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Cultures Of Practice Within Design: An Exploration Of The Differences And Similarities Between Photography And Painting As Representational Practices

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CHAPTER 1 INTRODUCTION

PROJECT OVERVIEW

Contemporary designers and photographers face many challenges as the profession rapidly develops. This is especially the case in in the Western Australian context. A review into the recent history of the Western Australian design profession is evidence that designers and photographers are consistently shifting between commercial and self-expressive practice. However, the urge to keep up with technological advancement has masked conscious development of this shift, which is a key to self-realisation and improvement for a designer and photographer. This lack of conscious questioning limits holistic development in design practice. This research reflects on myself as a designer developing a response to the significant convergence of media that developed during my career. The research led to an understanding of the development of design as a practice and its connections to art, especially painting. This exploration of the differences and similarities between photography and painting, as representational practices that impact upon the values of a practitioner, seeks, in part, to understand photography using paint.

This research is a broad investigation that sets out to reveal aspects of these relationships, and to raise questions that will form the basis of more in depth studies.

Research Objectives

This project aims to investigate, through self-reflexive methods, the progress of shifting from a commercial view of design and photography to a self-expressive paradigm, with reference to the culture of practice in the discourse of art and design in Western Australia. It explores some of the differences between photography and painting as representational practices with reference to perspective and its links to painting, photography and digital technology. The research aims to link the socio-technological history of a period of design's development with a developing creative practice.

Research Questions

How do I, as a designer and photographer, shift my practice from one bounded

by the craft disciplines of commercial art and design to a more self-expressive paradigm?

How can an exploration of the technologies of painting, photography, and digital media be understood through the creation of practical work?

Sub Questions

How have conventions of the perceptions of space impacted on my creative practice?

How does the narrative of my experience match up to the grand narrative of art and design?

How do the conventions of representation of two and three dimensions operate in relation to both photography and painting?

Overview

This project employs self-reflexive methods to explore the process and document the experience of a designer/photographer shifting his practice from a commercial view of design and photography to a self-expressive paradigm. The project reflects, observes and analyses my practice in the context of contemporary Western Australian art and design practice and education. This project is grounded in photography, painting and graphic design. The professional values of these disciplines are both technical and ideological, with professional ideologies and technologies intersecting to produce the Worldview of the designer/artist/photographer. In both photography and design education in the 1970s and 80s in Western Australia – the period of my design education and the beginnings of my practice- craft skills were highly valued. In photography, camera skills and darkroom skills were as important as image design. In most cases, outcomes owed a great deal to pre-existing examples. Photographs followed the pattern of fashion shot, product shot, formal studio portrait and many other restricted image codes (Bernstein,1973). Graphic design was largely informed by modernism an often guided by examples from seminal historic

figures. Its craft skills were also based in the manual technologies of typesetting, paste-up assemblage, line film and other studio-based crafts. Technical and cultural changes initiate shifts of design and photography methods and approaches; this project sets out to contextualize the effects that these changes had on one practitioner, and to reveal how technology can impact on praxis. The research demonstrates one way to reflect on practice and to develop an authentic connection to creative work through theory.

This project has taken these starting points and reflexively looked at the process of moving from a constrained, formal viewpoint to creative expression derived from a deeper understanding of some of those constraints. It has looked at the development of technology and its effect on an industrial setting and attempted to dissect the underlying principles. Common to most aspects of technological conversion, where electronic media extensively use photographic images and computer generated images, is the principle of formal perspective. Conventional photography, film and television share this with Computer Aided Design (CAD) and Computer Generated Imagery (CGI). The series of paintings shown at Kidogo Art House in Fremantle (2005) were a starting point in the process of looking at and reinterpreting photographs into paintings, taking a series of photographs and attempting to render them in paint, without considering the content and meaning other than as surface artefacts. These paintings paid no consideration to constructed perspective; they were representations of the photographs as flat objects.

Some of the paintings were refined, by more careful consideration of colour and paint finish, into second and third generations and shown at the Art Education Exhibition at the Cullity Gallery at the University of Western Australia. This work was also shown at the Preston Point commercial gallery. The process of exhibiting the work engendered feedback, through visitors' books and comments from and discussions with viewers. The exhibition held in the Spectrum Gallery showed the next stage of the work, consisting of digital prints from both digital and analogue original sources together with paintings from the earlier series. The digital works were a clear break from the painting stage. They signify a

development in visual exploration; they are the point where colour and paint were eliminated from the image making. The six artist's books are a distillation of the work and show images from all the sources, both painted and photographed. Book one shows the starting point, being monochrome silver-rich photographs exhibiting the craft skills that I brought to this project.

Using photographs as a basis for painting and as a means of exploring two and three-dimensional subjects, has lead to a series of creative outcomes: both painted and digitally printed images. These images explore the technology of analogue and digital photography, including digital enhancement through computer programmes. The paintings are comments
on the photographs and consciously use both flatness and form in the subject matter. Subject matter is often very simple, such as the two-dimensional surface of a brick or simple shadows cast by common objects. There is also an exploration, as part of extending the work on shadows, where a cube
frame is used to generate shadows.

The project has redefined the tyranny of geometrically constructed perception in my own creative work. It has enabled me to clearly define what I do through a process informed by a theoretical framework based in the study of perspective and its application in representation, and the history of painting from photographs. The craft values of photography have been dissected and addressed and used in ways that celebrate the strengths, deficiencies and character of the medium; for example, through the deliberate use of grain and dust in analogue photographs and the colour casts achieved when printing monochrome images in a digital colour mode. These images celebrate the technologies and their peculiar characteristics, and allow for a re-evaluation of basic standards applied by practitioners.

I have positioned myself in relation to institutional conventions in art and design, through reference to the industry and its participants, and to the continuing debate about the differences between art and design. The creative work offers options for designers, photographers and artists to expand their practice by providing examples of cross-media work. The

paintings, photographs and digital prints together, with the commentaries on their production, form a body of work and a body of knowledge about the relationships between art, photography, and design.

THE JOURNEY OF THIS STUDY

I commenced this research with a view to better understanding what my values were as a designer and how they related to the design industry in Western Australia. The local industry provided the scope of my reflexive journey. I wanted to be part of it. The journey echoes my education and work paths. I started as an art student in a British art school where I moved into architectural glass. I practiced as a photographer and, later, completed a diploma in photography in Australia. On completion of the diploma, I felt that there was a gap in my knowledge in the understanding of how images are made. There was very little emphasis on colour and basic design in the photography course; this led me to study graphic design. I later took the study further into theories of visual communication at Masters level. This research loosely follows a that path from photography to visual communications.

This research builds on these beginnings and is the latest stage in the development of my creativity. It has given me a better understanding of the value of my work and is enabling me to move further in my work, both as a practitioner and educator. The outcomes of my research are presented through the following:

Exhibitions: My research journey included two public exhibitions. The first was held in December 2005 and the second in September 2012, with an examination exhibition in April 2014.

Artist books: These books compiled my works into six sets. The first is titled *Origin.* It showcases works done as part of my experience as a documentary photographer. The works were commissioned or supported by grants and are examples of work in a craft tradition The next five books form a retrospective summary of the work produced during the research.

Exegesis: This is the written component of the research and is present in the

form of a printed booklet (this document).

During this research, and in the spirit of grounded theory research (Glaser 1994, 2002, 2003), my investigations touched on a number of issues including the history and sociology of the design industry, before crystallising in a visual exploration of the relationships between art, design, and photography. This relationship is grounded in the conversion of digital media, with perspective being a key factor. The earlier work is not included here.

On the journey, I have reflected on being a designer; the development of design in Western Australia; the effects of digital convergence on designers; the relationship of design to art; and the centrality of perspective in relating photography to painting.

My practical work during this research has included a series of paintings from photographs, and a series of digitally printed large format photographs exploring both perspective and the qualities of digital and analogue photography. The later series relied heavily on shadows as subject matter. The added complexity of shadows in a perspective image were intriguing and expressed my feelings about the theories and processes that I had explored.

Chapter 2 Changing Landscapes of Practice

Technology and change: Background to technological convergence in both photography and design

This chapter provides a context to the period when many of the questions raised in this research started to form. It revisits the early 1980s when I started to question my place in the discourse of design and photography. A significant factor in design at this time was the development of digital technology. As a developing designer and photographer, I worked to make sense of these changes and to understand the world of design and my potential place in it. The period was one of rapid technological development, not only in design, but also in most other workplaces. Such changes formed the grounding for cultures of practice relating to design and how it operated.

The 1990s saw the emergence of electronic technologies as "perhaps the key technological developments of the twentieth century" (McLouchlin, 1999, p.1). Ian McLouchlin is a key author on the subject of digital conversion as it relates to creative industries and the Australian context, and his observations are important in attempting to frame the changes that designers were faced with during the development and implementation of digital technologies. As a designer, I moved from hand painting masks on acetate and producing blocks of lettering and images on a bromide camera in a darkroom to using graphics software to produce the same or better results than those achieved with phototype in the production of posters, brochures and architectural presentations. In the process, some subtleties (such as fine control over letter spacing) may have been absent in earlier versions of the software, but convenience in easily made corrections and rapid changes outweighed this for many designers. In design, the introduction of word-processing programs and subsequently more sophisticated page -layout programs in the late eighties dramatically changed the industry. Aldus Corporation founder Paul Brainerd, is generally credited for coining the phrase, "desktop publishing." In 1984, Apple introduced the Macintosh computer and Hewlett Packard introduced the first desktop Laserjet printer (Bear, 2003). The combination of a user-friendly

WYSIWYG (What You See Is What You Get) interface and the ability to produce high-resolution printed outputs made this technology immediately attractive to the design community for reasons of usability and economy.

In 1985, Adobe introduced PostScript, the industry standard Page Description Language (PDL) for professional typesetting. Aldus developed PageMaker for the Macintosh, the first "desktop publishing" application. In 1987, PageMaker for the Windows platform was introduced (Bear, 2003; Pfifner, 2002). The advent of these key design technological advances meant that, by about 1990, it was impossible for the vast majority of design businesses to avoid using the technology. Printers were able to accept artwork on disk or online and eliminate the previously required 'Finished Art' stage that required designers to produce 'Flat Artwork' and 'Colour Separations' by manual and photomechanical means. These changes had implications in the relationships between designers and printers that were only resolved after the convergence was complete. While we now consider the computer-driven forms of art and design publication normal, twenty years ago these changes to practice were just being implemented.

This was the birth of the Cyberspace age (McLouchlin 1999) where electronics enabled vastly increased interaction in business and other digital domains. Technological changes impacted upon the workplace and the way in which work happened in both time and place: " an organization physically manifested in offices, factories and the like - is being challenged. Ideas such as 'flexibility', 'team-based' and 'tele'-work, 'holonic' and 'agile' factories, and 'network', 'distributed' and 'virtual organizations" (McLouchlin, 1999, p. 1).

Baines points out that the media industry employs a lot of freelance workers;this also applies to design and here the freelance worker is "typically a heavy user of electronic communications and highly appreciative of their value" (1999, p. 28). The relevance of such changes to this study include the effect of work practices as designers became increasingly technology workers.

Bryn Jones believes that this level of automation is a precursor to a further stage of development in the automation of work where, further than the automation of processes such as word processing, the totality of an organization's functions are

electronically integrated and linked together. He terms this the "automation of automation" or "cybernation" (Jones, 1997, p. 19; Aronowitz & Cutler, 1998; Bosch, 2000). The contemporary world would suggest that this has to some extent come true. Large companies use integrated systems, such as those that link design work to costing in architecture, but there is not a great deal of evidence of system integration in smaller studio-based situations.

