these images were usually intended to be reproduced on the page and if they were exhibited this was a secondary consideration (Campany 2011, p.7). This logic makes sense when the image is encountered in print (or online) in its serial form – where each image is understood in the context of the images that precede and follow it – however, this strategy is not always well suited to the gallery context.


Wall discusses this pattern through the history of photography when he observes: ‘One of the issues or conditions with photography as it was practiced was the idea that the single picture wasn’t adequate’ (Wall & Campany 2011, p.108). Wall then reflects on how this condition contributes to photography’s bias towards subject matter when he says:

I thought there was too much subservience to the motif or subject matter in that.
The practice was driven by the availability of significant subject matter and once the subject matter was somehow done, then what? (Campany 2011, p.108)

The methodology through this stage of the research project was to create single images composed of combinations of digitally layered source images, rather than a series of images displayed in sequence on the gallery wall. This process would be evaluated by its capacity to produce an emotional response and to communicate narrative of similar intensity to sequential imagery.

My query was around the nature of the single image. If, as Wall observes, the single image is not enough, then could a single image comprised of multiple images that are discretely layered be effective?

**Separated at birth: Photography and computers**

While their trajectories ran parallel for most of their histories, photography and computing began to converge towards the end of the 20th century. Given their similar chronological, social and cultural trajectories, there is a remarkable symmetry to this convergence upon which the foundations of new media were built (Manovich 2001, p.20).

They were further aided by the ‘social and cultural reorganisation of the home and workplace during the 19th century’ (Lovejoy 1990, p.258) and the infrastructure of the developing Industrial Revolution (Popper 1993, p.10).

Both photography and mechanical computation were founded on the spirit of invention encouraged by the optimism at the end of the Age of Enlightenment (Gascoigne 2002, p.16) and the beginning of the Industrial Revolution; both ‘begin in the 1830s with Babbage’s Analytical Engine and Daguerre’s daguerreotype’ (Manovich 2001, p.20); however, ‘the invention of the
daguerreotype, a modern media tool for the reproduction of reality, impacted society immediately, the impact of the computer was yet to be seen’ (Manovich 2001, p.21).

In the autumn of 1834 mathematician and inventor Charles Babbage (1791–1871, England) began work on a computational device he called the ‘Analytical Engine’ (Hyman 1985, p.164). The design for this machine (which was never fully realised in Babbage’s lifetime) featured many of the key elements of the modern computer; a section of the engine performed operations on the data he called the mill (Central Processing Unit), the results were then held in the ‘store’ (Random Access Memory) and were then output in tables by a hard copy printer (Hyman 1985, p.166).

In further evidence that the dynamics of community and collaboration are one of the key conditions for innovation, Talbot’s earliest images of lace were featured at the soirées Babbage regularly hosted in his home; Lovelace was a regular guest and one of Jacquard’s silk portraits hung in the room (Manovich 2001, p.22; Palmer et al. 2012, p.42). In an article summarising the proceedings of the symposium *Digital Light: Technique, Technology, Creation* (Melbourne, 2011) Australian academic Daniel Palmer (b. 1971) points out: ‘What we can also learn from his [Batchen’s] analysis is that innovation seems often to derive from social “scenes”’ (Palmer et al. 2012, p.42).

Networked computers and digital photography came of age in the 1960s, essentially as defence technologies. Networking was pioneered in 1969 by DARPA as part of a nuclear defence strategy (Waldrop 2008, p.79) while digital photography was developed as a requirement of

---

3 The Analytical Engine was designed to replace human ‘computors’ who often made mistakes. His 1834 design followed from his 1822 design for the Difference Engine, a calculating machine to tabulate polynomial functions (C. Eames & R. Eames 1990, p.12).

4 The first complete Babbage Difference Engine was built in London in 2002, 153 years after it was designed (Swade nd, para. 1).

space exploration.6 There was no point dispatching a probe to photograph Saturn’s rings if it subsequently drifted off into deep space with the film remaining on board; NASA needed a method to retrieve the images without the craft (Edwards 2006, p.146).

These two innovations, photography and computers, not only ran parallel through their histories, but also through mine. I had been interested in computers since my mid-teens and photography from my early teens. However, I do not think that this is pure chance. I did not possess a genetic love of either medium; rather, both were excellent expressions of my desire to order the world: photography could order time and space, and computers could order information. Not only is this part of the reason why they found such synergy at this stage in my research; I also believe it is the reason why digital photography and new media have been linked through much of their histories: they serve similar desires. Manovich has made a similar observation:

We should not be surprised that the development of modern media and the development of computers begin around the same time. Both media machines and computing machines were absolutely necessary for the functioning of modern mass societies … Mass media and data processing are complementary technologies; they appear together and develop side by side, making modern mass society possible (Manovich 2001, pp.22–23).

**Born digital**

When an image becomes digital is not a question relevant to my research. Over the last decade, almost all images have become digital at some point in their journey, either digitised at capture in the case of images born digital or digitally reformatted through scanning technologies in the case of analogue images (Xing et al. 2011, p.41). The vast majority of images now enter the public realm digitally through the publication process or being uploaded to online sharing services such

---

6 The first digital image was taken from Mariner 4 on 15 July 1965 with a camera system designed by NASA/JPL (Billingsley 1965, p.19).
as Flickr or Facebook. My interest is how these digital images are manipulated after capture in computer software.

The possibilities of digital imaging in my practice are found in post-production. Although combination printing and multiple exposures have been a part of photography since its earliest days, as seen in the work of photographic pioneers Henry Peach Robinson, Oscar G. Rejlander (1813–1875, Sweden) and Australian adventurer and photographer Frank Hurley (1885–1962), they were ‘technically difficult, time consuming, and outside the mainstream of photographic practice’ (Mitchell 1994, p.7).

Digitally altering the image in post-production, rather than digital capture, was the paradigm shift in digital imaging in my research. In After Photography, photographic commentator Fred Ritchin (b. 1952, US) isolates the date ‘when the digital era came to photography’ (Ritchin 2010, p.27) as February 1982, when National Geographic magazine digitally altered the arrangement of the pyramids of Giza to convert a horizontal image to a vertical cover image. This banal change opened the ‘digital door’ (Ritchin 2010, p.27).

Digital imaging altered this landscape significantly. In my research, it allowed me to quickly, easily and convincingly combine and alter captured images in the computer rather than in the field. The possibility of making creative decisions regarding form and content later in the process was a significant creative opportunity.

**Various Positions**

In 2009, my exhibition *Various Positions* (Claire Oliver Gallery, New York) was conceived as an investigation of how these “various positions” could be combined in one project. Each work was made from a different conceptual position regarding my relationship to the subject matter, both
before and after exposure. Some images were captured completely candidly (Southern Lights, Shinjuku Southern Terrace [Tokyo], 2006), some images were completely staged (Heavenly Valley [Mount Hotham], 2008), some were a combination of both while others were constructed digitally in post-production (Wisla River, 2008). This approach was intended to draw attention to the assumptions we make when viewing photographs, where the meaning of each image is partially constructed through assumptions we make about the image preceding and following it. As each image was made from a different position, in this case it was not possible to make assumptions in this manner; often the images that appeared most manipulated were candidly exposed, and the images that appeared most realistic were complete constructions.

The dominant objective position was championed by the commercial press and celebrated practitioners such as members of the Magnum Photos agency, including French photographer and documentary filmmaker Raymond Depardon (b. 1942, France) and Philip Jones Griffiths (1936–2008, Wales), whose reputation was established with his sensitive coverage of the Vietnam War, published as Vietnam Inc. (Griffiths 1971).

There were notable exceptions to this objective mode of working during the peak years (1940–1960s) of the photojournalistic essay in the popular weekly news magazine, Life, notably the darkly graphic images of Lisette Model (1901–1983, Austria) and Smith’s lyrical photo essays. Smith wrote of his relationship to image subjectivity in Photo Notes;

> The majority of photographic stories require a certain amount of setting up, rearranging and stage direction, to bring pictorial and editorial coherence to the pictures. Here, the photojournalist can be his most completely creative self ... The journalistic photographer can have no other than a personal approach; and it is impossible for him to be completely objective. Honest – yes. Objective – no (Smith 1948, p.4).

7 Wisla River (2008) was loosely based on two Brueghel works: Hunters in the Snow (Winter) (1565) and Winterlandscape with Skaters and Bird Trap (1565).
This approach appears to be a legacy of photography’s role before cheap travel and globalisation, where part of its popular function was to bring back exotic images from the periphery to the centre, ‘bringing distant places or unusual things closer to us’ (Edwards 2006, p.5). Modelled on a hunting exercise, photography of this era was like shooting fish in a barrel:8

It seems to be extensively believed by photographers that meanings are to be found in the world much in the way that rabbits are found on downs, and that all that is required is the talent to spot them and the skill to shoot them (Burgin 1982, p.40).

An iteration of this approach was developed by Henri Cartier-Bresson (1908–2004, France), a founding member of Magnum Photos and aesthetically pioneering photojournalist; he called his method ‘the decisive moment’ 9 (Cartier-Bresson 1952). Cartier-Bresson retained the photojournalist’s distaste for directly interfering with the subject in front of the camera, proposing that the formal qualities of an image were best organised by carefully choosing the moment of exposure:

To me, photography is the simultaneous recognition, in a fraction of a second, of the significance of an event as well as of a precise organization of forms which give that event its proper expression (Cartier-Bresson & Sand 1999, p.16).

The objective mode implies that the presence of the photographer did not alter the situation and that photography should ‘show the world as it is’, as outlined by English collector and photographer Martin Parr (b. 1952) in Caravan magazine (Ravindran 2010, p.1). Conceiving of the image as a transparent window onto the world, this position seems self-evidently false and appears to deny the subjectivity of the artist and the influence their presence has in shaping a situation. I always assumed this debate was relative, rather than absolute.

---

8 Peter Milne’s book documenting musician Nick Cave on tour was titled Fish In A Barrel (Milne 1994).

9 Cartier-Bresson took this title from a quote by Cardinal de Retz (1613-1679, France): ‘There is nothing in this world that does not have a decisive moment and the masterpiece of good ruling is to know and seize this moment’ (de Gondi 2006, para. 62).
Century Southern Tower Hotel (2008)

Century Southern Tower Hotel was exhibited at Claire Oliver Gallery in March 2009 as part of my exhibition Various Positions. The image was captured at the Century Southern Tower Hotel in Tokyo and features a woman sitting at a table waiting for her boyfriend to return from the bathroom. The image was captured candidly with a large format 5 x 4 inch view camera on a tripod that was in position for around two hours; initially people in and around the scene paid attention to my presence but gradually started to ignore me or forget that I was there. This process negated one of the traditional problems with candid images which is either having to make a very fast and formally loose image or to make an image where the subject breaks the fourth wall\(^\text{10}\) and acknowledges your presence.

The image has been heavily digitally processed but not in terms of adding or subtracting subject matter; rather, the layering of image elements was controlled in post-production including: lighting, colour, tone and spatial relationships.

This layering is important. Rather than “compose” or “create” an image, my intention was to create and compose the photographic elements that define an image – the mise-en-scene including lighting, setting and actors. Later in the studio, the image is edited and composed “vertically”,\(^\text{11}\) in much the same way a motion picture is edited sequentially.

Artist Andreas Gursky’s (b. Germany, 1955) Rhine II (1999) represents an example of a similar process. Gursky has photographed the Rhine River but was disappointed it was not a “perfect” rendering and did not accord with his imagination of the mythical river. Gursky explains, ‘I wasn’t

---

\(^{10}\) Breaking the fourth wall is a theatre expression used to describe a performance that directly addresses the audience, thereby breaking the imagined fourth wall at the front of a traditional three-walled proscenium theatre (Brown 2012, p.26).

\(^{11}\) The Z axis discussed earlier.
interested in a possibly picturesque view of the Rhine, but in the most contemporary possible view of it.’ He then continues to explain that to achieve the most emotionally honest view of his conception of the river, it was necessary to be indexically dishonest: ‘Paradoxically, this view of the Rhine cannot be obtained in situ; a fictitious construction was required to provide an accurate image of a modern river’ (Waters 2011, para. 10).