Keith Grint warns that the relationships between technology and work are complex; it is important in looking at design examples to be aware of the broad spread of possibilities and not to settle for the superficially obvious interpretation of the situation. He points out that many of the terms used in discussing the relationships between technology and work are not clearly defined; "As has already been pointed out, 'work' has often been taken to be synonymous with paid labour, though this assumption embodies an enormous variety of evaluative baggage as to the importance of non-domestic labour and economic exchange". (Grint,1998, p. 266)

Part of the relationship is explained by McLoughlin (1999). His view is that there is a significant difference between people's relationship to "electronic texts" and their former relationship to "paper-based systems". McLoughlin's views were expressed during a period when a great deal of change in media industries was taking place. He is a key commentator of that period. He suggests that electronic texts differ from paper-based texts, in particular emphasizing the accessibility of electronic texts and the ability to build in further levels of knowledge within the electronic document. The text does not have one author; rather it is produced by multiple individuals or through impersonal and autonomous automatic processes (electronic sensors, scanners, etc.), and as such appears distanced from human authorship, more definitive, and less easy to criticize: "the computer can't be wrong" (McLoughlin, 1999, p. 108). More recently, Linstead (2013) discusses the way that texts are used to shape our knowledge and guide social action, which makes social action and organization 'texts'.

The worker's experience of his or her task is changed: there is now an emphasis on the performance of mental tasks or "procedural reasoning" (McLoughlin, 1999,

p. 108) requiring an understanding of the internal structures of the programs and how they replicate the craft activities on which they are based.

> Work with a 'data interface' requires new and more abstract 'intellective skills' as opposed to the 'action-centered' skills associated with the physical performance of work tasks. These new skills involve a qualitatively new experience for the employee since they require mental rather than concrete physical activity. Instead of cues from the immediate physical environment the employee's responses must be based on abstract cues provided by the data interface. (McLoughlin, 1999, p. 108)

An issue that does not emerge explicitly in the research material is that of software systems design. Designers as users seem to accept the given nature of programs such as InDesign, Illustrator and Photoshop. However, system designers must firstly create the interface between users and technology. Design software uses metaphors like 'paint', 'cut and paste', 'air brush', and a vast range of similar terminology based on original craft functions. These are usually represented as icons :a paint brush, scissors, or pencil, for example. McLoughlin points out some of the issues arising from the process of programme design: conventionally this problem is viewed as one of devising appropriate methods by which system designers can 'capture' the requirements of the user and thereby design a system to meet them. In practice, 'capturing' users' requirements has proven highly problematic. Users 'do not know what they want', 'they know them but cannot articulate them', 'they keep changing their minds', 'say different things to different people', and so on (Mcloughlin, 1999, p. 112; Bowen & Reeves, 2009).

McLoughlin's view is that the lack of understanding between system designers and users is a negative constraint on technological possibilities. The expert approach may not consider the user's habits of practice. It seems that this may not be the case in the design and desktop publishing arena. The use of metaphor and icons has enabled the programme designers to develop the technology, guided by existing craft practice, without much apparent feedback from designers outside the development and testing teams. Development companies such as Adobe have produced sophisticated design software without

input from large parts of the dispersed design community. Woolgar (1992) has proposed that the area of systems development should increasingly use a multidisciplinary approach to requirements analysis. The designers represented in this research are part of what McLoughlin refers to as the 'user problem' (1999). The view of users as problematic has largely been superseded by the integration of human computer interaction (HCI) by system and program designers (Rogers, 2012).

Of concern to this study, because it positions designers as 'passive adopters' of the technology, is the fact that for this design community, these programs and systems are largely off-the-shelf, 'plug and play' items. Part of the technological transformation process, in this case, is a change from a skill-learner base to a technology-purchaser base. There has been little or no opportunity to be part of the development of one's craft. Designers are required to conform to a technological standard. This research has, in part, been an exploration of those technical boundaries and an attempt to question them. It looks at conventions and pushes them.

Designers have had to deal with these issues of legitimacy of the user problem. Trained designers and designers who have been involved with the industry for a number of years tend towards similar appreciations of what constitutes good or acceptable design practice. The phenomenon of becoming someone who understands design is partly explained by Donald Schon (1987) who describes the process of design education in the traditional studio system.

> ...the design student knows she needs to look for something but does not know what that something is. She seeks to learn it, moreover, in the sense of coming to know it in action. Yet, at the beginning, she can neither do it nor recognize it when she sees it. Hence, she is caught up in a self-contradiction: "looking for something" implies a capacity to recognize the thing one looks for, but the student lacks at first the capacity to recognize the object of her search. The instructor is caught up in the same paradox: he cannot tell the student what she
> needs to know, even if he has words for it, because the student would
> not at that point understand him. (Schon, 1987, p. 83)

McLoughlin describes a process wherein "The different goals, values and tools for action that groups possess are derived from their technological frame" (1999, p. 92). The development of a technological frame should be taken to include not only the adoption of digital technology, but also t craft skills, aesthetic sensibility, and ways of working. Grint (1998, p. 267) points out that it is difficult to disentangle the social and the technical aspects of a work situation, including the inanimate machinery, the social arrangements, and the technical activities of humans. The context of this research is the socio-technological history of design during the period of my development as a designer/photographer and design educator; it acknowledges craft skills and ways of working

This relates also to the differences between some of the kinds of designer identified in this study. An emergent theme is the difference between 'mainstream' trained designers and those who have come to the industry via other pathways, for example, as printers and computer operators. It is possible that these groups do not share the same values relating to design.

> over time more powerful and dominant social groups, or the more powerful members of particular groups, will be able to establish the legitimacy of their interpretations as to the most appropriate way to construct problems and derive solutions which inform the design of the artifact. Hence, as a technological frame becomes established it acts more to constrain thinking and action. (McLoughlin, 1999, p. 92)

A further layer of complexity is brought to the relationship between designers and technology because of the rise of a section of the industry, which can now function commercially with very limited training. Since the advent of transparent, icon and menu-driven graphics programs, operators with very little design training have been able to produce polished looking work able, under some circumstances, to satisfy the needs of a client. This phenomenon has been observed in other industries. McKinlay and Quinn (1999) have published on the British commercial television industry: "That's fine, we could get any old monkey to do this, we could bring tenth graders in straight from school, as long as they know what button to push . . . we'll be all right" (McKinlay & Quinn, 1999, p. 10).

Boltanski and Chamboredon (1990) discuss a similar phenomenon in their study of professional photographers in France. Even at the time of writing in 1990 it

was evident that technological change in the design and manufacture of cameras and equipment. They assert "the fact remains that the professional practice of photography now demands lower levels of knowledge more quickly acquired. The advanced state of cameras and photographic products, principally the work of manufacturing engineers, has permitted the rationalization of work" (Boltanski & Chamboredon, 1990, p. 153).

McKinlay and Quinn (1999) find that the displacement of labour and de-skilling have affected both tasks executed and the occupational identities of workers in that field. In addition, craft skills have been all but eliminated; engineers and camera operators have been marginalised by the development of digital technology. Their study of the deskilling process reveals that it has also changed the relationship and decision-making structure. De-skilling has sometimes had positive outcomes:

> …while there is little need for the highly refined conceptual and manual skills of the camera operator digitalization has expanded the range of aesthetic tasks performed by camera operators. Freed from the inherent limitations of mechanical framing and focussing, a minority of camera operators are now active players in creative decision-making previously the sole preserve of the producer/director. (McKinlay & Quinn, 1999, p. 10)

These references are to observations made during the early years of digital conversion; however, there is also evidence in these observations of a breakdown of the ideologies founded in the British industrial revolution. Gouldner observes: "If we can think of ideology and history as connected by the "black box" of personal experience, that black box has now been technologically amplified and we may therefore expect a decline in the manifest connection between ideologies and history, or people's social position in historical processes. In one way, this may be experienced as an "end of ideology" (1976, p. 169).

There are parallels between the changes wrought in British television production and the Western Australian design industry, though the most significant structural shifts in television are manifested in the distribution of labour and the hierarchical structures of the industry. This is only apparent in the design community that is

the subject of this research, where it relates to large scale print and design organizations, several of which are mentioned. These organizations were based on the established, unionized, craft systems, which differentiated between printers and designers. Grint (1998) has commented on this: "For many years this witnessed the capture and holding in place of a network of printing machines and printers, which secured their control over the labour process …Without the technology neither side in either industry would have been able to maintain a network of control but neither the technology nor the social group in isolation determined the result" (Grint, 1998, p. 276). In the local design industry the impact of change has been different as (apart from the previously mentioned large scale printing organisations such as the major newspapers) the design industry has consisted of a number of small groups and sole traders interacting with a range of printers.

McKinlay and Quinn (1999, p. 10) deal with the issue of technological change at the functional level, he relates that during the early 1980s digital equipment "completely superseded the electrical-mechanical equipment which had dominated the industry for decades. These technologies also appeared in design and changed the way in which it was carried out. As in television and other industries subject to this technological revolution, digitization and the use of easily accessible 'de-dedicated'" (McLoughlin, 1999, p. 54) computer technology, enabled a reconceptualisation of the system. This reconceptualisation brought in new players and repositioned existing players. In some cases, such as the typesetting houses mentioned in the research material, this repositioning very quickly led to closure of businesses. Traditional craft skills such as those of the expert typesetter were made redundant and the division of labour was reconfigured. McKinley's observations in the television industry reinforce this: The growing sophistication of computerized image control has overlaid the role of the editor with that of the computer operator, opening up the role to individuals without conventional media training (McKinlay & Quinn, 1999, p. 11)

The advent of electronic technology has initiated dramatic change in the way in which organizations function. Large integrated organizations have become fractured and the way in which work happens has changed. Design is an important

case study in this process, as it necessitates networking between designers, typesetters, illustrators, photographers, and other specialists. Significant attention has been given to the new 'post-Fordist' model of organisation, with an emphasis on changing structures and the development of networking and new forms of inter and intra organizational relationships based, not on the principle of control, but rather flexibility (McLoughlin, 1999).

Becoming a designer

The first part of my reflective journey is to look at the background, and reflect on the process and forces that developed the platform from which these observations are made.

I became a designer and, later, a design teacher. Throughout the (in my case lengthy) process of becoming a designer I was aware that I never had a complete picture of what a designer was and what it meant to become one. I was influenced by my perception of what designers were, which was largely a glamorisation of the facts.

In reflecting on this process of becoming a designer, I wanted to discover why others also became designers, how they understood what design was, and how they worked together in the industry. As I looked at the problem, it became clear that what needed to be done to enable some of these questions to be answered was to take an anthropological perspective and to make a record or case study of how designers work within a community. In order to carry this out I devised a series of question with which to guide interviews with designers. Throughout this process it became increasingly clear that people's views on design and what it was, varied and in some cases was not clearly articulated.

For the purpose of this study I've relied on the definitions of design practice familiar in most design schools: those of graphic design for print and screen, combined with illustration and photography. Whilst three dimensional designers are also affected by technological change (perhaps more so lately with the development of cheap 3D printers), I have considered design in the

context of my own practices in the art related disciplines. This matter of definitions is complex when it comes to design with authors such as Love (1999) identifying over 800 forms of practice that can be called design. "The scale of the problem is that now - as in the 1960s - the term 'design' has been used for so many different things that it has lost any real meaning. It is a reasonable claim that some kind of creative actions are a part of all human endeavor, but bundling all action and objects as 'design' (Love, 1999).

The relationship between art and design has also been discussed in the context of pre-modern societies. The anthropologist Ronald Berndt, writing in 1958, states that there are no separate words for art or artists in Aboriginal languages and that it is, in one sense, misleading to use the term. In an even stronger statement he affirms that "all Australian Aboriginal art is, basically, utilitarian" (Berndt, 1971, p.101). However, other students of pre-modern societies show that designed objects and those who produced them play a variety of political, aesthetic, ritual and economic roles (Hauser, 1968; Helms, 1993; Jopling, 1971; Layton, 1991). The role of artists and their work vary cross-culturally and historically. The notions of artist and designer are culturally and historically constructed and the definitions cannot be fixed; there is no single sense in which we can use the terms.

This study looks at the nexus between art and design as a means of establishing the meanings of the terms as understood by their users, and the values attached to them. Whilst not central to the research, the terms are important in describing particular categories of design workers, especially those whose work takes on the status of an art piece by being exhibited in galleries and museums. Such terms also provide a way of describing the changes from the artisan/craftsperson designer to the more standardised, computer-based producer.

Chapter 3: Design Practice

Cultures of practice

A challenge for the designer or visual artist is to find a methodological approach that will enable the outcomes to conform to what can be expected of a legitimate research project. This is complicated by the fact that the practitioner is a 'participant observer' in a qualitative research project (Schloss & Smith, 1999; Burns, 1990). The artist/practitioner is required to make sense of his or her own practice in a research context. Artists also likely to be confined by their own codes of practice. Cuff (1992) in researching into architectural firms in the United States of America identifies a culture of practice: "I recount the story of the architect's work in terms of what I call a culture of practice. Use of the concept of culture fosters a certain kind of analysis, one that looks closely at people's everyday lives, their situated actions, as well as what they say and the include those elements of drawing, illustration and photography that enable communications within the culture. As part of this reflection on practice, the basic technologies and the ways in which they change and are transformed become one aspect for study.

Whilst identifying the notion of a culture of practice, Cuff (1992) points out that this does not mean that groups who share a culture of practice are part of the same culture. In the case of this research, a 'culture of practice' is evident.: both photographers and painters carry out their practice within specific cultural confines. Examples include the attachment to certain genres or techniques. In dealing with digital images, the culture of technology is also introduced. A consequence for the researcher is that they will invariably be affected by these cultural issues whilst also being an observer of their own activities. Burns points out that only qualitative research methods "permit access to individual meaning in the context of everyday life" (1990, p. 338). In qualitative research, the researcher records and analyses thoughts, feelings and perceptions to create a picture of the event: "The observation method involves the researcher in watching, recording and analyzing an event of interest" (1990, p. 338). Schloss

and Smith also endorse the practice of participant observation: "The observer may be a participant in the events being studied, or may act solely as a 'disinterested' observer" (Schloss & Smith, 1999, p. 178). In the case of research into practice, the designer is observing their own practice as a participant.

Scrivener's fifth characteristic of valid visual research expects that " although issues, concerns and interests may originate in a highly personalized way, they are inevitably rooted in a human context" (as cited in Schloss & Smith, 1999, p. 178). An action research methodology enables the researcher to engage with the highly personalized elements of creative production whilst engaging with the broader context. It enables the researcher to record the actions and comments of others who may make up the micro-level human context, whilst also permitting reflection on the macro-level of broader humanity.

Schön (1982), in discussing reflective practice, states that "In order to study reflection in action we must observe someone engaged in action. We may set a task for performance,… or may try to learn how someone is thinking and acting as he carries out a task he has set for himself. In some cases, we may interview a subject or ask him to think out loud as he works on the task" (Schön, 1982, p. 322). What Schön suggests in observing the reflective practitioner holds true for the participant observer, except that the reflection becomes multi leveled, requiring the observer to reflect on the practice and further to reflect on that reflection. These multiple levels of cognition can be hard to process. In the example of a painter it would be necessary to create the painting, reflecting on the subject and its meaning, then to reflect on the thoughts and actions required to complete the painting. A further level of reflection then takes place on the finished painting. A key question then becomes: 'How do I make sense of these reflections?'

One method for making sense of complicated situations is Grounded Theory. To explain how I made sense of my practice through grounded theory, it is first necessary to examine the development of design in Western Australia.

Development Of The Modern Design Industry In Western Australia

The historical context for this study is the development of the design industry in Western Australia. Its historical figures and leading practitioners were the influences and sources of reflection in developing as a practitioner. Attitudes to design and art and the values placed on practice help inform the investigation by providing a purpose for representative practices.

In the United States of America, from the turn of the century through the 1920s, clear distinctions were being made between 'fine' art and art produced for advertising and illustration. Bogart (1995) refers to the distinctions being made in the context of advertising and packaging. Advertising men [sic] and their clients differed in their views about "art-art", some arguing against it because of its tendency to draw attention to itself and away from the product, others arguing that the cultural status would enhance the product (Bogart, 1995, p. 9) This research does not seek to identify the similarities or differences between design and art. It recognises that design and art are interrelated and design and art approaches can be used to inform and expand design and art outcomes. There is, however, a need to contemplate the differences, as they sometimes demand different responses from the practitioner. In this research, taking photography and translating it into painting played with those boundaries.

There is a strong relationship between art and design. Design students frequently express concern that their friends and families don't really understand what it is that they do. The interrelated fields of art and design, both of which deal with decoration and communication in two and three dimensions, have a long and joined history. In looking at design, it is important to consider some of the factors that divide it from and join it to art. In the past, the fact that a difference existed, even a perceptual difference, sometimes affected the relationship between practitioners in these fields.

The terms 'artist' and 'designer' identify people involved in specific, not easily defined practices. The process by which others classify these two disciplines

may not be very different from the way in which other subsets of society are classified and defined. An example of this can be seen in the way that a consumer is classified by others by his or her purchases. The kind of car they drive, the house they live in, and the clothes they wear are signs of a person's economic status and class position. These may be false signs (for example a person might borrow heavily to buy the outward appearance of success at a cost to other more basic elements of life) but their overall effect can be very powerful. Art and design practitioners too, by the discourse of which they are a part, are classified as, for example, 'commercial hacks' or 'artists', by the genres or subcultures they adopt and by the way they are positioned within them.

Bernstein (1973), discussing language codes, refers to the emergence of shared identifications, upon an extensive range of shared expectations, upon a range of common assumptions" (p. 146). Some of these restricted codes found in the internal professional language and preferences of designers will be looked at in this study. Morley (1980), writing about television audiences, reinforces the notion that the groups that we see ourselves as belonging to are constructed in that way: "The limits of what I can do intentionally are set by the limits of the descriptions available to me, are those current in the social groups to which I belong" (Morley, 1980, p. 24).

The Australian artist Ken Done came from a commercial design background as an advertising art director . He has moved into being a fine art painter, but the art world, judging from the spoken opinions of members of that community, still find it hard to accept him as a true fine artist.

> I've become aware of a small (but seemingly rather vocal!?) minority
> of people who seem to wholeheartedly dislike Mr Done and/or his
> work, for reasons quite inexplicable to me…. I guess we'd have to
> simply surmise that artists with a particularly 'commercial' background
> or outlook often seem to generate this kind of response
> (Feagins 2014 para 5)

He does not possess a shared identity by virtue of the stigma of commercialism. He does not pretend that his art comes from deep philosophical roots; therefore he does not exhibit the same codified messages as other artists. Thus, a

restricted code emerges where the culture or sub-culture raises the 'we' above 'I' (Bernstein, 1973, p. 146; Moore 2013). The delineation between self-perception and the establishment of values appears to be instrumental in the reproduction of social groups. The codes and signs that help to reinforce a social system are learned in the process of choice and the testing of choices by the reactions of one's peers.

A person's values are a key to personal mythologies and are a link to ideological positions. A value is defined as an enduring belief that a specific mode of conduct or state of existence is personally and socially preferable to the opposite mode of conduct or state of existence. (Howard, 1977, p. 92; Streeten, 2013). Our values can include our preferences for styles and forms of representation and may dictate how we see ourselves. As part of my own self-reflection, I adopted the set of values about creative output that developed over time and marked me (to myself at least) as a designer.

Some relationships between art and design

In the relationship between art and design, the differences and identifying characteristics are not as apparent to the outside world as they sometimes are to those involved. The codes that define and identify these terms are restricted. Bernstein sees restricted codes or transmitters of the culture in diverse groups; he mentions, in the context of language, prisons, age groups, friends, husbands and wives (Bernstein 1973). In the context of art and design, it is possible to see restricted codes as controls and transmitters of visual culture, reproducing the common sense views of the protagonists.

A discourse can also be changed, taken over or subverted; artists change the paradigm, change the values. Discussions of the work of Marcel Duchamp, Andy Warhol and Jeff Koons (Hughes, 1991 p. 66; p.351; p. 412) highlight the possibility of such a value shift. Each of these artists changed the context of everyday objects, beginning with Marcel Duchamp who exhibited an urinal as a piece of art and labeled it 'Fountain,' thereby challenging the public's view of what constitutes art.

Berndt (1971) touches on the issue of use value and the discourse of art; even from his anthropologist's perspective there appears a difficulty in classifying objects and works as 'art': People in many non-literate societies spend a great deal of time and energy in the production of objects which may or may not be designed with a "practical" purpose in mind, but which, while not being objects d'art can be referred to as "artistic" in the sense that an aesthetic element is involved (Berndt, 1971, p. 100).

These debates continue through the anthropological literature on art. A notable, but equally unresolved. Discussion takes place in Robert Layton's book 'The anthropology of art: "Art is a difficult phenomenon to define, both because there is an imprecise boundary between art and non-art whose location seems to often to shift according to fashion and ideology, and because there appear to be at least two viable definitions of what is the core of art" (Layton, 1991, p. 4).

In younger cultures, the use value and art value of objects disclose the special and constructed nature of the values associated with art. The example of Renaissance Italy is appropriate in the context of design. The word 'design' has its roots in the Latin word *designo,* meaning to draw. Art theorists such as Vasari considered '*designo*' to be the basis of all the visual arts, using the word to define the act of creativity or the drawing out of ideas preceding the making of any artwork or sculpture (Walker, 1989). In this sense, design is a part of the creation of artworks. The contemporary equivalent is the making of preliminary sketches and artists' maquettes.

The demand for art in Italy during the late 14th and early 15th centuries was regulated by the changing structure of wealth. Goldthwaite (1995) suggests that wealth in Italy '.was not highly concentrated at the top rung of society, it was also distributed downward into the lower ranks.... It was, after all, a modest broker in the bankers' guild who commissioned Botticelli's Adoration of the Magi in the Uffizi' (p. 47).

The 'Vatican Stanze' in the Papal apartment at the Vatican gives an indication of the value of art as something useable; a painting by Raphael, commenced around 1512, can be seen as one of the high points of the traditional model of patronage: it serves both as historical record and political statement. After the death of the artist in 1513, the design was revised to position the new Pope more prominently: " it is once again a political statement" (Shearman, 1995, p. 200).

Patronage clearly affected the artist/client relationship. This relationship was largely regulated by the church: the advent of portable art in the form of panel paintings enabled the spread of devotional imagery, so that instead of religious art being seen only as frescoes and other forms of relatively large-scale building decoration, it was now seen in the homes of individuals who were encouraged to own religiously elevating art. The increasing secularisation of art in the late 14th and the 15th centuries moved the process further. In this period art had moved through a process of intellectualisation and secularisation from being an illustrative medium in the service of the church into a portable form with its own developing sets of values (Goldthwaite, 1995, p. 142-143).In the context of the debate on the relationship between art and design, it can be seen that fine art grew out of the commercial illustration traditions of the religious painters, in a process which involved popularisation and commercialisation. This is ironic in view of a fine art tradition that sees itself divorced from the popular and commercial.

In the United States of America, from the turn of the century through the 1920s, clear distinctions were made between 'fine' art and art produced for advertising and illustration. The advertising man and his [sic] clients differed in their views about "art-art" (fine art used in an advertising context: for example, the use of a well-known painting in an advertisement), some arguing against it because of its tendency to draw attention to itself and away from the product, others arguing that the status would enhance the product (Bogart, 1995, p. 9).

A similar argument surrounds the matter of signatures and whether or not they were to be included in advertising illustration. The following citations relate to the

resistance of advertising agencies to recognise the individual artist: "the outcome of the debate reflected the degree to which clients and agency executives were willing to acknowledge art as an important element in advertising, and to let the production of images be governed by a romantic ideology of authenticity connoted by signature but at odds with the fundamental purpose of advertising" (Bogart, 1995, p. 14).