Using early digital tools, Gursky had his digital compositor remove distracting details such as dog-walkers and a factory building, which served to locate the image in time and space. By removing these subjects and altering the colour of the water and grass, he made an image that is an abstraction of the real, while still referring to its original subject. The result is the creation of an image with three solid areas of color that refers to Colour Field painting (Badger 2010, p.237). American hard-edge painter Ellsworth Kelly’s (b. 1923, US) 1952–53 work *Train Landscape* reflects the tonal and compositional abstraction of Gursky’s *Rhine II*.

In a sense we are using the same process for opposite ends: Gursky is digitally altering the image to further a sense of the perfect reality, while I am altering the image to achieve a cinematic suspension of disbelief.

*Century Southern Tower Hotel* is an image of a location and moment in time that never really existed (not in the same location at the same time) – it is an abstraction of the referent, yet still retains its indexicality and is recognisable as being “real”.

**Hunting or gathering**

In many ways the default positions of photography in relation to procuring content were either

---

12 The documentary film *Long Shot Close-up* (2010) shows extended scenes of Gursky working with his retoucher on what looks like an early version of Quantel Paintbox image-editing software (Schmidt-Garre 2010).

13 Or at least convincingly real.
to completely stage an image in the studio or to capture it candidly in the world. It is possible to think of those two positions as the hunter versus the gatherer, with all the implied connotations.¹⁴

The 1990s were dominated by two groups of artists who were the products of influential art schools but separated by geography and conceptual approach: the Bechers’ students from the Kunstakademie Düsseldorf, particularly Gursky, Thomas Ruff (b. Germany, 1958) and Thomas Struth (b. Germany, 1954), and the faculty and students from Tod Papageorge’s (b. US, 1940) MFA Photography program at Yale, including Crewdson, diCorcia and Davis. The Germans tended to make works that were rigorous typologies¹⁵ with extraordinary technical skill, while the Americans made highly staged and cinematically constructed works, also at large scale, so in the work of Crewdson and diCorcia the imagination of the artist was clearly visible. The large scale of these works can be read as a statement to ensure the viewer understands this work was intended for the gallery wall and not for the page, as was the case with the first photographic works to enter the museum (Stieglitz, Evans).

Badger in his book *The Pleasure of Good Photographs* (2010) makes the observation that despite photography being ubiquitous in contemporary art, many people remain uncomfortable with the idea of photography as art (Badger 2010, p.235). He argues that photographs digitally altered in post-production are renouncing their indexicality and giving up their unique relationship with the real and this work, using the example of Gursky’s *Rhine II* (1999), has more in common with painting than analogue photography, making it the ‘new history painting’ (Badger 2010, p.236). While this self-conscious artifice has aided photography’s success in the art market, I do not agree that it sacrifices the relationship to the referent. Photography has always been a subjective interpretation of the referent and digital subjectivity is an extension of this element of

¹⁴ Much of the language around (particularly) analogue photography mimicked hunting terms: “shoot” a picture, “load” the film, “aim” the camera, the lens “bayonet”, “capture” an image.

¹⁵ Series of photographs grouped by common subject matter.
the medium, only made more accessible in terms of the technical skill and time required. Badger goes on to convincingly argue that photographers such as Gursky who constantly use painting to position their work as art are acknowledging photography’s insecurity as a medium (Badger 2010, p.237).

At this advanced stage of digital imaging’s colonisation of imaging, the opposite might be true. The proposition that most painting now occurs in “photography” could be considered, rather than most digital photographic imaging being painting, if one considers the “painterly” actions of digital image editing and that most printing is now produced by inkjet printers depositing ink directly onto paper. The September 2012 issue of *Artnet* magazine contains a conversation between the editor Michelle Kuo (b. 1971, US) and German photographer Wolfgang Tillmans (b. 1968) called “Step into Liquid: The Ascendancy of Ink-Jet Printing” which directly addresses this idea. Tillmans responds to a question from Kuo regarding the boundaries between mediums with:

> We have arrived at a point where a large proportion of “painting” is actually ink-jet printing. This is an amazing fact. But, almost as astonishingly, it is never really talked about ... Perhaps it’s time to rethink the remarkably persistent categorization of artworks. In my view, we are all making pictures (Kuo 2012, para. 6).

Photography’s ongoing battle with its indexical nature continues (Batchen 1999, p.20) as digital imaging seems to allow the perfect fusion of these previously binary opposites, capturing an image candidly and then altering it with the artist’s hand in post-production to create a new object. This idea appeals to me enormously; I can make a picture by going out into the world and testing an idea, but then I can come back to the studio and use my imagination to create something better, more perfect than I had seen.

An example from my research would be *Southern Lights, Shinkuju Southern Terrace* (2008),
an image that was captured candidly and then altered digitally in post-production for aesthetic rather than content concerns; this meant I could take a candid image and make it more perfect than a documentary image and more dramatic than a staged image. I need not rely on what I happen to come across, nor am I limited to what I can imagine – the world is always so much more interesting and complex – while I am not locked into the aesthetic of the subject, only its content.

This process appealed to me greatly as it allowed the grammar and language of my practice to evolve, not the subject matter. I realised I was confusing the problem of subject matter with the problem of the formal visual language of photography. If I could create works captured in the world but aesthetically controlled in the computer, I could combine cinema’s suspension of disbelief with the sense of persuasion and drama that comes from the real.

Batchen, in his essay *Ectoplasm: Photography in the Digital Age* (Squires 1999, pp.9–23), presents the cultural shift from analogue photography to digital imaging as a return to painting, that the production of images are returned to the ‘whim of the creative human hand (to the digits)’. Batchen argues that the ease with which artists can manipulate digital images moves photography closer ‘in spirit to the creative process of art than they are to the truth values of documentary’. The essential difference between the two technologies is that ‘photography still claims some objectivity’16 while digital imaging is an ‘overtly fictional process’ and that digitisation ‘abandons even the rhetoric of truth that has been such an important part of photography’s cultural success’ (Batchen 1999, p.15).

While Batchen’s argument overlooks the technical fact that most digital images are optical traces of light from the referent onto a sensitised electronic surface, it eloquently captures the difference in their conceptual underpinnings.

16 Or “objectivity” is claimed by the industries that rely on photography as a ‘non subjective purveyor of information’ (Batchen 1999, p.15).
The death of painting and photography

When the history painter Paul Delaroche\(^\text{17}\) (1797–1856, France) heard of the invention of the daguerreotype, he exclaimed: ‘From this day on, painting is dead’ (Tissandier 1876, p.63). Just as painting survived\(^\text{18}\) the invention of photography by finding new tasks for itself – not much comfort for the painters of portrait miniatures, to be sure – our current digital transition provides the same opportunity for photography. Faced with the age of digital imaging and its threat to the sanctity of the referent – although I consider this an opportunity rather than a threat\(^\text{19}\) – photography could be liberated from its bias towards subject matter.

However, writer Andy Grundberg (b. 1947, US) in *Crisis of the Real* suggests that digitisation is the liberation photography has been seeking:

> This recognition that photographs are constructions and not reflections of reality is the basis for the medium’s presence with the art world. It defines photography as both personally and culturally expressive. It tells us that photography, like painting, reflects the artistic climate of the day – that it has had its abstract moments as well as periods of social documentary descriptiveness (Grundberg 2010, p.218).

Of course, this was impossible for Delaroche to have imagined, but digital imaging has reclaimed some ground, for the two traditions now meet somewhere in the middle. When Manovich thinks about the effects of digital imaging on the photographic image he considers it becoming ‘no longer

---

\(^{17}\) Delaroche was an early supporter of photography and the first established artist to publicly support the daguerreotype as an important aid to artists (Batchen 1999, p.9).

\(^{18}\) Nelson made this contribution to the discussion of the death of painting: ‘When we say that painting is dead, it doesn’t mean that artists can no longer find something interesting and evocative to paint. Rather, painting is dead because the most interesting things about painting are being expressed in other media’ (Nelson 2013, para. 5).

\(^{19}\) Manovich has argued that the history of technical innovation in new media has the effect of limiting possibilities for professional artists by passing their creative functions to machines. He cites the invention of photography as denying painting its documentary purpose (Manovich 2013, p.237). This might be true in a narrow sense for some artists, however, it is a greater problem for craftsmen. The technical innovation in new media expands possibilities for most artists.
A recent material expression of the dialogue between painting and photography is Ellsworth Kelly’s *Ground Zero* (2003). Embedding the political in his material thinking, Kelly has placed a green square on the site of Ground Zero as an architectural marquette, suggesting the site should remain unbuilt.

Let us consider the work of Richter, who was ‘one of the first painters to take up a close dialogue with photography’ (Hawker 2009, p.263). Richter’s *Atlas* (1962–present) works and the hundreds of painted photographs he has made from 1989 pre-empt two key directions in contemporary photography (Heinzelmann 2008, p.7). *Atlas*, with its grid of snapshots, advertisements, family pictures and magazine illustrations – ‘The only thing excluded from Richter’s collection is, he says, art (Hawker 2009, p.272)’ – anticipates the use of vernacular images in art photography as seen in Martin Parr’s *Autoportrait*20 (2000) series and Erik Kessels’ (b. 1966, Netherlands) *Useful Photography*21 project.

The 10 x 15 cm commercial photographic prints that Richter has hand painted over (Heinzelmann 2008) seem to advocate for the invention of digital imaging with their fusion of photography’s referential nature and painting’s expressive qualities. However, Richter was not specifically interested in fusing these media; rather, he considered himself to be making one with the other:

I’m not trying to imitate a photograph; I’m trying to make one. And if I disregard the assumption that a photograph is a piece of paper exposed to light, then I am practising photography by other means (Richter 1995, p.73).

---

20 Parr commissioned portraits of himself from commercial portrait studios and photographers at tourist venues while travelling abroad.

Richter’s recent series *Strip* (2012) appears to fuse painting, photography and computer algorithms. To create the images featured in his 2012 exhibition at Marion Goodman Gallery (New York), Richter worked with a computer programmer to create an algorithm for each image, ‘a complex system of rules for a new game of chance’ (Richter 2012), which are then output as digital photographic prints. French philosopher Michel Foucault (1926–1984) wrote on Richter’s work, making an observation that is relevant here and a particularly good way to think about works made in-between media; he writes that such an image is not ‘a photograph made up to look like a painting, but an image caught in its trajectory from photograph to painting’ (Foucault 1999, p.91).

Digital photography can be thought of as the beginning of photography’s liberation from the referent towards a new form of image. The work of Richter and Gursky demonstrates these possibilities and suggests it may be possible for photography to move past its attachment to subject matter and foreground its formal qualities and its creative process.

**The referent: Or the question of any horse in particular**

*Century Southern Tower Hotel* most clearly underlines the difference between analogue photography and digital imaging (and painting) when considering the status of the referent. William J. Mitchell in his book *The Reconfigured Eye* eloquently relates a story to illustrate this break from old media when he considers various methods for making a picture of a horse. Analogue photography needs a specific horse in front of the lens to record on film the light being reflected from the subject; we are making an image – although it may be subjective – of a particular horse:

> The existence of horses means that you can take a photograph of some particular horse, but it does not prevent a horse painting from showing no horse in particular. You cannot, however, take a photograph of no horse in particular ... A painter does
not have to accept a causal relation between a depiction and the object to which it refers (Mitchell 1994, p.27).

Digital photography allows something of a fusion of this idea. The image is captured indexically – a particular horse – but then altered, combined or re-imagined in post-production to become an abstraction of a horse, or no horse in particular.

If we consider photographs as constructions, and digital images as potentially absolute constructions, it is possible to subvert these assumptions by manipulating the relationship between referent and indexical trace within the images we make.