In Western Australia, there have been many common points in the development of the sometimes competing discourses of art and design. This may be seen in development of design education in the state. Design was the major program offered by the School of Art and Design at the Western Australian Institute of Technology (WAIT) when it was founded in 1967 (Russell, 1991). The history of this school saw the development of the art disciplines to a level where the two competing elements were forced to break apart to form, at first, two independent departments and, later, two totally autonomous schools. Prior to the development of WAIT, design education in Perth centered around the Perth Technical School, later named the Perth Technical College. J.W.R. Linton, who became art instructor at the Perth Technical School in 1902 (Erickson, 1992), was one of the first figures to define the differences between fine and applied arts in Western Australia. In an interview in the *Western Mail* newspaper in July 1904, he alludes to the privileged position of painting as part of the fine arts. When questioned about the direction that teaching was taking, he replied: "Painting is absolutely a luxury, and we can't get away from that fact. But with our homes here, we have a necessity in the way of art, as applied to furnishing, and the demand for art as applied to furnishing.... I desire to see this practical side of art encouraged and pushed on as much as possible" (as cited in Snell, 1991, p. 30-31)

This traditions of difference and interdependence between art and the applied arts can be seen in the links between later figures in the history of Perth Technical College: Howard Taylor is a case in point. Of Taylor, Russell (1995) asserts:

> Howard Taylor would've been the person who has had the most important influence on me and I think much under- rated - for all of those qualities that Howard had. He is a designer but he's been criticised for being too

designer I don't know how you can be criticised for being too designer but he was. Probably because in Howard Taylor's work there was inherent quality and integrity that you see nowhere else. Taylor is one of the major artists of Western Australia, his work is in major collections and he has been awarded an Honorary Doctorate by the University of Western Australia. In his days at Perth Tech he was a formative influence on many design students .(Russell, 1995).

Taylor's work clearly fits in to the category of art. He is recognised as an important artist, and surveys of his work and histories of his development clearly position him as an artist, a painter, and sculptor. Russell's comments, as a close colleague of Taylor's, reveal some of the issues pertaining to his work as an artist but do not position him as a designer. In a major survey of Taylor's work, Ted Snell (1995) clearly articulates the importance of Taylor as an exhibiting artist. A further dimension is revealed in Gary Dufour's essay accompanying the catalogue to a retrospective exhibition of Taylor's work: "Another contract, let by an architectural firm to the artist for interior colour coordination during construction of the wards at Princess Margaret Hospital in 1969, evolved into five interior relief murals" (Dufour, 1985, p. 22). Dufour raises the possibility that Taylor could have been perceived by some to be "too designer" (as cited in Russell, 1995). This may indicate some of the tensions between art and design felt by practitioners at the time.

The field of design includes contests for the term itself. Recently in Western Australia, craft made moves to regain the term 'design' for itself. An example of this wa seen in the presentation of the 1992 Australian International Crafts Triennial. The exhibition is titled Design Visions and in all the publicity material the prominent word is DESIGN. The poster has in Bold 15 mm.'s type DESIGN VISIONS, with design reversed out of a 26 mm by 127 mm block with three colours of letter: yellow, purple and green; visions is printed in black. This title block is at the top of the page, at the bottom are the sub headings in white 4.5 mm. type, reversed out of the dark background of a photograph which foregrounds an object from the design section of the exhibition. The subheadings read: International Directions In Glass; American Jewelry And Metalwork; Australia-New Design Visions. Design Visions in the main title is extracted from

the part of the exhibition relating to Australian Design. In this example, Design is privileged by its relative size (three times) and position. The curator (Robert Bell) has made clear the trend, for what has been described as craft in previous years, to make a bid for the term design.
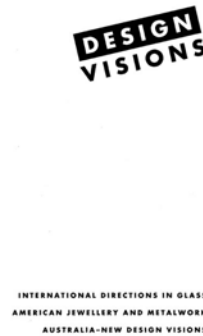
Catalogue reflecting the poster content (Art Gallery of Western Australia, 1992)

Art, through its critics, has a habit of forgetting the cold realities of fact in favour of the myth. 'The myth of the romantic artist' (Kuspit, 1995) sometimes blinds history to the truth of production. This is evident in the way in which photography has been consistently used as a tool and as a reference source by artists as diverse as Picasso and Delacroix. Bogart asserts that:

> Fine art and commercial art have never coexisted happily, their differences have never been fixed; commercial art never had an essential or inherent identity any more than did fine art. There is a long tradition of illustrations rendered by painters. And, of course, artists since antiquity have worked on commission.... In the United States moreover, illustration as a distinctive, professional enterprise emerged in the late nineteenth century as a form of fine art, as did poster design. (Bogart, 1995, p. 6).

Illustration appears to be the point where the line is drawn between design and fine art in two dimensions. A similar dividing line occurs in the three-dimensional world at the point where monumental art faces sculpture. Clearly, part of the difference is the functional aspect. Illustrations serve a practical purpose, which could be as mundane as representing pet food or as exotic as Alan Aldridge's fashionable graphic images of the 1960s. Aldridge's work included illustrations of Beatles' lyrics. These Aldridge works might be on the exact border between

design and art. They were created in response to his fascination with the surrealist content of Beatles lyrics such as 'Lucy in the Sky with Diamonds' (Walker 1987). MacDonald, London subsequently published them as The Beatles' illustrated Lyrics' in two volumes in 1969 and 1972. This example reveals some of the reference points for the classification of art and design. The producer is a graphic artist/illustrator; the work was not commissioned, but came about as a result of Aldridge's fascination with the words of the songs; the end product was a commercially distributed book of illustrations. Woven through this interface was the changing position of popular culture in Britain at that time, when former commercial artists and sign writers like James Rosenquist were heralded as the major figures of the Pop Art movement (Hughes, 1991, p .353).

Perception also plays a part here as illustrated in a critic's words about Warhol. "The existential edge of Warhol's, for the last decade, has satisfied itself with doing perfunctory social portraits. Nevertheless, although Warhol began as a commercial illustrator and seems to have ended as one, he did, for a short while, have something to say" (Hughes,1991, p. 348)

Equally, design is mythologised through a process of hero making: 'designer' products, jeans, sunglasses, cars and others, bearing the designer's name as a form of brand marketing, perpetuate the myth of the star designer. In this case, the designer is elevated in status and becomes on a par with an artist. Pierre Cardin is an example of a designer brand applied to a large range of clothing and fashion items, most of which would have been designed and manufactured without the input of Cardin himself.

Raymond Loewy, the French/American industrial designer, is a brand name designer. Loewy had a staff of up to 400 designers working in his business, yet the only drawings that left his studios were personally signed by Loewy. He went so far as to employ a clean-up team to destroy any document that did not carry his name, ensuring not only the perpetuation of his designer name, but also that no one else in the organisation could benefit from work done in Loewy's employ (Schönberger, 1990). Reese asserts: "During the working day he toured the

offices, making suggestions to division chiefs, leaning over drafting boards to compliment certain drawings or sketches, and then retiring to his private office to plan strategies for selling, selling! "(p. 39).

Pierre Cardin, who has become a brand name applied to clothing and accessories produced by a variety of designers and manufacurers, and Loewey both represent the myth of the designer as superstar, mythical figures whose design abilities are or were less important in the development of their reputations than the mystique created by their self promotional activities. Munari (1971) suggests a view that the 'star' artist needs to be demythologised; "Culture today is becoming a mass affair, and the artist must step down from his pedestal and be prepared to make a sign for a butcher's shop (if he knows how to do it). The artist must cast off the last rags of romanticism.... "(Munari, 1971, p. 2). Within these two discourses of art and design, mythologising of the practitioner plays a part in developing public perceptions; these perceptions are often different to the real situation in terms of condition of production and of personal values.

The signature of an artist is considered an important part of the provenance of a painting and in the same way the designer signature applied to products of mass consumption adds credibility and value. It seems likely that it will take a significant period of time before art and design become synonymous terms, bound up as they are in cultural traditions. For the purpose of this study these cultural traditions and cultures of practice inform the self-reflexive stance; providing context and practical sources for contemplation. In order to have a direction it is necessary to know where you come from. An understanding of classification and recognition of some of the boundaries of art and design, including how photography is considered in both, enables a considered view to be taken. Creative production becomes grounded in the traditions of cultures of practice. Making new work and finding new directions can be approached in a methodical way.

Chapter 4: Methods

Methods

In order to look at the transecting discourses of design and art and the relationship between painting and photography as representational practices, it is necessary to adopt a methodological framework. Without such a framework it is likely that the project will fall into the category of self-reflection. This is not in itself a bad thing, but in the notion of self-reflection nowhere implies a sense of rigor. The methods used allow reflection on the relationships that dictate the values placed on the practical work produced. This relates back to the research questions: How have conventions of the perceptions of space impacted on my creative practice? How does the narrative of my experience match up to the grand narrative of art and design? How do the conventions of representation of two and three dimensions operate in relation to both photography and painting?

As artists and designers we may sometimes fear that attempting to intellectualise our practice can lead to a devaluing or, worse, a destruction of creativity: " As practitioners in Art and Design we can recognize the fear of losing or damaging creativity by speaking about it and, even worse, by writing about it!" (Gray & Malins, 2004, p. 58). Gray and Malins (2004) reflect on the benefits of overcoming a fear of articulating and exposing creative practice. They see discussion as beneficial in developing an understanding of practice, leading to more visible approaches in teaching, collaboration and evaluation. Because both painting and photography are complex, they do not lend themselves well to a reductionist research model, where a change is made and the effects noted. Neither do they necessarily suit a hypothesis model of research, where an outcome is hypothesised and tested. This may be due to the highly personal way in which creative practitioners work. The manifestations of artists can be seen to come from inside them; they are a personal expression, describing a particular viewpoint unique to that practitioner. As such, they are clearly worthy of study; however, the problem of rigour comes when the practitioner wishes to study their own work. A key to the way that this can happen is in the nature of practice and

the connections that can be made between Reflective Practice and Action research.

In a research context, the notion of self-reflection can be found in 'reflexivity' (Crouch & Pearce, 2012). Crouch and Pearce use the term 'reflexivity' as a way of "framing the concept that when individuals act they are also acted upon" (Crouch, Pearce 2012 p. 47). Reflexivity acknowledges self reflection and allows it to be seen as part of a holistic process where the participant is both researcher and researched. Crouch and Pearce write that "the individual evolves from a complex (and sometimes difficult) relationship with the world of institutions" (Crouch & Pearce 2012 p.48). The institutions involved in this case include the professions of graphic design and photography. Reflexivity must also acknowledge my training in these disciplines and the process of acculturation to the discourses of those industries and practices. Also relevant are the practices of design education, requiring as it does a reflection on and analysis of design practice, in order to teach others. In some ways, this process of education and the passing on of values is the most powerful form of reflexivity. In the process of teaching, the teacher also becomes changed.

This chapter describes the theoretical framework of the research. Research into practice is a topic that has attracted recent increased interest. The 2004 conference 'Research into Practice', held at the University of Hertfordshire, had as its theme: "Research into Practice has a core interest in the fundamental principles, philosophies, and problems that underpin studio-based research in art and design. Its objectives include … the problem of the relationship of the image, the object, the presentation and the word"(Research into Practice, 2004,) .Also, key journals such as 'Working Papers In Art And Design' spend considerable resources in dealing with the topic. Recent volumes include articles on "the role of the artefact in art & design research; the concept of knowledge in art & design; the foundations of practice based research".

Central to any theory that can guide this research will be an understanding of the

role of the artefact in art and design research. Scrivener and Chapman (2004) highlight some of the major issues involved in framing art practice as research. Whilst artefacts or art objects are seen as central to the framing of art practice, there needs to be, in parallel, a development of methodology: "frameworks and methods are created and tested through the doing of practice based research." (Scrivener & Chapman, 2004.These frameworks and methods require an academic rigor that satisfies the standards of established research establishments.

Scrivener (2002) has argued that the proper outcome of visual art research is visual art. This may seem self-evident at one level; however, it seems that much of the work of academic research in visual art and design has been critique. Criticism in itself is not a form of production, but, as will be argued later in this chapter, it can be seen as a part of a reflective practice.

Scrivener (2002) proposes that legitimate creative production research should demonstrate seven characteristics to satisfy the constraints of academic rigor. The first five of these are:

> First, artefacts are produced. Second, the work can be described as being original, i.e., not derivative or imitative of others' work, in one or more of the context identified above. Third, the work can be described as a response to a set of on-going issues, concerns and interests explored and expressed through one or more artefacts. Fourth, these issues, concerns and interests should be manifested through the creative-productions, i.e., the artefacts produced. Fifth, although issues, concerns and interests may originate in a highly personalised way, they are inevitably rooted in a human context. (Scrivener & Chapman, 2004)

These characteristics are shared by much of what can be recognised as traditional research. The sixth and seventh are more contentious and require that the artefact inspire 'apprehension' in the observer. The seventh also implies that "the creative product, as an object of experience, is as important as any knowledge embodied in it" (Scrivener and Chapman, 2004). These two last assertions seem to imply that the artwork, whatever its nature, transcends the mundane nature of most research outcomes. This may or may not be so, but it seems to be an argument outside the argument as to whether creative

production can be research. It seeks to take it further with the danger that inspiring apprehension could be seen as a necessary practical outcome for visual arts research.

Grounded theory

The first theoretical approach considered for this research was Grounded Theory, a qualitative methodology which derives its name from the practice of generating theory from research which is "grounded" in data. Formally introduced by the sociologists Barney Glaser and Anselm Strauss in The discovery of grounded theory (1973), this methodology emerged as an alternative to more traditional approaches to scientific inquiry which relied heavily on the hypothesis testing, verificational techniques, and quantitative forms of analysis which were particularly popular in the social sciences at that time. Whereas many of the central components of grounded theory were outlined in The discovery (e.g., constant comparison, theoretical sampling, and coding procedures), subsequent publications by Glaser and Strauss ,writing alone or with others, began to reflect important differences in how these scholars envisioned grounded theory and its use. As a result, it can be argued rather convincingly (Glaser, 1994) that two somewhat distinct methodologies have evolved based on the original work, each with its own underlying epistemology and attendant properties.

Grounded Theory is a method of qualitative research and is an inductive approach, using a systematic set of procedures to arrive at a theory about basic social processes: in this case, the process of painting. In social science research, the aim of this approach is to discover underlying social forces that shape human behaviour by means of interviews with open-ended questions and through skilled observation. An exhaustive preliminary literature review is not done to allow theory to emerge directly from the data and remain "grounded in" the data. The thrust of Glaser's form of Grounded Theory is that themes will emerge from the texts. His catchcry is 'Trust in Emergence'. Familiarity with the text will lead the researcher to identify key issues (Glasser 2003).

In relation to this research, the grounded approach has limited relevance; grounded theory requires descriptive coding and it proved difficult to describe in

words the emerging categories. Broad categories such as colour emerged from the work and dealing with this category has been more of a matter of referring self-reflexively to experiences in colour theory. When describing the findings, descriptive language must be used to provide the reader with the steps in the process and the logic of the method (Glasser 1994). However 'trust in emergence' has been a core guiding principle used in the practical work.

Bob Dick's Australian site from Southern Cross University gives a very good introduction to Grounded Theory :

> Constant comparison is the heart of the process. At first you compare interview (or other data) to interview (or other data). Theory emerges quickly. When it has begun to emerge you compare data to theory…. During the process of coding certain theoretical propositions will occur. These may be about links between categories, or about a core category: a category which appears central to the study. As the categories and properties emerge, they and their links to the core category provide the theory (Dick, 2002)

These categories are to some extent self perpetuating: they take on a life of their own. This process is a form of Action Research. The advantage of this form of research is that it takes into consideration the researcher's own preferences and motivations. Given the same set of research data, people will put their own spin on the material. What emerges for an individual researcher depends on their background, interests and who they are as a person. Grounded Theory recognises that you are an individual and that what is of interest to you will be significant in your research.

In this project, the adoption of a grounded theory approach enables me to work across media, from photography through digital manipulation to painting, employing an action-research approach: a process of action, reflection and response. During this cycle, themes emerge, such as, for example, perspective, scale, contrast. These themes become the focus of more action and reflection. The way in which these themes are created illustrates Glaser's theory of trusting in emergence (Glaser, 1994).

This approach helps make sense of the cross-media nature of the research.

Whilst carrying out the act of production and reflecting on the outcomes, other peripheral elements intrude. The process cannot be simply circular, in the way that Kolb's experiential learning model presents it, but must take note of intrusions. For example, part of the reflective process is to engage with the reflections of others. This may be as simple as someone saying that they 'like the colours' to a more complex emotional response to a portrait.
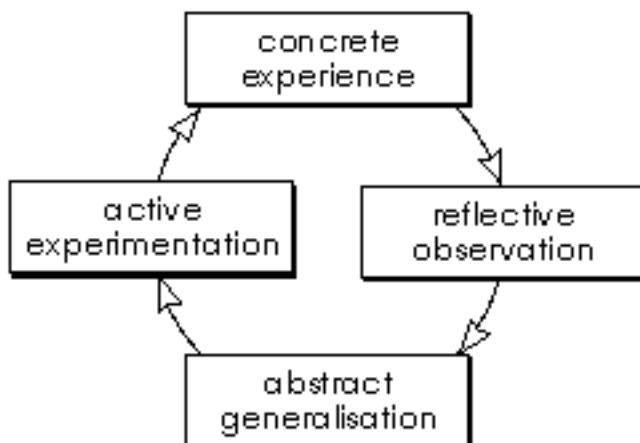
Kolb's learning cycle (Kolb, 1984)

Kolb's cycle seems to suggest that the process is closed and that all the activity comes from the learner, in this case researcher. In the case of this project, much of the reflection has been from others.

Reflection
In the context of social research, Denzin (1997) has suggested that the authority of a research-based text is dependent on the degree to which the research follows a set of rules:

> Validity as legitimacy, however, represents the always just-out-of reach but-answerable claim a text makes for its authority. After all, the research could have always been better grounded, the subjects more representative, the researcher more knowledgeable, the research instruments better formulated, and more member checks could have been conducted. (Denzin, 1997, p. 7)

In this project, the texts are formulated within the research. This creates its own

issues and brings into doubt the claims to objectivity inherent in grounded theory. Is it possible to identify and codify categories emerging when the researcher is the producer?

An action research/grounded theory approach does not work in the "grand theory" (Jokisch, 2001) manner. Its more flexible approach, which allows the researcher to move between themes and to build a structure grounded in the material being worked on, better suits a practice-based investigation. The cyclical nature of action research as described by Bob Dick (1997) differs from the model described by Denzin in that it does not set out to fit the data to a theory. Action research allows the theory to develop at the same time as the research itself.

A typical cycle may look something like this:

1a Decide which questions you wish to have answered; if this is the first step in the process, it may be a very broad question: "How does this system work?", perhaps.

1b Decide who to ask, and how to ask them. (This and the previous step are both "plan".)
2 Ask. (This is the "act" component.)

3a Check the information you collected; devise ways of testing it in the next cycle.

3b Interpret the information -- what does it mean?

Devise ways of testing your interpretation in the next cycle.

3c Check the adequacy of your choice of participants and way of collecting information. Amend them for the next cycle if desirable.

3d Check your data and interpretation against the relevant literature; you may not do this for every step, but may limit it to

every few cycles. (This and the three prior steps are part of reflection.) and return to step 1a of the next cycle with an improved methodology, questions, and sample of participants. (adapted from Dick, 1997).

Both Denzin (1997) and Dick (1997) refer to Triangulation of data. In Denzin's model, triangulation implies a testing of information by reference to at least two sources or ways of asking the same question, both of which confirm the data. Dick (1997) suggests that, in action research, the term 'dialectic' is more appropriate:

> In an art practice-based research, dialectic can be read as points of agreement between similar outcomes using similar subjects and/or methods. As Dick asserts, "In this way, your questions and methods, and your data and interpretations, become more focussed as you proceed. (Dick, 1997, para. x)

The artist/researcher also becomes more focused and the images become more clearly identifiable as a statement of a particular issue.

The planning and reflection, and sometimes the design of the image, will probably be carried out with the help of other commentators, such as those sharing a studio or people with whom the work is discussed in informal settings. Other commentators may respond to seeing the project displayed on a web site set up for that purpose. Cycles exist within cycles. Each act of image production becomes a cycle, each discussion about the work becomes a cycle within that and each cycle leads to the end outcomes of the project, which can be seen as a meta-cycle. If you are using interviews for data collection, each interview is a cycle. In Dick's terms "The sequence of interviews forms another cycle, as do the other forms of data- collection you use. In turn, they are part of the still larger cycle of the overall project." (Dick, 1997, para. x)

A potential problem with this cyclical process is that each iteration is variable in scope: changes can be small or large. The researcher needs to bring a sense of perspective to the process in a number of senses. A scale of change or degree of reflection clearly has to be sufficient to allow discrimination between parts of the cycle, but not should not be so large as to create disjunction. Extreme examples at

either end of a spectrum would be: change so slight that little or no progress can be discerned; or change so large that a new topic emerges at each cycle. The latter phenomenon can be seen in some research, where the problem changes dramatically and new subjects are proposed to the extent that there ceases to be a connection between stages; they are simply new starting points.

Several parallel themes run through this research and it has been important to keep them independent while making clear that they are part of the same picture. Such themes include: the development of design in this state and how it has shaped my views on design and art; the history of perspective; the historical use of photography by artists; my own painting from photographs; and my own photographic resolution of the visual research.

Chapter 5: Practice
The reflection cycle and the first public exhibition

This chapter describes the first stages in the reflection cycle and contextualizes the approach to answering the research questions: How have conventions of the perceptions of space impacted on my creative practice? How does the narrative of my experience match up to the grand narrative of art and design? How do the conventions of representation of two and three dimensions operate in relation to both photography and painting?

On December 24th, 2005, I exhibited 21 paintings and digital images in the Kidogo Art House Gallery on Bathers Beach, Fremantle Western Australia. There were eighteen paintings and three printouts of Photoshop enhanced digital images. The exhibition was on the walls for a week from November 25th to December 1st, 2005. During that week, I set up an easel in the gallery and worked on a number of oil paintings. I spoke to visitors about the work on the walls, but mostly I just observed and listened.

My images derive from a reflexive practice process whereby an image is made and reflected upon and feedback from audiences and colleagues is sought and considered. Then each image becomes part of a cycle of research and development. Painting is a way for this artist to engage with the issue of representation and the similarities and differences between photography, digital image making, and the painted surface.

The process of creation involves taking images, either on a digital camera or on film. Film images are scanned onto CD. The photographs are themselves selective, composed, and considered images. These images are cropped and manipulated in Photoshop to enhance the colours and forms inherent in the original. Subtle changes of tone can be magnified to create patterns and shapes. Colour selection can also be manipulated at this stage. This process is informed by my background

as a graphic designer and relies to some extent on an understanding of colour theory.

This research is for me the closing of a larger circle of enquiry. My art training started in a British Art School, Swansea College of Art, during the 1960s. I studied Fine Art in Architecture, a course that included mural design, stained glass, and other decorative and applied forms. My family background includes a strong interest in photography, and I continued to take photographs during my time at art school. I continued my studies in the Foundation course at Swansea, where there was a graphic arts influence.

In the early 70's I took up formal study of photography whilst employed as a technician in a university architecture school. Part of my work as a technician required an understanding of architectural drafting and architectural illustration. During this period, I became interested in the relationships between photography and formal perspective. Studyog the history of drafting conventions and the development of perspective theory during the 15th century engendered an awareness that the mathematics of perspective and the optics of photography were derived from the same principles (Mills 1998; Gould 1965; Williams et. al.2010; White, 1956; Tsuji, 1990; Tomas, 2008).

In producing photomontages and composite images using photographs and illustrations, it is important to adhere to conventions of perspective. The application of viewpoint, scale, eye height (the viewer's eye or the camera's eye), together with vanishing points, enable the setting up of convincing montages. These montages, as opposed to architectural models, are two- dimensional representations of three-dimensional possibilities (Fineman, 2012). The viewpoint of all elements in a montage must be consistent. Objects placed on the right of a montage must be photographed from a point left of center. Likewise with eye level; all components must be photographed from the same eye level.