Documents vs pictures

In essence, this is a discussion about documents versus pictures, an oscillating tension through the history of photography (Edwards 2006, pp.12–66). Photographers who made pictures from the world were seen as making documents with a camera which were valuable for the information about the world they contained, while photographers who made staged pictures were creating aesthetic experiences from their imaginations.

The transition from the analogue matrix works of Pattern Recognition to the digital images of Various Positions embedded this dynamic, which has been visible through the history of photography. I saw the opportunity of digital imaging as making it possible to fuse the best elements of both these traditions, rather than choosing between them.

The logic and process through which this transition evolved in my practice reveal a pattern in the way I have approached these problems. I have often started with a conceptual frustration – in

---

22 I consider staged pictures to be controlled re-creations by the photographer using actors while controlling lighting and mise-en-scène.
this case, the problems of subject matter and serialised images – and then, through experimenting with different ideas and testing them in the world, discovered a practical solution to a conceptual or formal problem. So these moments of understanding come through material thinking, not through abstract thought.

It is possible to think of this as part of the great project of photography, which is the organising of space and time, that the serial process was solving the same problem differently to the layered narratives of digital imaging. This is a conceptual problem that motivates process, and the new conceptual strategy, which is really the old conceptual strategy reframed, coming out of practice.

The tyranny of narrative

When Gerry Badger asked Paul Graham if he had considered making feature films given that he worked with filmic sequences of still images, especially his multi-volume project *A Shimmer of Possibility* (2007), Graham replied, ‘No, I want to escape the “tyranny of narrative”’ (Badger 2012).

This stage of my research was concerned with my relationship to narrative and the interaction between subject matter and form. Photography has a limited capacity for narrative compared to film or literature – rather than see that as a limitation, I considered finding a way of investing narrative in a single image, a key area of research at this stage of the project, employing digital imaging strategies to make a single picture as beautiful, mysterious and complicated as possible.

I considered photography’s narrative capacity to be an advantage; it is very freeing to not have to think about plot, dialogue, what happens next – when you are confined to one image you invest it with everything you have.
Prior to this research project, most of my work was heavily concerned with the politics of representation.24 This concern was partly ethical but mainly aesthetic; I was interested in how power relationships affected the images and how relationships between artist and subject always have aesthetic consequences. Every time this dynamic is socially or politically altered, it affects the way the artist responds to the subject and how the subject (or scene/situation) presents for the camera.

The pursuit of subject matter is problematic. It runs the risk of literally being a dead end, a conclusion that comes before the investigation into form can begin. Wall talks of this being a condition of photography’s ‘instinctive commitment to subject matter, as if the subject matter is what is important’ (Campany 2011, p.108). He cites Walker Evans as an example of a photographer primarily concerned with subject matter due to his role in responding to a specific situation, that of the plight of farmers in the American mid-west for the Farm Securities Administration photography project.

Szarkowski presents an opposing view in the introduction to William Eggelston’s Guide, where he considers the pursuit of subject as only particularly dangerous for photography given the indexical linking of form and content: ‘In this particular art, form and content are defined simultaneously. Even more than the traditional arts, the two are inexplicably tangled. Indeed, they are probably the same thing’ (Eggelston 1976, para. 36).

Photography is more vulnerable to its choice of subject matter than old media and risks being subjugated by it. In terms of this research, I have been careful to not make the pictures about the subject, but to find subjects that lend themselves to the type of picture I want to make – this could

---

24 I see the politics of representation as a series of relationships between the artist and their subject, including social, political, economic power imbalances that affect not only the ethical outcomes of the image but also the aesthetic outcomes.
be thought of as the subject that matters. *Century Southern Tower Hotel* is an example of this and lends itself to a cinematic treatment that creates a mood and reference to fictional narrative.

Photographers have often taken binary positions in relation to the issues of form and content, either to insist everything is about subject matter (Evans) or to declare that subject matter is merely the excuse for the pictures (Eggelston). Another position is that this is not a problem to be solved but rather the nature of the medium – even an opportunity. Perhaps it is unavoidable that organising space and time leads to some kind of narrative. Narrative is not necessarily a bad thing; however, the “tyranny” of narrative is an issue, with its tendency to obscure all other elements of a work, particularly formal concerns and ideas about process. I identified this as an area of concern in the research and monitored the works produced in the remainder of the project to ensure that the requirements of narrativity are balanced with the formal and aesthetic needs of an image.

**Everything fails**

As I worked with this process more, I realised that something was missing. Even with the best 5 x 4 cameras combined with careful digital post-production, high quality scanning and printing, something seemed to be missing from the images. I was happy with them aesthetically and certainly felt they solved many of the problems of my earlier serial and matrix works, but they were failing on a structural level, rather than a question of finding an alternative approach to still photography. It was a limitation of the medium. Technically and aesthetically, I felt this was as far as I could take still photography. When I was thinking about the way to move forward, I was reminded of a quote by Frederick Sommer: ‘Despite the hopelessness of perfection, I still buy the best equipment … Because when the best equipment fails, it fails a little bit less’ (Sommer 1979, p.62).
For me, it appeared that the idea of isolating photography as a still image was the area of my practice that had failed and that returning to a linear sequence of “still” moving images might provide a fruitful avenue of exploration. The next stage in my research would involve moving image work. Although digital imaging added a range of possibilities to still analogue images, all the essential problems remained: serial vs single images, sequencing, scale and of course the question of subject matter. The logical progression from layering a narrative through an image is to layer it across time.
Representation and Reproduction: a love story

Chapter Five: Moving Image

Project Three: *Green Shoots* (2009)
Sculpting in time

What is the essence of the director’s work? We could define it as sculpting in time (Tarkovsky 1986, p.63).

Moving images can be thought of as photography plus time.¹ The Russian filmmaker and writer Andrey Tarkovsky (1932–1986) wrote that the essential nature of cinema was time and filmmakers are ‘sculpting from a lump of time’ (Tarkovsky 1986, p.63), as a block of marble is the raw material of traditional sculpture.²

This chapter outlines the research trajectory that developed from transitioning through still images into durational moving-image works. It will trace the path my research took after passing through various configurations of still-image to time-based narratives. After experiments with single works through a matrix of images in Pattern Recognition and digitally layering through images in Various Positions, there was momentum in my research for stretching a series of images across time, rather than space.

Moving image was a logical progression for my research. As early as 1936, Walter Benjamin observed the close relationship between photography and film when he wrote, ‘Just as lithography virtually implied the illustrated newspaper, so did photography foreshadow the sound film’ (Benjamin 1968, p.219).

There is a well documented tradition of photographers working in both mediums or starting with still photography then transitioning into moving image. Henri Cartier-Bresson, who made six film

---

¹ Time is a component of still photography through exposure. In relation to cinema, I am referring to the manipulation of time through montage and projection, rather than duration through exposure.

² Tarkovsky’s book Sculpting In Time is an excellent example of writing by an artist about their medium. Tarkovsky considers in depth the problems and opportunities of cinema, and in the process forecasting the direction of new media, especially moving image narrative works.
documentaries including *Le Retour* (1945), describing the return to Paris of former prisoners of war,³ and Chris Marker (1921–2012, France), whose early interest in photography and friendship with expatriate American photographer William Klein⁴ (Lupton 2005, p.42) grew into a long career making photographic essay films.⁵ Alongside the essay films, often centring on place,⁶ Marker made an influential fiction film composed entirely of black-and-white still photographs, *La Jetée* (1962). Somewhere in between is Robert Frank, whose work began with still photography, then films ‘so I would not be stuck with that one image’ (Greenough & Brookman 1994, p.117) including *Cocksucker Blues* (1972), featuring the Rolling Stones’ 1972 North American tour. Frank returned to still photography later in his career, making layered and cinematic experimental works. Sekula fused his interest in theoretical writing and complex book projects with his practice of documentary photography and filmmaking in *The Forgotten Space* (2012), a film concerning international trade via container shipping.

Victor Burgin has observed that ‘Photography, sharing the static image with painting, the camera with film, tends to be placed “between” these two mediums’ (Burgin 1982, p.142). While I had always leaned towards cinema, photography’s “in-between-ness” had always seemed an opportunity, rather than a weakness.

One area in which cinema’s concept of montage proved helpful was my interest in photography books. Since 1998 I have created a number of photographic book projects.⁷ The process of making a photo-book is similar to that of a film: planning the idea, capturing the images, editing the

³ Cartier-Bresson was himself a prisoner of war: captured in June 1940, he was successful in escaping on his third attempt in February 1943 from work camp Stalag VC near Stuttgart (Assouline 2005, pp.118–123).

⁴ Klein along with his wife has a cameo appearances in *La Jetée* among the ‘men of the future’ (Lupton 2005, p.41).


⁶ Marker had his character in *Sans Soleil* (1983) say, ‘I’ve been round the world several times and now only banality still interests me’ (Marker 1983).

sequence, producing and distributing the finished work. Photography itself is concerned with the creation of images, but books and cinema are about their manipulation. French cultural theorist Paul Virilio (b. 1932, France) writes:

Cinema is not the production of images but their manipulation: pans and tracking shots, zooming in and out, editing, etc. Cinema is the manipulation of dimensions, producing depth through movement (Virilio 1989, p.16).

Then sound became a concern. In response to the layering of previous images (Century Southern Tower Hotel), with this new work I was interested in layering sound across a visual experience, as opposed to layering images digitally through a single work. The ability to generate an emotional response through a non-visual medium opened a range of possibilities that I had not previously considered.

**Green Shoots (2009)**

The work I created during this stage of the research was *Green Shoots*, a single-channel video filmed in the aftermath of the 2009 Black Saturday bushfires in south-eastern Australia.

*Green Shoots* was filmed in one continuous take as the camera follows a mountain road from the devastated wilderness of the fire zone down to a rural town in the valley below. As the journey progresses, new life gradually emerges as green shoots on the blackened trees. As we descend the mountain, people, cars and houses start to appear; nature and culture return to the landscape together.

The footage is slowed down by 50% in order to smooth out the fast corners and create a gentle rocking motion of the camera as the motorbike leans around the bends. I consider riding a
motorbike to achieve this camera movement as a physical performance, a type of “dance” behind the camera, while contributing to the emotional impact of the video.

The technical execution of the camera movement focused on creating the feeling of floating or flying down the mountain, to add to the abstraction of the de-saturated colour and altered frame-rate. Virilio has compared the experience of watching movies with flying. While pioneer directors were coming to terms with this unique aspect of cinema, he argues, aviation in the early 20th century became less about breaking speed records and more about a new way of seeing (Virilio 1989, pp.11–30).

Here repetition returns. The constant leaning of the motorbike, combined with the white ostinato line of the divided road, creates a hypnotic state in the viewer: repetition of content and movement. The green of the recovering trees and white of the roadside posts represent a repetition of colour. Added to this, the soundtrack is a computer-generated sine wave whose oscillations are pegged to the roadside posts: sonic repetition.

Colour in the video was digitally graded in post-production to create a near-monotone image with green elements. Saturation and hue were decreased in the background colours, whereas the saturation of the greens was increased as the camera descended the mountain. In this way, both the number of green objects in the image and their greenness increased through the work. This strategy seeks to increase the emotional response in the viewer to the recovery of the forest and to increase the visual contrast between the landscape at the start of the video and the end.

It was important that Green Shoots was an optimistic work. I wanted to make something that focused on the recovery from a particular bushfire, while the title is taken from the economics term used to describe the first signs of recovery from a financial crisis. The work was made at the height of the 2009 financial crisis and alludes to the broader, global cycles of crisis (both natural
and man-made) that constantly challenge us.

This work has a direct line from my earlier still works *Pattern Recognition* (2008) and *Various Positions* (2009), in that the camera captures an indexical image with a political, social and aesthetic intent. These captured images are then manipulated digitally to alter colour, contrast and emotional mood, before being output sequentially. There is linear narrativity in this work which mirrors the structure of the earlier serial photography, combined with digital manipulation of the image that mirrors a number of the works in *Various Positions*.

Time is the most radical departure from earlier works. Earlier works allowed the viewer to determine the pace (and relationship) between images, whereas video determines the temporal relationship between audience and image.