This consistency can be demonstrated by constructing perspective lines on photographic montages.

An understanding of these conventions of representation is useful in reading photographs. Take, for example, a series of photographs of posters on a wall: if a wide-angle lens is used, the posters may seem small and distant, whilst a longer focal length lens can increase the image size. Moving closer and changing the viewpoint can also have an impact on the message derived from the photograph. It can change the impact of parts of the image. In that case, viewpoint can dictate a point of view. What is foregrounded and made central to the image will affect the viewer's reading of the image.

The images in this study comprise both two-dimensional representations of three-dimensional subjects, and two-dimensional representations of flat and virtually dimensionless subjects. To understand these photographs and the paintings made from them, it is necessary to engage with the principles of perspective. The camera automatically adheres to conventions of linear perspective. It has a single viewpoint and projections from photographic images can be seamlessly integrated with drawn perspective projections. This congruence of perspective and photographic image creates powerful illusions; the mind can be convinced of the existence of forms and planes in space. This capacity for illusion is exploited in television sports broadcasts, where logos and slogans painted flat on the ground and viewed from obtuse angles can be read as front-on, flat images, by the viewer. Such images use reverse perspective, where the parts of the design further away are larger. The normal foreshortening effect of the camera with its cyclopean view counteracts the reverse perspective.

This project is a long-running investigation into some of the relationships between photography and painting as they impact upon my practice as a designer, photographer, and painter. This interest is informed by my

interest in perspective, arising from a time in the 1970s when I was involved in the production of architectural montages. Reflecting on this time has made clear the links in my practice between photography and illustration.

The convention of perspective
Formal perspective as we know it is an invented convention. It is also a key tool to the representation of space and our reading of that space. What it is not, is the truth. A formally constructed perspective rendering of a scene or object seems to most people to have a factual status, i.e. 'this is exactly how the situation was'. The convergence of media through the advent of computers and digitization has been one further step in advancing the hegemony of the perspective view.

The development of the camera obscura, leading to photography, film and television, emphasized the truthfulness of the perspective image. The pioneer photographer Louis Daguerre employedthe term 'objectif' to describe the camera lens (Bob, 2013, p. 16). Photography, drawing, cinema and television all claim this objectivity. It is not, however, the objectivity familiar to artists and audiences before 1435.

Before 1435, the size of objects in a painting was relevant to their importance. This seems much closer to the way that we perceive the world psychologically. When looking at a classroom full of students, it's the one that you are speaking to who appears the largest and most important. We seem to mentally diminish less important people in the situation. This change in understanding relationships is shown clearly in the example of two panels made for the Sienna Cathedral by the artist Donatello. They both show 'the feast of Herod' (see Figure 1 and Figure 2). The first, made in 1425, shows the figures sized relevant to their importance, with the size of important figures in the back of the scene shown relative to their part in the tale. The second of the same subject shows sizes based on placement in perspective (Combe & Wexler, 2010)

Figure 1: Donatello's 'The Feast of Herod' [bronze] (White, 1956)

Figure 2: Donatello's 'The Feast of Herod' [bronze] (White, 1956).

(Exception to copyright. *Section: ss40, 103C.* Exception: *Research or Study.)*

These images first piqued my interest in perspective through photography and made me aware of the limitations of this 'objective' tool. They were a discovery that informed my research and form part of its grounding. It is clear that what is going on is complex and layered. Even the way that we view pictures is far from simple and contrasts with the notion that we see in one snapshot or single view. In fact, the viewer's objectives in viewing the image play an important part in its reception. Zoi et al (2010) describe some aspects of how viewers 'read' a painting or photograph:

the eyes largely fixate the meaningful areas of a realistic image, regardless of the density of detail, color or contrast; that the eyes are more attracted to the center of the image; and that with additional exploration time, the eyes repeat fixations between the same meaningful points rather than exploring new ones. Most importantly, Yarbus was the first to demonstrate that the eye movement pattern depends largely on the viewer's objectives. (Zoi et al., 2010, p. 153)

The viewer's objectives are an important element in viewing any image

and we sometimes lose sight of the fact that readings occur not only on

a semiotic level, but also on a psychological level. It is not only the

viewpoint that dictates

the point of view. Coppel frames the debate for us in his book.

Is perspective a convention making it possible to represent a volume on a surface? Is perspective a recipe for composing a figurative picture? Is perspective a knowledge of the optics, light and physiology of vision? …. after the thrill and excitement of the discovery in the
15th century and the proselytism in the 16th, came the rigour applied in the 17th and 18th centuries, the self-confidence and pedantry of the 19th century and the doubts and hesitations in the 20th. Now, today, as we approach the 21st century, questions are being asked as to the why and wherefore of all these stages. (Coppel, 1982)

This research project sets out to make sense of perspective and its

relevance to subjectivity and objectivity.

Perspective's invention
The first known treatise providing details of perspective drawing as we

now understand it was written in 1435 by Leon Battista Alberti, an Italian

architect, mathematician, and scholar. In 'On Painting' he presents for

the first time the geometry of linear perspective (Branko, 2004; Williams,

March & Wassell, 2010, p.154). Much of the experimentation and

theorizing on perspective came from the architect Filippo Brunelleschi

who worked in Florence in the 15th Century. He famously created

drawings of the Florentine baptistery of San Giovanni (Tsuji,1990).

There are varying accounts of what he actually did and authors differ on

the precise mechanism. It is clear that he used the principles of the

camera obscura in some way. Tsuj (1990) suggests that he used the

church of Santa Maria del Fiore as a giant camera obscura (p. 277).
Park (2013) points out that original panel painting is lost. Park also
agrees that the image was probably created using some version of a
camera obscura (p. 259).

Other conventions of visual representation

Prior to the invention of the convention, perspective was defined by
subtle clues of overlay and aerial perspective. The early Greek
philosophers were responsible for much of the hypothesizing that later
came to be formulated by

Alberti and others. Euclid and Ptolemy around 320 BC conceived of rays
emitted by the eyes, forming visual pyramids, informing the viewer about
the dimensions of the subject (Coppel,1982).

As habitual viewers of conventional perspective through the media of
photography and realist art, contemporary viewers are sometimes
challenged when we see alternative conventions used. Chinese and
Japanese paintings historically did not use converging perspective, and
when we look at these images we can see them as 'wrong'. They are,
however, just as correct as any other convention, and the original
audience would have understood them in the same way that we
understand perspective.

In decorative arts and crafts, images are often transposed onto non-
planar surfaces. Conventions here are varied. Riehl looks at the case
where a Chinese artist has decorated a cup. It is a world where "little,
lawless, azure-tinctured grotesques … under the notion of men and
women, float about, uncircumscribed by any element, in that world
before perspective" (Riehl 1993 p. 39). Riehl suggests that cup's painter,
without an appreciation of European perspective, may indeed have a
better understanding of space. Indeed, like the pre 1435 artist in Europe,
the painter may have been free to represent dimensions other than
simply spatial

Architectural representation beyond perspective

Computer Aided Design (CAD) and formal drafting conventions are a significant part of a contemporary architect's practice. To some extent, what can be designed is dictated by the limitations of the technology. Prior to the Renaissance, architectural drawings were rare. In the Middle Ages, architects did not conceive of a whole building, did not produce overall master plans, and the very notion of a scale was unknown (Perez-Gomez, 1992, p. 23).

As an extension of perspective in painting, the architect's use of it differs in that he or she is usually representing something that does not yet exist. This leads the architect to rely on underlying rules, not only to represent ideas, but also to constrain their generation. A crude example would be the use of rectangular ceiling panels; these are easily drawn with simple drafting tools. It is worth considering whether the predominance of rectangular forms and other features, such as arcades, derive from the ease with which they are constructed in drawings. Perez-Gomez and Pelletier (1992) indicate this: "the problem of architectural representation still begs discussion. Tools of representation underlie the conceptual elaboration of a project and the whole process of generation of form. …. no alternatives are seriously considered outside the domain of modern perspectivism, which has deeply conditioned our knowledge and perception" (Perez-Gomez & Pelletier, 1992, p. 21).

A complementary view describes the use of projections, including perspective, to generate and discover forms:" certain twentieth-century architects have used projections not as technical manipulations, but to discover something at once original and recognizable" (Perez-Gomez & Peletier,1992, p. 34). This can be taken to mean that architects use the technology, and the authors include computer-aided design here, to discover new forms without breaking out of the unfamiliar. Unlike Frank

Ghery (Rose, 2013) or Antonio Gaudi (Roe, 2012), both of whom used models extensively to generate form, most architects work within the confines of linear perspective.

Digital convergence and its visual repercussions

The convergence of digital media highlights the differences between analogue and digital photography. Margaret Iversen points out "It is only now, with the rise of digitalization and the near-obsolescence of traditional technology, that we are becoming fully aware of the distinctive character of analogue photography" (Iversen, 2012, p. 796). By giving us close to technological perfection, at least for most commercial applications of photography, digital media has highlighted the idiosyncrasies of the previously predominant analogue photographic processes.

Not only has photography developed technically but it has also become almost ubiquitous in our lives, with the advent of Facebook, Instagram, Pinterest and other sharing media. The last 40 years have especially been a time of development and convergence of representational media. Barliant (2012) quotes sculptor Robert Morris bemoaning the "malevolent powers of the photograph to convert every visible aspect of the world into a static consumable image." He suggests that this has gone further with the advent of mobile phones and digital cameras which have created a situation where photography is "so pervasive as to have become practically invisible". (Barliant, 2012, pp. 108-109)

Barliant (2012) continues his argument implying that everybody understands the complex relationships between representations and reality:

> Today everybody knows that a reproduction is divested of a transparent relation to an original, yet that doesn't stop collectors from judging and buying work simply by looking at jpegs; indeed, most of us first experience an art object by seeing an image of it …. For artists, it seems natural to start with an object that they then drain of significance as an original through its reproduction and circulation. By absenting the referent, they

would assert control over a system of circulation that they see as generally depriving the artwork of its autonomy. ((, 2012, pp. 108-109)

This statement makes a very significant point linking photography, representation, artworks and their status via reproduction and copying. Iversen believes that "one could argue that analogue photography has only recently become a medium in the fullest sense of the term, for it is only when artists refuse to switch over to digital photographic technologies that the question of what constitutes analogue photography as a medium is self-consciously posed" (Iversen, 2012, p. 797). This change in status of analogue photography from state of the art to, in the view of some users, an inferior alternative, has liberated it and allowed it to become a medium of choice.

Ogden (1993) discusses the change in approach between early photographers and (the then contemporary) 1993 film photographers; this was before the massive swing towards digital photography. He describes the way in which 19th - century practitioners edited their work on site, by cleaning and re-coating the glass plates before reusing them. In the later roll-film era, editing took place after the films were processed (Ogden 1993, p. 250). Now, in the digital era, there is a return to the position where photographs can be edited and deleted on site.

Considering this statement and its application to the digital domain we can see that the nature of photography over time has dictated different levels of engagement in the process by the practitioners. In the 19th century, a photographer had to be a chemist and a craftsperson, with a good understanding of emulsions and plates. This lead to an un-experimental approach to capturing images. A landscape was chosen and a time of day and year selected to give the required effect. The image was composed and a glass plate negative produced. (A discussion on the varieties of processes available is outside the scope of this discussion; however, further work needs to be done on the effect of technology on image capture). Later photographers used increasingly more convenient film formats, culminating in what became the long- lived industry standards of 120 and 35mm film.

Analogue photography and a users viewpoint

My own photography belongs to this stage, mostly 120 film with some 35mm. The later practical work in this project is derived almost exclusively from 120 film. Roll film has distinct limitations for the photographer. With 120 roll film there is a choice of speeds and makes each of which, in conjunction with a selected developer, produce different effects. I chose to use 400 ISO film, because its relatively high speed allows the use of higher shutter speeds and smaller apertures and it can also be used in lower light conditions. After many years of using Kodak and Ilford films, I have settled on Agfapan as my emulsion of choice.

Further to this combination of format and film, there are other layers of subtlety where the photographic process echoes the craft qualities found in the activities of the19th-century practitioners who used silver-rich paper and selected developers, finely tuned timing and temperatures to standardize a craft product.

Whilst digitization brings the benefits of convenience, immediacy and enables direct manipulation via computer programs, something is lost. The analogue process provided an individual character; grain, contrast and tonal range were all characteristic of the film and chemical process chosen. Iversen avers "In this context, artists' use of analogue film and the revival of early photographic techniques should be regarded as timely interventions, although these may strike some as anachronistic" (2012, p. 796).

The analogue photograph at least provides a fixed reference point in the negative or transparency; it can be seen and identified as evidence of a time and place. Such traces are more elusive with digital forms. They aren't visible in themselves and need a suitable program to make them visible. Van Gelder (2009) suggests that the widespread adoption of digital technique in art photography has lead to the conclusion that digital photography that constructs images is more akin to painting or collage techniques than to analogue photography…. Photographers have always had to choose between straight or manipulated photography and that this is "similar to decisions of painters on how true to nature their compositions should be. Of course, the digitalisation of photography has much

simplified the process of manipulation for photographers." (Van Gelder & Westgeest, 2009, p.122). Iversen provides an alternative view to the benefits of digitization "We are being "frogmarched," … into a digital future "without a backward turn, without a sigh or a nod to what we are losing." (Iversen 2012 p.812). Questioning the common sense assumption that digital is better is central to the later part of my research, where digital and analogue processes are used in conjunction.

Artwork crossovers

Artist photographers are able to engage with the qualities of both media and the manipulation of the textural qualities of both are subjects for art. For example the enlargement of pixels or the exaggeration of grain. Crossovers with painting and other graphic forms also emerge from the tension between artist and the physical constraints of media. Van Gelder andWestgeest (2009) coined the term "multimediating picture" to describe the kinds of works produced by photographers like Jeff Wall, who is described as a painter who paints photographically "This … evolution in contemporary art has entailed specific consequences for an understanding of what some of the interactions between photography and painting look like today." (Van Gelder & Westgeest 2009 p.123). The connections between photography and art have been clearly identified by authors such as Coleman (2013) and Van Deren Coke (1972) who describes the use of photographs by well-known artists as sources for painted artworks. A surprising example of this work is found in the work of Paul Gauguin who clearly copied photographs for some of his most famous paintings such as Mother and Daughter which is based on a photograph by Henry Lemasson (see Figure 3).
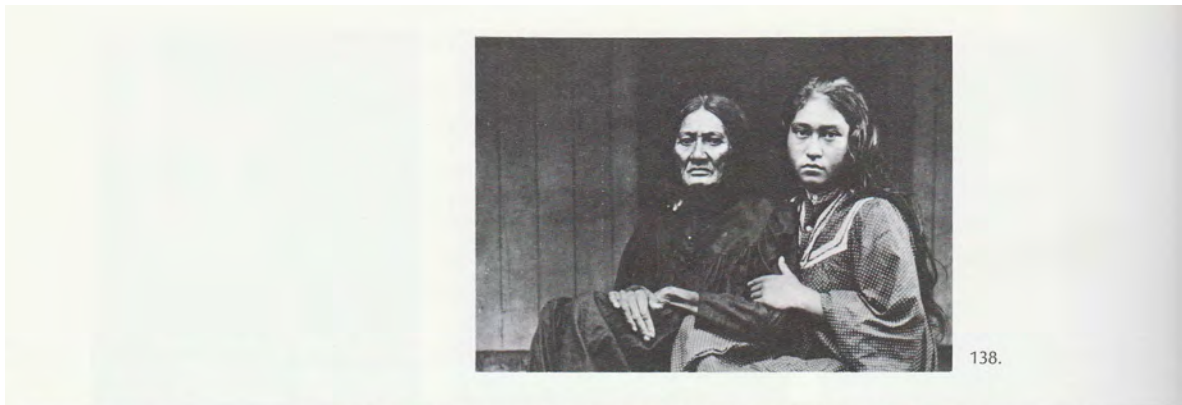
Figure 3 Mother and Daughter by Paul Gauguin (Coke 1972, p. 56).

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Bob Dylan produced two series of paintings, the Brazil Series and the Asia Series, exhibited at the Gagosian Gallery in New York. Many of these images were direct imitations of photographs taken by others. He had licensed the images from the Magnum Photo Agency. The issue of copyright was clarified and the usage was contractual. The moral dilemma of whether it was right to suggest to the public that these were Dylan's own interpretations of Brazilian and Asian culture was what was a concern to commentators (Coleman, 2013)

The question of whether he's somehow cheated artistically by working from photographs gets resolved by explaining that this is a well established practice in the graphic arts, dating back to the invention of photography in 1839. If painters of international repute get to do it without attack on their integrity, surely Dylan does as well.
(Coleman, 2013, p. 3)

Artists from Francis Bacon, Edgar Degas and Walter Sickert to Richard Hamilton, Andy Warhol, and Gerhard Richter, used photographs

to inform their painting work.(Coke 1972) This is not surprising as artists can legitimately and do make use of tools in their work, and in this context the camera is just another tool (Hammer, 2012, p. 355).

A discipline which may be worth considering in attempting to understand photography in the context of painterly practice is art history. Apart from commentators such as Van Deren Coke and Hammer who are specifically interested in the connection, there is little written in histories of artists about their use of this tool. For example, writing about Gaugin usually emphasises his personal conditions and lifestyle, and not a lot is said about his use of other people's photographs. One clear exception is the use by many artists of the photographs of Eadweard Muybridge. This was because Muybridge's discoveries of how humans and animals really move, had a scientific dimension that raised them above simple photographs. Between the photograph and the painting, at some point art is created. The issue seems to be 'at what point?' We can consider a continuum from automated technical record photographs through creative and interpretive photography into photo manipulation and on to the point where the original photograph is just a ghost influence: just the source of an idea. At which points on this continuum is art possible?

The claim that photography is or might become an art has been resisted for generations on the ground that photographs are essentially mechanical products, whereas artistic representations in forms of which painting is the paradigm engage the essentially free and imaginative human creator. Recently it has been argued that photographs are not even

representations, and, a fortiori, that photography is not a representational art. This claim is so outrageous to common sense that we had better take it seriously. It seems to be founded on the contentions that representations are intentional objects ; that ideal photographs are not intentional (in the required sense), and that they are therefore not representations. What sense of "intentional" can such an argument rely up-on? (Brook, 1983, p.171)

This debate seemed to be seeking to define what art is and what it is not. The situation becomes further complicated when we consider the nature of all representational practices that rely on presenting a copy. They can be simple copies or complex. One approach to analysis of representation can be seen in semiotics, and whilst it is tempting to move into that domain, this research has excluded that approach to look at other sets of relationships.

Camille (1996) suggests that at least since Plato, the theory and practice of the visual arts have been founded, almost exclusively, upon the relationship between the real and its copy. This continues in the dynamic between photography and painting. Camille sees the relationship as being more than copying or representing and he suggests that there is a further position, that of the simulacrum.

> The simulacrum has been repressed in this history of representation because it threatens the very notion of representation itself. This is because it subverts the cherished dichotomy … of model and copy, original and reproduction, image and likeness. For while the mimetic image has been celebrated as an affirmation of the real, the simulacrum has been denigrated as its negation. An image without a model, lacking that crucial dependence upon resemblance or similitude, the simulacrum is a false claimant to being which calls into question the ability to distinguish between what is real and what is Represented. (Camille, 1996, p. 31)

According to this argument we need to take care when using terms such as copy, representation, image, likeness, and the real. The reality may be more complex and less reducible to a simple statement. A simulacrum implies more, and if we consider an artwork in this context, it can hold more meanings. This frees an artist to work in a broader domain. In photography, it enables a richer exploration of what a photograph might be. Melissa Miles invokes the similarity between

photography and Plato's cave. "The obvious likeness between the cave's darkened interior, into which images are projected by the agency of light, and the camera obscura has led to the popular deployment of Plato's simile as a philosophical precursor to the photographic" (Miles, 2005, p. 332). In Plato's cave, however, the viewers of the shadows on the wall made sense of the world only through its shadows; the camera obscura reveals light not shade. Unlike Plato's metaphor, our understanding of photographic images has developed in our culture over time. Photography and its images did not command any single reading when an audience first encountered it. "A great deal of work went into forging the links in the chain that connected the image to its referent, and this work was done largely at the level of materials and techniques." (Levitt, 2003, p. 457)

Subject and object

Central to the idea of copy, image, likeness reality and associated terms, is the need to transform the subject matter into a sign. In photography and other art forms, subject matter is also an issue for consideration. For example, a shared taste for an object is not necessarily the same as a taste for that object as a photographic subject. People who like capsicums do not necessarily like Edward Weston's photographs of capsicums. In painting from photographs, some of these connections are tested. Part of this reflective practice has been grounded in the transformation of photographs of common objects into artworks.

Bourdieu's (1986) experiments with photography, in which the acceptability of certain subjects was tested across class groups, show no difference in responses whether the interviewees were shown actual photography or asked to evaluate on subject names alone. The same result was achieved with a picture of a cabbage as with the idea of a cabbage. Implicit here is a signification within subject genres, which is understood on a connotative or a mythological level. Appreciation of a photograph of capsicums might be dependent upon the mythology of Edward Weston and our own discursive relationship with it.

> Since it was not possible to set up a genuine experimental situation, we collected the interviewees' statements about the things they consider 'photographable' and which therefore seem to them capable

of being looked at aesthetically.... The capacity to adapt the aesthetic attitude is thus measured, the gap (which, in a field of production which evolves through the dialectic of distinction, is also a time lag, a backwardness) between what is constituted as an aesthetic object by the individual or group concerned and what is constituted aesthetically in a given state of the field of production by the holders of aesthetic legitimacy. (Bourdieu, 1986, p. 179)

Bourdieu suggests that such concepts of the aesthetic are arrived at through a social process. Aesthetic value, in Bourdieu's schema, relates to a level of appreciation of the subject. Realism can be seen as a virtue in itself. In popular taste, the realistic nature of a painting may be its chief virtue, 'It looks so good it could be a photograph'. In painting from photographs I have considered these functions of painting and looked at both the idea that a painting can look 'real' (that is, like the original subject) by making the painting look like the photograph of the subject. These visual musings relate to what Williams describes as 'photographically realistic'

> Given that a figurative picture has been painted objectively and successfully, the extent to which it appears photographically realistic could very well be that to which aesthetic values peculiar to the art of painting are absent. The term 'photographically realistic' is often used to describe paintings in which detail is extensive and elaborate, in which the likelihood, in nature, of colour values is particularly arresting, or in which tonal and colour juxtapositions have accomplished a trompe-l'oeil. Such compellingly realistic paintings, however, usually impose quite other conditions of accommodation and assimilation and 'photographically realistic' turns out, in almost all cases, to be an inappropriate description of them. (Williams, 1995, p. 273)

Aesthetic understanding is further complicated when we look at the technical differences between the media of photography and painting. It is tempting to take a commonsense view that there are significant and easily discernible Differences; this may not always be the case.

Differentiating between media

Computer algorithms have some difficulty in differentiating between paintings and photographs, highlighting the problems inherent in this task: in producing

computer programs that look at photographs and paintings and attempt to classify them according to their medium. This work is useful in running large catalogues of images, where a program can be used to do the classification in a fraction of the time taken by a human. An additional layer to this, which also adds to the complexity of working in the two domains of photography and painting, is that the images being compared are digitized and thus take on new qualities. An observer could look at a painting in side lighting and see the brush marks. When the quotation below was written, the state of the art was to examine edge effects.