**Sound**

Sound was the most difficult element of this work to resolve. In this case I collaborated with Melbourne-based sound artist Byron Scullin (b. 1974, Australia). We experimented with several sound strategies before finding one that worked with the images.

During the shoot, I recorded sync sound from the motorbike engine and ambient wind noise. This located the motorbike too centrally in the work and proved distracting from the hypnotic effect I was aiming to create with slow-motion footage and the motorbike leaning.

I also considered making field recordings of the natural environment. While making indexical field recordings would appear a logical extension of my current practice – literally photographing the sound – early experiments with this process proved to be too literal and grounded the conceptual basis of the work in the natural environment, rather than the abstraction of recovery from disaster.
and the allegory with disasters of our own making.

Experiments with sampled soundtracks produced similar conceptual concerns. The soundtrack we settled on was a completely computer-generated sine wave that was modulated to correspond to elements in the image. The sine wave rhythmically peaks as the camera passes the white wooden posts on the side of the road and then peaks at a higher level further down the mountain as the camera passes cars and people. This ties the image and sound together while remaining sympathetic to the contemplative tone of the work.

**Robert Frank: Still to moving and back again**

How does an artist continue creating work when their current ideas and methods have run their course and can make no further contribution unless they rotate new subject matter through similar works?

The trajectory of Frank’s career provides a template for understanding this dynamic. There is a symmetry in Frank’s journey from documentary still images to photographically seductive moving pictures and back to layered still works with a cinematic sensibility. I found a similar trajectory in my research to Frank’s practice: we both made early still photographs, then explored a photographic language in moving images and both explored other possibilities when the narrative dependency of film became too explicit. Frank, with his move to montages of scratched and “degraded” images, and my research moved into other reproductive media. While the media changed, I would argue that we both continued to keep a photographic sensibility at the core of our practices and that our visual languages were recognisable across mediums.

Frank’s work in still photography was formally and politically disruptive to the majority of work produced at that time, particularly the “objective” style documentary represented by W.
Eugene Smith or the photographers of the Magnum Photos agency. Frank’s work was ‘unlike a typical photographic essay of the period, with a strict linear progression and a clear moral lesson’ (Greenough & Brookman 1994, p.108) and is best expressed in the publication of the influential book, *The Americans* (1958). Most photography exhibited in the 1950s tended to follow Edward Weston’s (1886–1958, US) and Alfred Stieglitz’s (1864–1946, US) clean modernist lines while being sympathetic to national ideals of optimism and affluence (Papageorge 1981, p.12). Frank, who observed the American dream from a foreigner’s perspective, made works like *Elevator, Miami Beach* (1958) and *Hoover Dam, Nevada* (1956), which were looser formally and questioned the optimism of 1950s America. The book was received almost with anger by critics, who saw its critique of the American dream by an immigrant as almost ungrateful, words used by reviewers to describe the work included ‘warped’, ‘sick’, ‘neurotic’ and ‘joyless’ (Papageorge 1981, p.2).

By the time *The Americans* was published, Frank had transitioned into primarily making motion pictures, completing *Pull My Daisy* in 1959, a short film written by Jack Kerouac (1922–1969, US) (Frank 2005, p.86). The transition seems to have been motivated by the narrative limitations of the single image, even when collected in sequence; as photographer and teacher Tod Papageorge has written, ‘The crucial, disconcerting fact about Frank’s career is that he rejected photography’ (Papageorge 1981, p.6).

The most influential of his films was his 1972 documentary of the Rolling Stones on tour, *Cocksucker Blues* (1972). The film is notorious for its graphic depiction of band-on-tour debauchery, still unusual at the time, and, more importantly, for the poetic quality of its black-and-white photography (filmed by Frank himself with Danny Seymour (1945–1972, US) and its lack of regard for documentary conventions, especially the filmmaker as impartial observer. The film contains several instances of Frank clearly encouraging the band’s bad behaviour; among

---

8 While this image was not published in the original 1959 book, it has since been exhibited as part of *The Americans* project.
other scenes of Frank directing his subjects off camera, he is heard encouraging Keith Richards to throw a television set from a hotel balcony. Frank’s films expressed the same visual language and concern for formal experimentation as his still images.

In 1971 he moved to Nova Scotia and returned to still photography, publishing *Lines Of My Hand* in 1972. Then personal tragedy struck: in 1972 his close friend Seymour disappeared mysteriously in a fishing boat off the coast of Cartagena, Columbia, in 1974 his twenty-year-old daughter Andrea was killed in a plane crash, and around that time his son Pablo was diagnosed with schizophrenia (Greenough & Brookman 1994, p117). His images from this period deal with his losses, and are layered, scratched and multiple image narratives such as *Andrea, Mabou, 1977 (with ship)* (1977). All art is autobiographical and Frank’s work became deeply personal rather than political, a form of autobiography; as he states: ‘A lot of my work deals with myself … It’s very hard to get away from myself. It seems, almost, that’s all I have’ (MacNeil & Janis 1977, p.67).

For Frank, photography seemed to provide a more visceral emotional connection. For some reason he felt that he could not express his grief as clearly in film as with still photography, although the still photographs from this period are quite degraded and altered.

**Still moving images**

Video art represented the introduction of duration into the gallery (McQuire 2013). Previously the viewer moved through a gallery space at their own space, lingering on the works that interested them. Video art changed this dynamic by dictating the duration of a work; a Bergsonian’s duration that was non linear and mobile, and could speed up or slow down.\(^9\) For many viewers, this was

---

\(^9\) Henri Bergson’s conception of duration is interesting here as expressed in this vignette ‘When sitting on the bank of a river, the flowing of the water, or the gliding of a bird, or the uninterrupted murmur of deep life, are for us three different things or a single one, at will’ (Deleuze 1997, p.80).

\(^{10}\) Thanks to Prof. David Thomas for introducing me to the ideas of Bergson in this context.
Nauman’s early video works provide good examples; *Stamping in the Studio* (1968) and *Bouncing in the Corner No. 1* (1968) are both documentations of the artist performing banal actions in his studio, as direct expressions of his practice’s rationale: ‘If I was an artist and I was in the studio, then whatever I was doing in the studio must be art. At this point art became more of an activity and less of a product’ (Morgan 2012, p.112).

I consider my video works to be still moving images. Rather than images at the service of a narrative, these works are sequences of images that should be as formally considered as a single work on the wall. Sometimes artists excuse banal imagery in the service of narrative, or the gallery environment is confused with a cinema. I wanted my video works to be aesthetic rather than narrative experiences and to contain ‘no indifferent frames’ (Cousins 2012). By this phrase, I mean that I am aiming to avoid creating images that are compromised visually in order to convey narrative information. I consider the aesthetic and formal qualities of the image to be as important to the viewer’s emotional response as the drama unfolding in the narrative. This condition of still moving images has been well understood by 1999 Turner Prize–winning artist Steve McQueen (b. 1969, England) with his seductively photographic works including *Bear* (1993), *Drumroll* (1998) and his contribution to the 2009 Venice Biennale, *Giardini* (2009).

The gallery is not a cinema. There is a clear difference in how one experiences most moving images as opposed to how moving image artworks are experienced in the gallery. Classic narrative structure does not function well in the gallery; it is quite unlikely a viewer will enter the gallery at the beginning of a work and stay until the work ends. The reasons are a combination of the body moving through space (the gallery) and the viewer’s expectation of constant visual stimuli. Therefore, gallery visitors are most likely to see small sections of a video work across a broken timeline, often interspersed with other artworks, which leads to a fragmented viewer experience. To make works for these conditions, these biases need to be embedded in the work. Therefore, my video works are conceived as a series of sequenced still pictures that have meaning in small
sections, with each frame being visually resolved while also having cumulative meaning if the entire work is viewed.

**There is an app for that: Video art in the age of Youtube**

Artists working with moving images today are working in a time that includes a range of tools including mobile phones, cheap DSLR cameras, Apple iMovie and internet distribution platforms such as Youtube and Vimeo. These factors have significantly altered the way audiences engage with moving image in the gallery. It would be possible to make a similar observation in relation to still images with Flickr and Facebook.

It is possible to think of user-generated content as a contemporary version of folk art. As noted in the *Bulfinch Guide to Art History*, folk art is usually made by amateurs for social or decorative purposes without conceptual considerations (West 1996, p.440). Online user-generated work does not tell us much about art. The lower barrier to entry might uncover some talent that the current system of cultural production might overlook due to lack of opportunity, but it is likely to be a small percentage. The main function of user-generated work will be to tell us what the community thinks art should be and what it expects from art. User-generated work will mirror back at us the communal aspirations for this work.

The filters provided by the mobile application Instagram are a good way to understand this tendency. The filters represent “arty” treatments from analogue photography including soft focus, cross processing, plastic “Diana” camera lenses, black borders with the appearance of being created in the enlarger. This reflects what the culture expects from “art” photography and the perception of how to make photography look like art. This, in the most literal sense, is a form of digital Pictorialism.
Not only was the 1960s a crucial period for photography’s acceptance into contemporary art, it was also a key period for moving image (Popper 1993, p.77). Art critic Benjamin Buchloh (b. 1941, Germany) writes about video art in the mid-1960s as being ‘particularly representative of the shifts to which art in general has been subjected since the end of Minimal and Conceptual art’. Its engagement with other creative practices including advertising, television and film became ‘A post-avant-garde practice that is reflective of the critical parity in images themselves’ (Buchloh 1985, p.219).

The experimental films that provide the best insight into video art as “still moving images” were made by Russian artist Alexander Rodchenko (1891–1956) and filmmakers Dziga Vertov (1896–1954) and Sergei Eisenstein, who all came from a background in still photography (Manovich 2013, para. 28). They appeared to grasp the possibilities of these new technologies particularly quickly and intuitively, especially in terms of the editing and sequencing of images. The Russian avant-garde, especially after it was cut off from Europe by war and revolution, became a remarkably fertile new media laboratory. The Constructivists’ use of collage, image combination and manipulation hinted at the future of image manipulation and suggests an early precursor to digital image editing. Digital image manipulation using tools such as Adobe Photoshop can be thought of as essentially photo montage made with the computer (Badger 2010, p.239).

Antony McCall’s (b. 1940, England) solid light film installation Line Describing a Cone (1973) was one of the works most influential in understanding durational work as an experience in the gallery (Graf & Scheunemann 2007, p.357). McCall’s installation is particularly important as it demonstrates the influence of two key movements in the development of contemporary new media; electronics/technology and cinema. As McCall describes the work:
Line Describing a Cone is what I term a solid light film. It is dealing with the projected light-beam itself, rather than treating the light-beam as a mere carrier of coded information, which is decoded when it strikes a flat surface (the screen). The film exists only in the present: the moment of projection. It refers to nothing beyond this real time (Harvard 2012).

Line Describing a Cone was made in the context of the famed London Filmmakers’ Co-operative during its heyday in the 1970s and grew out of experiments with performance art, documenting actions, and experiments with fireworks, strategies that are now established elements in the language of new media. Line Describing a Cone was a beam of projected light reflecting from smoke particles in the room to create the effect of a three-dimensional cone using the sculptural qualities of light (Graf & Scheunemann 2007, p.357). It was a key moment of fusion that I am particularly interested in as it relates to my practice, the combining of cinema, performance, electronics and sculpture.

McCall’s A Line Describing a Cone has been influential in contemporary art. A notable recent example is New York–based artist William Lamson’s (b. 1977, US) sculpture and video installation at the Boiler Room (Brooklyn), Line Describing the Sun (2010), which acknowledges McCall’s influence. The work features the video documentation of a wooden cart with a lens focusing the Sun’s light being wheeled across the Mojave desert by Lamson, melting the sand underneath into glass as it passes. This results in a line of glass through the desert tracing the path of the Sun.

An early artist to understand the possibilities of a bodily response to video art was Bill Viola (b. 1951, US), with his large-scale video installations presenting slow-moving (usually non-narrative) imagery and commissioned soundtracks. A fine example is Five Angels for the Millenium (2001) shown at the National Gallery of Australia in July 2005, which was described by the artist as ‘an enveloping emotional experience like that of a church’ (Ascroft 2005).
1966, Netherlands) photographic installation *24 Hours in Photography* provides an interesting alternative to the sequencing of still images to create a moving narrative. Originally installed at FOAM in Amsterdam as part of their *What’s Next?* (2011) exhibition, the work consists of nearly one million small prints of all the images uploaded to photo-sharing site Flickr during a 24-hour period. Literally mountains of pictures are distributed throughout the gallery in piles, with narrow paths for visitors to navigate through. Through the use of “physical” time, Kessels is able to explore a narrative of a cultural phenomenon, rather than a story.

In *Green Shoots*, I was trying to embed in every decision involved in making and presenting the work that this was a gallery experience, not an online experience. I wanted to provide a phenomenological experience in the gallery, an artwork the viewer experiences with their whole body. There were several strategies employed to achieve this. Firstly, the video is projected in a large format, from floor to ceiling on the entire gallery wall. This enables the viewer to have an equal to or greater than 1:1 scale relationship with the images and to feel a bodily relationship with the images. The slowed down footage combined with the white centre “ostinato” line and the sound track synchronised to the white fence posts creates an experience that the viewer “feels” as a direct result of being physically present in the gallery space; a significant part of the meaning is communicated through the body.

**Narrative and the way forward**

When I evaluated the outcomes of the research for this chapter, it became clear that all photography, video and cinema works are functions of their narrative potential, that essentially cameras are narrative machines. The condition of putting something in front of a lens and then editing it – choosing a still photograph, layering a digital image or selecting moving-image takes – by default leads to a narrative structuring of the formal elements in a picture.
As I worked through the Green Shoots project and my early stages of working with moving images, I began to understand the essential difference between moving images and still photography. Still photography, at its core, is concerned with the production of images, their creation from the chaos of the world and bringing some order to these two-dimensional abstractions, while cinema is about the choreography of these images (Virilio 1989). For my practice, this meant both creating and choreographing moving images that mediate the aesthetic experience of photography with the narrative conditions of video.

A photograph is made according to its own character and the way it enters the culture is imagined second. Moving images tend to be the opposite: the artist knows how a given sequence will fit into the overall narrative structure and usually which sequences of images will precede and follow it. They might then set out to create a sequence that serves this purpose, the images already having a reason to exist.

This is partly an economic legacy. Until recently, it was significantly more expensive to produce moving images than their still images. This meant there was less risk taken with production; a moving image sequence needed a reason to exist and the reason was often the context of the other images that surrounded it, whereas a photograph could be a proposition.

This condition is not necessarily a problem, it is simply a bias of each medium. When I reflect on Green Shoots, on some level I realise I had made a moving still picture that drew more heavily on the conventions of landscape photography than cinema. In order to move forward with my research, I decided to add a third dimension, attempting to recapture the single purpose of the photograph and embed its power of representation and reproduction in a single object. I wanted to explore a process that would abstract, and then return, an object or scene to its original three dimensions. In order to continue my exploration of narrative, the negative and the set of instructions in art, I decided to investigate 3D printing.
Representation and Reproduction: a love story

Chapter Six: Sculpture

Project Four: Scale Model for Still Life (2009) and The Generative Freeway Project (2013)
Restating my assumptions

Once the dimension of time had been added to my research with moving-image work, many of the issues I faced with still-image formats – serial, matrix and digital – were resolved via the addition of a durational element. However, there still remained the question of how remapping the world into two dimensions can alter meaning and abstract the object. While this transformation is often the greatest strength of lens-based media, there are instances where this strategy becomes problematic. In some cases, reducing the referent to two dimensions – creating an abstraction of an abstraction – is one too many transformations and there are a range of ideas and subjects where returning the referent back to three dimensions adds both conceptual rigour and aesthetic depth to an artwork. The artwork discussed in this chapter, *Scale Model for Still Life* (2009), is an example of this category of subject.

After I had been evaluating moving image video ideas for some time, it became clear that the research would benefit from replacing the dimension of time with the third dimension in space. This process would allow the dimensional abstraction to come full circle. Instead of three-dimensional scenes being transformed to two dimensions plus time, a sculptural approach would allow me to return these objects to their original three dimensions, with the only abstraction being the process of reproduction and representation.

I started making three-dimensional works that were durational, either by incorporating video into an installation or by developing kinetic sculptures. The key idea linking these works was that they were all derived from various technologies of mechanical reproduction such as CNC (computer numerical control), water-jet cutting, concrete casting and 3D printing. These technologies all share the condition that they are a set of digital instructions executed by a machine to create an object or image.
The technological sublime

Although perhaps not on the same scale, digital fabrication technologies such as 3D printing may disrupt existing cultural and commercial interests of the early 21st century in a similar manner as photography did in the mid-19th century. While digital fabrication reverses the dynamic of the 19th century – from mass-produced identical items to customised small-volume products\(^1\) – the cultural and political effects may be the same as the means of production are democratised. Some segments of the manufacturing ecosystem now face a similar fate to 19th-century portrait painters as segments of the population begin to shift from mass production to custom manufacturing. New York–based hackerspace NYC Resistor and the 3D printing company Makerbot Industries that developed through its networks\(^2\) are at the epicentre of this movement and have been called the Apple Inc. of the emerging 3D printing industry (Lipson & Kurman 2013).

A technological sublime is being generated by networked communities creating open-source projects and new technologies (De Mul 2013). The technological sublime implies a similar awe and wonder as encounters with the Romantic visual sublime, while also carrying a sense of terror and fear; by definition it is ‘something one is not accustomed to, something extraordinary’ (Nye 1996, p.23). The pattern of technological innovation includes a period of fetishisation followed by a period of fear. We imagine that a technology will posses ‘the ability to solve social problems, to keep the economy vibrant, or to provide us with a superior life’ and will ‘somehow provide solutions to whatever problems we are encountering’ (Harvey 2003, p.3). There is something quite similar in our response to the wonder of nature as recognised by the Romantic painters and the promise of a new technology.

\(^1\) Anderson has observed the appeal of custom manufacturing is ‘not to make what you can buy in Wal-Mart, but to make what you can’t buy at Wal-Mart’ (2012, p.77)

\(^2\) Makerbot Industries was founded in January 2009 by Bre Pettis (b. 1972, US), Adam Mayer (1975, US) and Zach Smith (b. 1983, US). The NYC Resistor project to build an open source 3D printer became Makerbot Industries when the core group left their full time jobs to focus on the enterprise (Pettis 2009, para. 1). The company was sold to Israeli company Stratasys in June 2013 for US$403m in stock and US$201m in cash (Swisher 2013).
Photography and 3D printing are both processes that at first appear to be limited to this small elite – requiring complex technical skills to achieve their full potential, while being conceptually and aesthetically difficult to create interesting works that do not fall back on existing templates. However, these mediums of mechanical reproduction provide the opportunity to make artworks that are extremely poetic and aesthetically seductive.

The research I conducted at this stage of the project was designed to test the poetic possibilities of 3D printing. Works like these, where the craft in the studio consists of creating elegant sets of instructions for the machines to follow, have the potential to form a new visual language that transcends the conventions of analogue media, where the artist’s hand crafts the object. There is still a process of craft. Instead of the artist’s hand directly making the object, the artist is crafting a set of instructions which embed their conceptual concerns and aesthetic choices.

This way of working aims to mix the poetics of technology with the poetics of politics. I endeavour to make work with a seductive visual language that makes visible the underlying political and social structures that reflect the culture from which it was made – form and content combine through process and aesthetics. The work I am making is not art that references technology and politics as subject matter – but art that mirrors its systems, using the logic and patterns of the process to reflect these systems and biases. Burgin arrives at a similar position regarding the poetics of politics with his work at the intersections ‘of subjective desire and sociopolitical organisation’ (Burgin 2011) and has written of art that engages with its social conditions: ‘If we are to learn any lesson from the past fifty years of art, it is surely that an art unattached to the social world is free to go anywhere, but it has nowhere to go’ (Burgin 2009, p.41).

Computer code is one of the primary systems underpinning contemporary life. Its impact is not limited only to media and art, but felt in everyday tasks from banking to transport. However,
very few people understand the workings of code: the sets of machine-readable instructions that dominate our lives. Rushkoff has called code ‘the control panel of civilisation’ and even goes so far as to say ‘in the emerging and highly programmed landscape ahead, you either create the software, or you will be the software: Program, or be programmed’ (Rushkoff 2010, p.13).

As noted by cultural theorist Esther Milne (b. 1964, Australia) speaking at Swinburne University’s Code conference, there are many similarities between writing code and writing poetry: ‘Code is very similar to the game of poetry, code works within strict parameters, structures, rules and syntaxes’ (Milne 2012, para. 6).

These sublime possibilities of code and technology represent the search for new narrative languages during this phase of the research project via two 3D printed projects, the first a generative sculptural installation and the second a three-dimensional “photograph”.

**The Generative Freeway Project (2013)**

*The Generative Freeway Project* is a self-generating sculptural installation that populates itself over the exhibition period by way of four prototype 3D printers. It is part kinetic sculpture, part robot, part performance and, finally, a durational installation.

*The Generative Freeway Project* moves from a near-empty gallery to the completed freeway sculpture over the exhibition period. The work was commissioned for the 19th International Symposium on Electronic Art (ISEA 2013) and presented at Tin Sheds Gallery, Sydney in June 2013.

---

3 CODE - A media, games & art conference was held 21–23 November 2012 at Swinburne University of Technology, Melbourne. The conference focused attention on the idea of ‘code as the invisible force at the heart of contemporary digital media’ (Milne 2012, para 1).
A work of kinetic sculpture, the printer uses a thermoplastic filament, polylactic acid (PLA), to continuously “build” a freeway system: the filament melts through the tool-head while the extruder and build platform move underneath, “drawing” the object. A 22 cm freeway sculpture section was completed approximately every hour of the exhibition and gallery visitors were invited to take these from the printers’ build platforms and arrange them on the gallery floor to form the freeway system. This continued for the duration of the exhibition until the freeway system covered the gallery floor. Therefore, the installation is generated twice; first by the 3D printers and then again by the gallery visitors placing the pieces on the floor to build the work.

*The Generative Freeway Project* is situated within the traditions of kinetic sculpture and durational installation. The work also has a close relationship to cinema through its linear time-based creation of narrative, and to performance in its direction/leading of participants in physical movement through time and space. By employing mechanical reproduction through 3D printing from a machine-readable set of instructions, the work and its three-dimensionality are logical and “photograph” progressions in my research.

*Scale Model for Still Life (2009)*

*Scale Model for Still Life* is a stereolithographic 3D printed representation of Melbourne’s Southern Star Observation Wheel. I had followed the construction of “The Wheel” with great interest as its existence says so much about our cultural history and the way we, as Australians, see ourselves. The wheel was a direct appropriation of the London Eye but located in the Docklands district of Melbourne, a former industrial wasteland away from the established tourist areas. The very existence of the wheel spoke directly to the cultural cringe, and reminded us that the period of our history when we felt the need to mimic English culture has not been left behind.

---

4 Strictly there are two sets of instructions: the three-dimensional CAD model of the freeway section and the gcode file which translates this into sequential co-ordinates for the printer’s tool head to follow.
When the wheel was closed after only 40 days of operation on 30 January 2009, I started to think of the structure as Melbourne’s premier piece of public art: a monument to our city’s relationship with the rest of the world. *Scale Model For Still Life* (2009) was conceived as a maquette for this idea.

*Scale Model For Still Life* imagines a photographic “moment” and translates this into a three-dimensional CAD drawing (as opposed to an indexical two-dimensional photographic image) which is then printed using three-dimensional rapid prototyping technology to create a sculptural reference to the original moment. Photography was too “abstract” a medium to represent this idea as it was abstracting the referent twice. First the referent was taken out of its context in time and space, and secondly it reduced its three dimensions to two. By making an architectural representation of the object and returning it to three dimensions, thereby applying only one level of abstraction to the work, the experience of viewing it was quite uncanny. Strangely, this quality was not present in the two-dimensional photographic artefact.

Part of the reason I choose the Southern Star Observation Wheel as my subject for this section of the research was, not unlike the beauty and awe the Romantics were communicating in their 19th-century landscape painting, the wheel embeds our desire for transcendent experience with the fear of participating in a deeply unnatural physical experience (floating above a city), but importantly, with an aesthetic payoff. As this was one of my first 3D prints, I also had in mind an aesthetic reference to Talbot’s early images of lace (see Figure 135) with the steel geometry of the wheel itself.

---

5 The wheel reopened on 23 December 2013 after being closed for almost five years due to structural fractures (Webb 2013, para. 1).
Subject matter was one of the key problems I wanted this research to engage with. This is the same problem that has always faced artists, including the pioneers of photography and cinema. When we look at the lens drawn images made soon after these inventions, we can see the conventions present in those societies. The initial mode engaged by practitioners of a new technology is usually to mimic the forms of familiar media. Much early photography was a thinly veiled imitation of painting as expressed by the Pictorialist movement (Robinson 1869), while much early cinema reflected the conventions of the stage. In fact, the films were often ‘merely filmed theatre and literature’ (Manovich 2013, p.9).

The trajectory of 3D printing reveals the patterns of key disruptive technologies, like photography and personal computers. The possibilities become clear almost immediately: we can see how these technologies will improve our lives. For example, 19th-century European societies understood at the dawn of photography that this technology would allow us to remember our departed family members, while in the late 20th century we understood computers change the way we communicated with each other. American computer scientist Jaron Lanier explains the way new technologies spread: ‘Something of the end-state of (the technology) becomes visible very early on, and then there are decades of “gotchas”’ (Campbell 2012, para. 8). Perhaps these ‘gotchas’ are the technological equivalents of Hitchcock’s ‘MacGuffins’; distractions from the real story.

Similarly, in the early 21st century it is clear that 3D printing will allow us to customise and personalise manufacturing (see Figure 136). Former editor of Wired magazine and technology writer Chris Anderson (b. 1961, US) considers this ‘the long tail of things’ and writes sets of instructions codified as algorithms to be the key to this transformation of mass manufacturing to

---

6 The ‘long tail’ is a concept that suggests that digital manufacturing and distribution technologies will change the economics of scale by making it easier to sell few units of many things, rather than many units of few products. A good example of this is iTunes or Amazon (Anderson 2006, pp.93–4).
So everything is an algorithm now. And just as every Google search uses its algorithms to produce a different result for each person searching, so can algorithms customize products for their consumers (Anderson 2012, p.75).

For *Scale Model for Still Life*, 3D printing serves as a clear analogue to photography. The CAD file stands in for the negative (see Figure 137) and the three-dimensional plastic print for the two-dimensional paper print. Conceptual and process synergies are also present in terms of representation and reproduction, of making a representational image of the world with an indexical relationship to its referent in the world.

At this stage of the project, the importance of Talbot and his discovery of the negative returns. As discussed earlier in the Introduction, it is the negative, not the photograph, that underpins my research. The set of instructions crafted by the artist to transform the material into the artwork is the essential process connecting all these explorations.

It has become clear that photography is not an innate passion; rather it condenses my core concerns to become the best expression of my interests: representation and mechanical reproduction. But there are others. I recall my early involvement with electronics and computers. Computer code and electronic circuits can be seen as sets of instructions equivalent to a negative or CAD file. These early interests were clearly satisfying the same impulse as photography – mechanical reproduction and indexical reproduction – the impulse to organise time and space through a set of instructions.

In reviewing the patterns of my research and comparing the trajectory of my practice, an uncanny scale model (pun intended) of new media has been revealed. Just as our culture and media over the last 172 years has traversed a ‘complex journey from the mechanical to the optical to the...
virtual’ (Gioni & Carrion-Murayari 2012, p.371), my practice has followed a similar path, from the sequential still analogue images, to digital single images, to the moving images, to computer code, electronics and 3D printing. Combined with a similar conceptual component, early documentary work, to conceptual frameworks, to more personal formal styles and content, a pattern is emerging.

Through my research, it is possible to trace the development of new media in three main epochs. The 19th was the century of the photograph, cinema was ‘the key cultural form of the 20th century’ (Manovich 2001, p.9), while our 21st century is dominated by the image in all its forms: still, moving, material, digital, two-dimensional or three-dimensional. Ritchin explains this condition to be all photography:

If the last century was the century of the photograph, this century is that of the image – branding, surveillance, sousveillance, geopositioning, sexting, image wars, citizen journalism, happy slapping, selfies, photo-opportunity, medical imaging, augmented realities, video games, snapchat, and, within it all, photography (Ritchin 2013, p.160).

For Manovich, ‘the theory and history of cinema serve as the key conceptual lens though which I look at new media’ (Manovich 2001, p.9). As cinema is derived, both conceptually as an indexical representation and technically as mechanical reproduction through the lens, I would argue we should look a stage back in the development of new media and think of photography as its genesis.

To this end, the next stage in my research was an exploration of the fusion of these ideas and technologies. It took the form of an installation which tested the possibilities of how these ideas and processes might exist together and if the sum will be greater than their individual components.

---

7 Manovich agrees with this analysis of cinema’s indexical roots but argues this can be overcome through montage, thereby ‘presenting a viewer with objects that never existed in reality’ (Manovich 2001, p.149).
The research is beginning to suggest that in contrast to a linear, modernist progression, my work is coming full circle. The element of play is returning and I am drawn back to techniques I first explored in my teens and incorporating them into my current research, testing if the application of electronics and computer code to my practice is relevant and effective.
Representation and Reproduction: a love story

Chapter Seven: Convergence

Project Five: The Rise and Fall of Western Civilisation (2011)
In Chapter Seven, the final part of the research, I address the fusion of new media processes and strategies. All the previous projects in this PhD have led to this point, as throughout the project each medium has given way to the next. The final work blends all the elements employed in the research until now: single images, matrix images, digital images, moving images, 3D printing and digitally fabricated sculpture.

At each stage of the research I have evaluated the possibilities and limitations of a given media in the context of exploring narrative through representation and reproduction, and used these investigations to solve the issues of the next work. Via this methodology, each artwork embeds the knowledge from the previous work – indeed all my previous works – and applies these outcomes to solve the problems of the current work.

The pattern that unites all the media employed in this final project, *The Rise and Fall of Western Civilisation* (2011), is that they are all produced from a set of machine-readable instructions that are crafted with the express intention of being decoded by a machine to produce a human-readable multiple: negatives to produce analogue photographs, digital files to produce digital photographs, PDF files to produce metal road signs, video codec data to produce moving images, computer code\(^1\) to control the LED matrix screens, two-dimensional CAD data for the CNC routed plinth and water-jet cut steel gantries and laser cut acrylic road surface, three-dimensional CAD data for the concrete freeway sections\(^2\) and 3D printed gantry sections.

In addition to technical and material fusion, I would like to consider a philosophical fusion. At each stage of the research I have dealt with a range of art history and conceptual issues, and found the patterns and structures that provide meaning. At this point Henri Bergson’s (1859–1941,

---

1. The project mainly uses *Arduino* open source microprocessors with code written in an implementation of *Wiring* which is based on the *Processing* language, while some C++ libraries were used to control the LED matrix screens.

2. The concrete freeway sections were cast from CNC routed wooden masters with ABS plastic sheets vacuum formed over the shape to create the casting moulds.
France) conception of a composite is helpful in framing this process, to paraphrase: a composite is formed by a range of ideas or processes that are reconciled (not unified) by our experience of time (Thomas 2009, p.39).

With *The Rise and Fall of Western Civilisation* I want to consider the structures of political meaning. I refer to constructing literal and metaphorical models of the social and political structures that shape our relations with each other and the institutions we choose to be governed by.

**Death of the grand narratives**

The key question in my research from this understanding now becomes: Is it possible to make narratives about the death of the grand narratives? If this is possible, what would they look like? Which new visual languages would need to be developed to render these narratives and how would their aesthetics and structures differ from the visual languages we have used to describe our narratives of the past?

French philosopher Jean-François Lyotard (1924–1998, France) discusses the death of the grand narratives in *The Postmodern Condition: A Report on Knowledge* (1984), although he refers to these as ‘meta-narratives’ (Nola & Irzik 2006, p.357). Lyotard positions grand narratives as ‘implying a philosophy of history ... used to legitimate knowledge’ (Lyotard 1984, p.47) and that postmodern societies cause these to fail because we are too aware of our difference and individual identities, causing these structures to fragment (Browning 2000, p.152). If these large stories we have told ourselves are no longer convincing, the only option available might be to create our own smaller personal stories to replace them.

McLuhan sees new media as directly creating the conditions for the fragmentation that leads
these grand narratives to lose their ability to speak to us. In *The Medium is the Massage* (1967) McLuhan discusses the saturation of information that causes us to be constantly inundated with ‘the concerns of other men’ (p.16) as the result of digital media which has ‘overthrown the regime of “time” and “space”’ (p.16). This has led to the breakdown of the structures that once structured our societies and now renders them ineffective; he says: ‘The old civic, state, and national groupings have become unworkable … you can’t go home again’ (p.16).

**Our machines will not save us**

One of the promises Modernism implied was that our machines would save us. This core promise is essentially a way of replacing the old systems and orders of the past now that grand narratives have failed. Structures that aim to provide a complete account of our lives are likely to become fragmented and customised in contemporary conditions; examples of these grand narratives might include religion, justice system, the state, socialism. These narratives not only explained knowledge but functioned to legitimate that knowledge. Lyotard suggests that not only was the erosion of belief in these meta-narratives a core condition of the post-modernism modern period, but they were by nature oppressive as they excluded alternative or more personal narratives (Lyotard 1984, p.48).

One of the biases of photography, perhaps the thing it does best, is to create order from chaos. The early applications of photography from cataloguing social life (family pictures, criminal records, colonial typologies) to archiving scientific discovery (flora and fauna specimens) were directed towards making sense of chaos and finding structure for the world. We were replacing the old grand narratives with a sense of order and structure.

Are these digital fabrication technologies of control and order a response to the anxiety generated by our fragmented and customised lives amid the digital revolution in much the same way the
anxiety of the mid–19th century paved the way for the invention of photography? I suggest they are and would propose this question is answered within the research project by *The Rise and Fall of Western Civilisation* (2011). The work bears a causal relation between the invention of photography and new media. Its relationship is to the invention of photography – that changed the world – and all that followed in the wake of this invention.

**The Rise and Fall of Western Civilisation** (2011)

In *The Rise and Fall of Western Civilisation* the grand narratives of the past are replaced with the small stories of our own lives and the aesthetics of the hand are replaced with the poetics of mechanical reproduction.

*The Rise and Fall of Western Civilisation* is a 38 meter, two-and-a-half ton cast-concrete freeway, arcing through the gallery, ranging from two meters to 30 cm in height. This elevated freeway is supported on an interlocked plywood plinth while an acrylic road supports a range of custom hardware and custom software: billboards, signs and screens together suggest a personal “roadmap” towards or through smaller stories. ³

*The Rise and Fall of Western Civilisation* is an allegory in concrete, plywood and electronic form. The work is made from a series of layered metaphors that are built, literally, on top of each other in order to recall the grand narratives of Western Civilisation – history, truth, church/state – and as the road declines, represent their eventual fall from grace.

The plywood support recalls the infrastructure of past civilisations (bridges, Roman aqueducts) while the concrete freeway renders our society’s prosaic infrastructure. The billboards and gantries above the road become a proposition, an attempt to understand how we might fill this void. These

³ Perhaps this is the new grand narrative – the search for smaller personal stories.
various images and symbols remind us of the enormous distance between modernism’s vision of
the future, when technology would save us all, and our knowledge of how that dream has ended.

Our culture demands new frontiers, to never be content with our achievements and to reach further.
In this way, the freeway is more than our culture’s perfect metaphor: it is our autobiography. This
constant state of incompleteness – there will never be enough freeways, freeway systems can never
be finished – draws attention to our constant desire, our voracious appetite for everything.

The allusions to classical architecture suggest a grand statement about progress and the steady
direction of history’s needs and their satisfaction. However, it is a narrative that is undermined by
road signs that do not offer meaningful options or solutions or images of contentment. The signs
are mirages, offering promises they cannot possibly deliver (modernism?).

Although the content on the freeway contains a degree of irony in the critiques of the past, it is
important that The Rise and Fall of Western Civilisation not be read as an ironic pastiche. The
work is intended as a sincere and optimistic look forward, an opportunity to take a more personal
look at how we might live a full life now that the rule-books have lost their authority. The loss
of universal narratives has left us without absolute “right” and “wrong” or, indeed, an absolute
truth about anything. In the absence of a meta-narrative to structure our lives around, we can no
longer view history as a story with a beginning, middle and end, and instead we seek comfort in
the details and in each other.

Placed beside the freeway is a plywood set of stairs that rise above the highest point of the work
and can be climbed by gallery visitors to reveal a panoramic view across the installation. The
stairs are designed to recall a Kodak Photo Point, the sponsored locations at popular tourist
sites that prescribed the best position to take a photograph from. This element recalls our post-
war optimism that a shared popular culture could be delivered through advanced technology.
Also implied is the banality and repetition of vernacular photographic practices, although this represents the vast majority of images created.

The “Photo Point” stairs also draw attention to this work’s relationship with photography and its histories. Although the formal elements of the work look disparate in terms of materials and media – concrete, wood, metal, acrylic, plastics, electronics, video and photography – they are united by the process, conceptual and aesthetic concerns that underpin the work: representation and reproduction.

**Anxiety and technology**

Connecting with our anxiety around technology is one of the ways this work creates meaning. The process of its making is partly its subject – technology is its form and content.

To illustrate how this content is embedded in the process of making *The Rise and Fall of Western Civilisation*, I want to look closely at a small section of the installation. About two-thirds of the way down as the freeway reaches 1.3 meters in height, there is a gantry with a vacuum fluorescent display (VFD) that reads, ‘Will my children know how to be happy?’. These words are intended to draw attention to how my children – and the rest of us – will navigate media and technology in the future. One could say this is almost a self-evident or rhetorical question. Part of the intent of this question is to begin a discussion around the enormity – and perhaps futility – of trying to predict which media will exist and what our relationship to them might look like in the future. Allied to this is how we might think about and measure happiness in this mediated context. Are these digital fabrication technologies of control and order a response to the anxiety generated by our fragmented and customised lives amid the digital revolution in much the same way the anxiety of the mid-19th century paved the way for the invention of photography? I propose they are and driven by a very similar set of social forces.
The display on which these words appear is driven by an open-source microprocessor and display circuit custom built for this work and running custom software to produce the message. The display and microprocessor are attached to an aluminum gantry water-jet cut from a CAD file which sits on a polished black Perspex sheet which has been laser-cut from another CAD file to simulate the road. The road sits on a cast-concrete freeway section and columns made from a computer numerically controlled (CNC) routed wooden mould, again from a CAD file. The concrete freeway is supported by a plinth CN-cut from plywood sheets described in a CAD computer file.

There is a clear pattern emerging. All of the elements comprising this installation are made from a set of instructions given to a machine. This machine-readable code is decoded into human-readable objects, often in multiples.

While many of these technologies are astonishing, there are no ghosts in these machines. There is considerable craft involved in creating this code. However, the difference with these processes and old media is that the hand of the artist is found in the creation of the set of instructions, not in forming the material of the art object itself.

After a while, this sounds familiar: where have we seen this before? The answer is in 1839. The development of new media directly mirrors the invention of photography; the hand of the artist creates the instructions (the negative), which is then decoded into the print. This dialectic contributed to photography’s early marginalisation from the art establishment. All new media follows the essential trajectory of photography.

**Never-ending story**

There has long been an idea in our culture that all artists have one story to tell and their body of
work is a struggle to resolve this idea. The artist’s practice would contain their singular obsessions and compulsions, as expressed in the artworks’ material form. Crewdson explains this well:

Every artist has one central story to tell and the task over a lifetime is try and tell and re-tell that story over and over again, reinventing it in terms of its form, dramatically challenging it, but in the end, the story remains the same (Crewdson 2013).

This is a strong myth and I think its one that helps people feel more comfortable with art, partly because it creates an aura that makes art seem beyond reason, almost mythical, partly because it enables an artist’s work to be “branded” a particular type of work and more easily digested; in short this is an idea the culture wants. The problem for me with this idea is that it usually refers to a subject or theme that privileges the subject over all else. When we discuss this idea, we usually talk about the subject, not the form or concept.

On some level I agree with this idea: most artists do seem to have strong patterns running through their work. In terms of my own practice, the issue is that my story is a process, not a subject. The subject is there as an avatar to make the process visible – the subject that matters. My practice is completely concerned with mechanical reproduction and representation, creating systems and sets of instructions that are then allowed to play out their nature and make a human-readable object. That can be a difficult story to tell as there is still a strong desire in the culture for a story based on content, for narrative. When I think of my peers, they are immediately associated with their content, not their form. For example, Shaun Gladwell (b. 1972, Australia) is associated with skateboarding and youth culture while Brook Andrew (b. 1970, Australia) is concerned with Aboriginal iconography. The challenge is to make it clear that process is a story and can embed a narrative with social, as well as political, meaning.
Convergence: The photographic in new media

As I worked on *The Rise and Fall of Western Civilisation* I understood there was a strong parallel with my progression from single 3D printed sculptures to multimedia installation with the transition from photography to moving images. The sculptures were focussed on the production of objects, whereas the installation was about their choreography. The interaction of objects requires a different imperative to making a singular object. It is necessary to consider the interrelation of mediums, visual languages, subject matters and sequencing. This last element is the one I devoted most attention to: how does the object, before and after, change the meaning of the object the viewer in looking at it. In many ways *The Rise and Fall of Western Civilisation* functions like a physical film. There is a beginning, middle and end (although to paraphrase Godard perhaps not in that order). The viewer experiences the narrative in a reasonably linear fashion, starting under the high point near the doorway, moving to eye level as the stairs are climbed and then looking down over the final piece. Then the content is experienced sequentially with each piece adding cumulative meaning to the one that follows.

I started to realise that the ways I was solving the problems of new media and making this work were learned from photography, from the way I was thinking about process, subject matter, formal matters and conceptual concerns. I was approaching all of these media in a photographic manner. The question I began asking myself was: had my creative process been formed by a photographic legacy or were these new media processes of digital fabrication essentially the inevitable evolution of a photographic genealogy? Was photography the chicken or the egg?

Over time, it became clear that all these media tapped into the same impulse; they were about order and control, making sense of the chaos of the world with a pattern of formal seduction. These works were all made by machines from a set of instructions. In my practice all new media was photography and had been all along.

---

4 Crewdson says he choose photography as a medium because ‘There is something about photography that offers the possibility of creating a perfect world, of bring order and control to the world’.
Representation and Reproduction: a love story

Chapter Eight

Conclusion: New media is photography all the time
With painting everything was simple, there was the original and all others were copies. Then came photography, there was the negative which was the original, but without a print it did not exist – everything was a copy. The notion of the original is obsolete.

Wim Wenders (b. 1945, Germany)
Notebooks On Cities and Clothes (1989)
(emphasis added)
Photography in the expanded field

This practice-led PhD culminated in a series of projects exploring the relationship between mechanical representation and reproduction. The research has ultimately determined that a new media practice can exist on the basis that all new media is photography all of the time.

Medium is not the specificity, but rather the direction – the specifics emerge from the idea that the medium can exist as scaffolding for a visual language and the production of narrative, creating a shared ontological experience. Photography can be treated as an expanded idea – a platform rather than simply a medium. A 3D printed sculpture, created as a human-readable multiple through a set of machine-readable instructions, references its legacy through photography. The moving image, multiple single images projected at a given speed to create the “illusion” of movement, references its legacy through photography. The coding and data-driven sequences that create human-readable CNC gantries and road signs, originating from a machine-readable original, references its legacy through photography.

Giving way

As I moved through the research project, each medium gave way to the next as it provided solutions to the concerns of previous works: serial photographic grids to digital images, digital images to moving images, moving images to 3D printed sculpture, 3D printed sculpture to a fusion of digitally fabricated media to create an installation composed entirely of the human-readable multiples created from the machine-readable original.

While this sounds like a very orderly and linear progression – almost modernist in nature – the reality was more complex and chaotic than the structure of this exegesis may imply. There were periods of overlap and dead ends along the way, some paths were crossed over, while others were
backtracked.

This process had an internal logic that was self-evident for my practice and research; however, Rosalind Krauss made the observation that this internal logic is not easily identifiable from outside:

This suspicion of a career that moves continually and erratically beyond the domain of sculpture obviously derives from the modernist demand for the purity and separateness of the various mediums (and thus the necessary specialisation of a practitioner within a given medium). But what appears as eclectic from one point of view can be seen as rigorously logical from another (Krauss 1979, p.42).

Research questions

At the beginning of the project, the research questions focused on issues of subject and narrative:

- How are narrative strategies related to technological and cultural developments in photographic theory and practice?

I began to explore this question through the notion of the single photographic image as a component of a narrative experience, the specific language of photography and its use of time to create new moments (shutter speeds, depth of field, montage creates new moments). This is represented by Maholy-Nagy’s concept of a new vision.

- What subjects and processes are the most effective combinations and how can they inform narrative photographic imagery?

The above question was addressed by Pattern Rocognition (2008) and the finding regarding repeating the same works in a practice with only varied subject matter. Rather than make the same
artwork over time, the research suggests an extended practice can recognise the biases within a process which can then imply appropriate subject matters.

- What are the most effective ways to present images so as to enhance the reading and recognising of their narrative structures and outcomes?

Through the *Pattern Recognition* and *Various Positions* (2009) projects it was determined that any kind of photographic image can recognise a narrative structure, which led me to explore “photography” as a new media parent, through other forms of media.

These questions formed the basis of the research, and became research statements, or issues, rather than specific questions. The reason for this approach was that the research questions were answered early in the project. Through *Pattern Recognition* and *Various Positions*, it became evident that strategies, processes and presentation determine narrativity in various states and forms, more than actual subject matter.

As the original research questions were answered by projects one and two, the following three chapters could be considered an extended conclusion acting as a proof-of-concept, incorporating projects three through five: *Green Shoots* (2009), *Scaled Model for Still Life* (2009) and *The Generative Freeway Project* (2013).

The final project, *The Rise and Fall of Western Civilisation* (2011), can be considered an overall conclusion to the PhD, acting as a manifesto to unite various new media through a “photographic” practice. The binding condition is the set of instructions provided by the machine-readable original to produce the human-readable multiple. Then, as the visual language of this practice is established, the grand narratives of the past are replaced with the small stories of our own lives and the aesthetics of the hand are replaced with the poetics of mechanical reproduction.
Conclusions and findings

What initially began as intuition has been amplified by the research conducted through this PhD project: That photography was not simply a contained 19th-century invention but a state that permeates all contemporary new media. This core idea has been used as a platform to navigate all new media employed in this research project.

The condition of photography becoming new media occurs in two ways: Through the technical processes inherited by new media and conceptually its legacy in shaping the nature of contemporary culture.¹

The project ultimately became a compelling way to expand my ideas of photography as more than a medium, and to explore an art practice through multiple media, but with a single focus. At the beginning of the project I expected my work to remain “photographic”, however, at this concluding phase I realise that despite exploring representation and reproduction through multiple mediums, my practice remains photographic. There exists an epistemological connection between all new media, and through an acute awareness of this connection, I am able to expand my practice, both formally and conceptually, beyond its original point of departure.

The machine-readable original and the human-readable multiple

Everything is photography all the time. The key outcome of this research is that photography is the organising structure through which to view our relationship with all other new media. When the project began I felt my practice was slowly moving away from photography but through the execution of these projects, it become clear that not only was my practice entirely photographic in

¹ This is fairly universal although most pronounced in Western capitalist societies, although the effects of photography are found in developing countries and communist economies.
nature, I came to see all new media as essentially photographic in character. I had gone searching for the answers to the problems of photography and realised I had never left home.

Photography is the source of all new media. Not only did photography alter the aesthetic assumptions one made when viewing old media artworks, but the visual and conceptual properties of photography are the forces that have shaped all the media that followed. New media artworks, whose essential character is reproductive rather than hand-made, must have some relationship to photography, either in its debt or in opposition. This is embedded in the formal language of how the lens renders its referent and in the binary of negative–positive images that is at the core of new media. This is a dialectic that anticipated the digital world: photography was the template for the machine-readable original (the negative) that was necessary to create the human-readable object (the print).

Since Henry Fox Talbot’s calotype process was announced in 1839, the invention of photography marked the beginning of the move from old media (analogue works of art made by the hand of the artist) to new media (artworks created from a set of instructions and distributed en masse).

Through most of its history photography has experienced a complicated relationship with the art world, perhaps a legacy of its “applied” stain. Any success in this regard is perhaps less a victory for photography, and more a consequence of the speed with which our culture has moved towards becoming “photographic” and reflecting the biases embedded at the core of photography as a medium.

By understanding where new media has come from, we can understand what we have gained and lost in the transition from analogue to digital. To argue against photographic representation as the source of new media is to deny our inheritance. Everything is photography all the time.
Noun and verb

The methodology also became the practice. The machine-readable original has become the subject and the process: noun and verb. This situates the practice-led PhD as engaged with the research into, and practice of, new media as a set of instructions crafted by the artist and decoded by a machine/s to produce the human-readable multiple.

The concept of the machine-readable original producing the human-readable copy (reproductions) – as both a process and conceptual idea – can further the artistic understanding of methodology in an expanded notion of studio practice.

Through this, it has emerged that the process could lead to its subject and that the biases embedded in the media could be articulated through choice of subject matter. This is my “subject that matters”.

Performing process

In the early stages of the research practice I began to document the process of making the works for this exegesis. This was especially true for the technically difficult and time-consuming 3D printed works such as Scale Model for Still Life (2009).

As the process of documentation progressed I started to consider these new media objects (photographs and video footage) as artworks in their own right and began exhibiting them independently. Renders from the CAD models used to create the 3D prints were also exhibited (see figure 125). These objects were more than documentation of the process; they helped me rethink and re-orientate the process – the project documentation became a conceptual materiality.
As the machines performed the sets of instructions I had crafted for them, thereby expressing their own natures, the idea of machine performances evolved. The first iterations of these were video documentations of the performances (see figure 129), then over time I began to introduce these performances in the gallery context. The new media installations The Generative Freeway Project and The Last Car Park both include 3D printers generating the human-readable outcomes of their machine-readable instructions in real time for exhibition visitors. The process is performed.

**The same problems**

Photographic, digital, video and sculptural human-readable multiples from a machine-readable set of instructions exist with similar conceptual concerns to old media. The questions of content and how to develop new visual languages to express this content remain an ongoing area of research – what ideas do you embed in the material?

While this is an ongoing and open-ended process, the orientating thought is similar to that faced by the early photographers: what do I point the lens at? The answer, now as it was then, is to point the camera at ideas.

**A complex plaything**

Flusser called photography a ‘complex plaything’ (Flusser 2000, p.31) and then noted it was ‘so complex that those playing with it are not able to get to the bottom of it’. He was right. Not only has photography been a notoriously difficult medium for an individual to exhaust, it has been the medium at the centre of every aspect of our visual culture and shows no signs of its influence diminishing.

Indeed quite the opposite is true. All the media that has developed in the wake of photography – cinema, TV, magazines, internet, video games, digital art – either would not have developed at all,
or would have evolved very differently, had the lessons of photography not taught us about the nature of lens-based vision, representation and reproduction.

A “photographic” way of seeing has been ingrained in our psychology and physiology such that we do not even think about it. The conditions of lens-based vision, its depth of field, its spatial compression and characteristics of converging parallels and receding perspective, are part of our perceptive and cultural fabric; indeed the way we experience the sensation of colour or the way the image rectangle feels like “nature” has evolved from our exposure to photography. The tools we use to perceive the world do not come from nowhere, they come out of culture and its interrelation to our biology, which accounts for the photographic nature of our contemporary experience.

Indexicality

The question of indexicality becomes more interesting and complex as new media moves towards forms that do not necessarily need a physical referent from which to reflect light, such as: digital photography, computer graphics, CAD renders and 3D prints. As we move closer to a completely machine reproducible object from code, we get further away from the sense that we have traditionally understood indexical. Or this could be thought of as perfectly indexical: every number in the G-code is represented in every moment of the 3D print, every 8-bit pixel value is reproduced in the digital photographic image. As the research project concludes I am starting to believe that this is conceptually very close to the physical index, only now the objects become better representations of the idea, and perhaps less specific representations of the thing in the world. The work becomes a conceptual index, an index of the idea.

As Manovich points out, perhaps the condition of new media in relation to the real is not realism but is now photo-realism (2001, p.199).
Core experience of 21st century

My research leads me to conclude that photography is a core experience of the 21st century. The experience of photography is embedded in the techniques of new media through the machine-readable original that produces the human-readable object and diffuses through our culture of distributed images. Photography is embedded in our social rites (selfies), family histories (photo albums/digital collections), economic systems (advertising), entertainment (television), communications (computer code/internet), governments (databases), even our conflicts (surveillance imagery, photojournalism).

If the last century was the century of the photograph, this century is that of the image; we have become photographic. This does not mean all new media employs a lens or camera; I am using “photographic” to refer to the condition of a machine-readable original being used to produce a human-readable reproduction that is then distributed: the pattern that all new media has followed.

Falsification (after Popper)

I have concluded that all new media is photography, which suggests there is nothing in my practice that is not photography. To consider the falsifiability of this thesis I have reflected on how to deal with the possibility that in the future I may create artworks that turn out not to be photography.

Overwhelmingly, this would be exciting – and I would pursue making those works. I did not expect to conceive of everything as photography, it is an outcome of the research; I embarked on this research seeking a way to reconcile various strategies of photographic narrativity. I expect

---

2 Philosopher of science Karl Popper's (1902-1994, Austria) theory of falsification stated that a concept in empirical science could never be proven true but could only be proven false. A given thesis can be assumed true until it is falsified and then must be replaced with another thesis.

3 Thanks to Professor Elizabeth Grierson for starting my thinking in this direction.
it would be quite compelling to explore these new possibilities and see where they led the work. However, increasingly, I am starting to think that not only is this how I am wired (biased), but it is how new media is wired.

In this practice-led research project photography was never a terminal point, it was the through-line with which all my work intersected. When I began to make works that were not materially “photographs”, when I conceptualised everything as “photographic”, all my work was photography all of the time.

**Genealogy**

My practice has shifted in fundamental ways. The importance of a community and history of practice continues to place my work in context and inform future directions. Understanding the contributions of my peers and predecessors is crucial to understanding my own practice. To this end, the exegesis concludes with those who have contributed to this journey, a diagramatic united field theory of the genealogy of new media: The New Media All Stars.
Figure 157: *The New Media All Stars*
21 x 29.7 cm, ink on paper
Matthew Sleeth, project archive, 2013
Representation and Reproduction: a love story

Bibliography

Moving Image, Exhibitions, Publications
Moving Image

*A Line Describing the Sun* 2010, two channel video, William Lamson, Mojave desert.

*Bear* 1993, single channel video, Steve McQueen, London.


*Bouncing in the Corner No. 1* 1968, single channel video, Bruce Nauman, San Francisco.


*David Holzman’s Diary* 1967, motion picture, New Yorker Films, New York.

*Empire* 1964, documentary film, Andy Warhol, New York.

*Five Angels for the Millenium* 2001, single channel video, Bill Viola, Los Angeles.

*Giardini* 2009, two channel video, Steve McQueen, London.


*Long Shot Close-Up* 2010, television documentary, Pars Media, Munich.

*MASH* 1970, motion picture, Twentieth Century Fox, Los Angeles.

*Man With A Movie Camera* 1929, motion picture, VUFKU, Moscow.


Precautions Against Fanatics 1969, short documentary, Werner Herzog Filmproduktion, Munich.
Shame 2011, motion picture, Film4 Productions, London.
Shermans March 1986, documentary film, Twentieth Century Fox, Los Angeles.
Stamping in the Studio 1968, single channel video, Bruce Nauman, San Francisco.
Static 2009, single channel video, Steve McQueen, London.
Sympathy For the Devil 1968, documentary film, Cupid Productions, Easbourn, Midhurst.
The Forgotten Space 2012, documentary film, Wildart Film, Vienna.
The Great Ecstasy of Woodcarver Steiner 1974, short documentary, Werner Herzog Filmproduktion, Munich.
The Thin Blue Line 1988, documentary film, Corporation for Public Broadcasting, Washington, DC.
Exhibitions

And Europe Will Be Stunned: Yael Bartana, Australia Centre for Contemporary Art, Melbourne 9 August–25 September 2011.


Event Horizon, Centre for Contemporary Photography, Melbourne, 21 May–18 July 2010.

Gerhard Richter, Marion Goodman Gallery, 12 September–13 October 2012.


Gregory Crewson: In a Lonely Place, Centre for Contemporary Photography, Melbourne, 28 September–11 November 2012.


Mix Tape 1980s, National Gallery of Victoria, Melbourne, 11 April–1 September 2013.


Steve McQueen: Giardini, British Pavillion, Venice Biennale, 7 June–22 November 2009.
Tacita Dean, Australia Centre for Contemporary Art, Melbourne, 6 June – 2 August 2009.
What’s Next?: The future of the photography museum, FOAM, Amsterdam 5 November–7 December 2011
Publications


(Fixing of images formed at the focus of a camera obscura). Paris: Academy of Science.

Available at: http://thedaysofyore.com/tim_davis/ [Accessed 2 January 2013].


Hoberman, J. (2012). *Film After Film* (London: Verso)


Colophon

The original draft of this exegesis was written in Byword 2 using MultiMarkdown\(^1\) plain text formatting syntax and then imported into Scrivener 2 content generation software, before being exported to Microsoft Word for editing. The bibliography was managed and “citekeys” expanded and formatted by Papers 3. Additional help was provided by Dragon Dictate 3, Evernote, Alfred 2 and Text Expander 4.

The layout for this exegesis was created in Adobe Indesign CS6, output as either a processed PDF file, e-book, or printed hardcopy version. All images were edited in Adobe Photoshop CS6 and Hasselblad Phocus 2.7. On the hardware side, all images and the exegesis were produced on an Apple MacBook Air 13-inch 2012 model attached to 27-inch Eizo CG276W and 23 inch Apple monitors.

The main text in this exegesis uses Sabon as the primary font. Designed by Jan Tschichold (1902–1974, Germany) for Linotype in the early 1960s, it was named after pioneering typefounder Jacques Sabon (c. 1535–1580, France), and was chosen for its legibility in both print and onscreen formats. The project title and page numbers use OCR A Std, released in 1968 by American Type Founders, as the early computer industry needed a font for optical character recognition that could be read by both humans and computers. OCR A Std was chosen as a reminder of the legacy of the machine-readable original and the human-readable multiple. Other fonts used include Helvetica and Helvetica Neue.

Publication data: 197 pages containing a total of 36,470 words (excluding Table of Contents, List of Figures and Bibliography), 27 research images and 131 illustrative images.

---

\(^{1}\) MultiMarkdown is a superset of plain text to HTML markup language Markdown, written by computer programmer John Gruber (b.1973, US) in December 2004. The syntax is converted to rich text via a script written in the Perl programming language.