The problem of distinguishing paintings from photographs is non- trivial even for a human observer …. In fact, photographs can be considered as a special subclass of the paintings class: photographs are photorealistic paintings. Thus, the problem can be posed more generally as determining the degree of perceptual photorealism of an image… From a theoretical standpoint, the problem of separating photographs from paintings is interesting because it constitutes a first attempt at revealing the features of real-world images that are misrepresented in hand-crafted images. (Cutzu, Hammoud & Leikin, 2002, p. 249)

We can see from this example that what we do as painters and as viewers of paintings is difficult to reduce. Straus and Golub see the search for realism and abstraction in modernism's art movements. "Photo reliance really comes in with respect to my developing notions of reality, or realism. What's "Real"!-and how, under Modernism, is the Real hit upon, how do you reach it? You see? This is an age of abstraction and huge information surplus" (Straus & Golub, 2001, p. 55). Modernism encouraged a focus on what was real and how reality could be represented. Photography was an essential tool of modernism and its growth after the industrial revolution. Hulick states:

> These media are part of a perceptual continuum that began in the
> Industrial Revolution and reflect its mechanical and scientific extension
> of the human ability to create a visual microcosm. A capacity for literal
> mimesis also existed at the juncture of art and science of that period….
> The nineteenth century began by believing what was reasonable was
> true and it wound up by believing that what it saw a photograph of was
> true (Hulick, 1990, p. 420).

The views of Juricevic and Kennedy (2006) highlight the relevance of the topic across disciplines. These are not discussions confined to the worlds of photography, art and design:"There are few topics in psychology on which so much has been written within psychology and outside it …. Is perspective a cultural convention? Is it readily used by perception? This problem is at the core of theories of constancy, ambiguity of our sensory input, and Gibsonian realism—in other words, the long history of research on Perception" (Juricevic & Kennedy, 2006, p. 448). In the context of this research, it has been necessary to take a more instrumental view of perspective and to use its commonly accepted effects of delineating space and proportions.

Reality: Its projection and modification

"While descriptive geometry attempted a precise coincidence between the representation and the object, modern art remained fascinated by the enigmatic distance between the reality of the world and its projection" (Perez-Gomez & Peletier, 1992, p. 34). Cezanne modified perspective, using his own set of rules, such as the use of non flattened ellipses. The effect was to emphasise that the viewer was looking at a painting, not at reality (Poseq, 1998). "Facing the failure of a modern scientific mentality to acknowledge the un-nameable dimension of representation, artists have explored that distance, the 'delay' or 'fourth dimension' in Marcel Duchamp's terms, between reality and the appearance of the world" (Perez-Gomez & Peletier, 1992, p. 34).

Walden (2005) expresses this as a factor of the autonomous nature of the photographic process compared with the sometimes counterfactual :"The image of the apple is red because the apple itself is red. But in instances of handmade images this dependence is realized by a process that directly involves the mental states of the image-maker" (p. 259). There is a logic to colour printing that can be varied. Many photographers prefer particular emulsions because of the colour range they possess. This may be because they suit the subject or the photographer's colour sense. An extreme version of this can be seen in gum-bichromate printing, where the colour is derived from water-colour pigments

mixed by the printer. The painter is free to vary shades of colour or even adopt a false colour scheme.

> They can also ignore the plane surface and paint in the round as in the tradition of ceramic decoration. The teacup, unlike the painting … does not conform to the standards of rational, Renaissance perspective; it is a world where "little, lawless, azure-tinctured grotesques, ... under the notion of men and women, float about, uncircumscribed by any element, in that world before perspective. (Riehl, 1993, p.39)

Currie (1991) sees representations as mediating between the world and us.

> When I see a representation, or perceive it in some other way, I do not perceive the thing it represents. The maps, sketches, photographs and descriptions in the Michelin Guide do not enable me to see Paris; they help me decide what to see next time I go there. (Currie, 1991, p. 23)

He asks whether photographs belong with that list of representations. He claims that photography gives us representations but not perceptual access.

On one level, the camera has been seen as a tool of reality and there is sometimes an assumption that the camera never lies. In the 19th century, photography's ability to form "catalogues," or complex collections of visual data and serial imagery was very much the perfect tool for scientists organizing and cataloguing items in the natural world, from rock types to plant and animal species. Photography became increasingly obvious as the technology of choice for such projects (Ogden, 1993, p. 261). The camera was seen as an objective recording tool that did not lie. Andrea Henderson's survey of 19th -century commentators on photography reinforces the view that scientific realism was accepted as a quality of photography: "Like Frith, many photographers working in the 1850s and '60s regarded the "realism" of photography as grounded not simply in its fidelity to detail but also in the fact that its technical properties accorded with a scientific belief that physical reality itself was constituted by "differences of arrangement." (Henderson, 2012, p.123)

Digital influences

Authors such as Hulick (1990) and Murphy (1993), commenting on the advent of digital photography, discuss the change in understanding of photographs. "The camera does lie. The argument that a photograph must show something which

did exist is not valid and the image becomes a subjective interpretation, no more or less valid than any other interpretation of the visible world." (Murphy 1993 p. 273). According to Hulick,

> It also presents the possibility of a pixel-by-pixel change or image enhancement. The acid colors of its uniformly glowing screen are also as arbitrary as the black-and-white or color tonality of the analog photograph. Its potential for computer modeling of a two-dimensional reality into a three- dimensional one is essentially an imaginative mathematical projection of the structure of a putative world. (Hulick, 1990, p. 419)

The origins of photography and its acceptance as an art medium overlapped the reliance of painting in the construction of space and the clear links between perspective, photography and painting drawn by many authors such as Van Deren Coke, Tsuji, Zoi, Wassell, and others previously mentioned. Art and photography share a set of limitations that many artists like to exploit. Television and computer visualization share the same set of limitations.

The fact that digital media have a basis in mathematics has to some extent dictated the development of the medium. Its mathematical frameworks attract artists, designers and scientists with an interest in them: These mathematical biases involving time, memory and geometry are not surprising given the involvement of mathematically inclined individuals in the generation of computer art. Computer experts have been the primary developers of digital imagery and computer artists have been, at least until recently, its primary practitioners. (Hulick, 1990, p.423) Our understanding of visual perspective is an unpacking of the intuitive notion of ''being before the eyes''(David, 2009, p. 343). We understand that what we see in front of us is our primary engagement with the visual world. Humans usually have well-developed peripheral vision, which they rely on to pick up movement outside of the normal cone of vision: that which more closely resembles an image from a camera, a screen, or perspective artwork (Moroney, 2002). This oversimplifies our relationship with perspective images as there is also the factor of viewer position.

When we walk in front of a masterpiece such as Raphael's 'School of

Athens,' showing scholars discussing in a great hall, we are entertaining a scene drawn in perspective, a format invented as a crowning glory of the intellectual advances of the 15th century. But even in the time of its invention, those adept in linear perspective, such as Leonardo da Vinci, admitted it created a mysterious mixture of acceptable and distorted effects. That is, when looking at some pictures drawn with perfect adherence to perspective, observers were struck by areas in which the picture looked realistic (perceptual constancy) and areas in which the picture looked distorted
(Juricevic & Kennedy, 2006, p. 448)

This feeling that visual constancy has been tampered with is due to the fact that all images dependent on formal perspective have a correct viewing position. In photography, this distance is the focal length of the lens times the print magnification. If a photograph is taken using a 50 mm lens and a print is made magnified ten times from the original negative, then the correct viewing distance is 500 mm. Likewise, there is also a presumed viewpoint, usually in the middle of the image, that best creates the illusion of normality. This phenomenon can be seen when looking at images taken with a wide-angle lens. If a photograph looks distorted at normal viewing distance, then moving closer to the image can correct the appearance of distortion. Typically, with extreme wide-angle shots, the viewer has to be so close that focusing is difficult.

These limitations, coupled with the fact that most people rely on two eyes and do not have cyclopean sight, suggest that much of what we understand about perspective images are based on a commonsense view. Much closer to our real experience of the world is the stereoscopic image. Our two eyes allow us to gain a spatial awareness by the brain converging both images and processing them into a three-dimensional model. The move to stereoscopic images, first in photography and the use of stereo pairs and more recently in cinema and television, has to some extent seemed like a gimmick. It has not displaced monocular perspective as a standard, even though stereoscopic representation can give a much closer impression of reality that can not be produced by perspective construction alone. Derksen goes so far as to state that it is impossible for an artist to create a faithful representation:

It will now be obvious why it is impossible for the artist … to produce a

painting which shall not be distinguished in the mind from the object itself. When the painting and the object are seen with both eyes, in the case of the painting two similar pictures are projected on the retinae, in the case of the solid object the pictures are dissimilar; there is therefore an essential difference between the impressions on the organs of sensation in the two cases, and consequently between the perceptions formed in the mind; the painting therefore cannot be confounded with the solid object. (Derksen, 2005, p. 236)

Binocular vision was already noted at the time of Euclid but it remained for Wheatstone to make the first paired drawings of a kind that produce in the mind a stereopsis of the three-dimensional aspect of an image (Ferragallo, 1974, p.98). Using photographs as a source for drawings or paintings is a way of translating a three-dimensional original into two-dimensions. The photographic record does not suffer from the complexity of parallax. Painting from life, from objects in the round, poses some complex problems of representation. In terms of understanding 3D objects, the author's distance from the subject is significant. At close distances, such as those experienced when viewing still life paintings of small subjects, fruit, flowers and so on, the distance apart of the viewer's two eyes creates two viewpoints that the author has to resolve as a flat image on a plane surface. At greater distances, as in landscape images, the problem does not exist, as the distance between the eyes is insignificant relative to the distance from the subject. In viewing a subject from a distance of less than a metre the parallax effect means that both eyes are experiencing subtly different views. Artists sometimes compensate for this by closing one eye, reducing the sensory input.

Chapter 6: My Own Work

As a practitioner who paints from photographs, I felt it was important to explore the issue of viewpoint and how we translate three-dimensions into two, so a series of paintings was worked through to look at the way that images were constructed from life. These paintings comprised a series of still life paintings of a group of fruit, and a landscape. Whilst the landscape was relatively straightforward as an exercise in representation, the still life posed a number of problems.

This background informed my approach when I came to make paintings from photographs. My first approach was to use photographs that I had had published, in exhibitions and in print. I used these photographs as source material in the 'painting from photographs' tradition.

As a photographer, I exhibited black and white photographs, images that might be classified as 'fine art documentary photographs'. These photographs were produced with two sets of values in mind. In one way, the images told a story: they were social documents recording a time and place; the back yard family get together, birthday parties, days in the park. These were images that recorded the subtle nuances of an era or decade. In another way, these were formally composed photographs that relied on craft skills and an understanding of picture making.

The decision to translate my photographs into oil paintings came about for two reasons: ta desire to explore the medium of oil paint and an interest in the notion of cultural capital. As a photographer, I was aware of the relative commercial values that applied to both photographs and paintings. Oil paintings were valued more highly than black and white photographs. In art markets, prints have a lower economic value than one-off originals, and photographs are classed in that way. To some extent, photographs can be seen as less individual than prints and a more mechanical form of reproduction. The negative can be reproduced almost

endlessly, whilst etchings and other print media change due to the act of printing. They wear down.

Taken together, these influences produced the direction of my work. Initially, I attempted to produce paintings from photographs. These were paintings that used a photograph as a source for a painted facsimile. The photographs were a shortcut from three-dimensional real world to a two-dimensional painting. This process produced work that was in some way unsatisfying to me. The juncture of all the above influences lead to work that raised more questions about the nature of painting from photographs. The next series of paintings were an attempt to make a painting of the photographs, as opposed to from the photographs. This new approach can be seen in the painting of Jan. The Jan painting was made from a hard copy of a digital photograph. This photograph was taken in low light and had a limited tonal range. It looked a bit like a Polaroid snap shot.

Of the 28 paintings, only 2 were in a realist tradition. These were the two large portraits of elderly women, both of which were hung on small walls beside the door, and were thus not visible on entering the space and not featured as part of the main exhibition.

Portraits

The two portraits shown here derive from the snapshot; both these subjects are caught in a still gaze, at what we don't know. These paintings attempt to be accurate representations of the original digital snapshots from which they were derived.
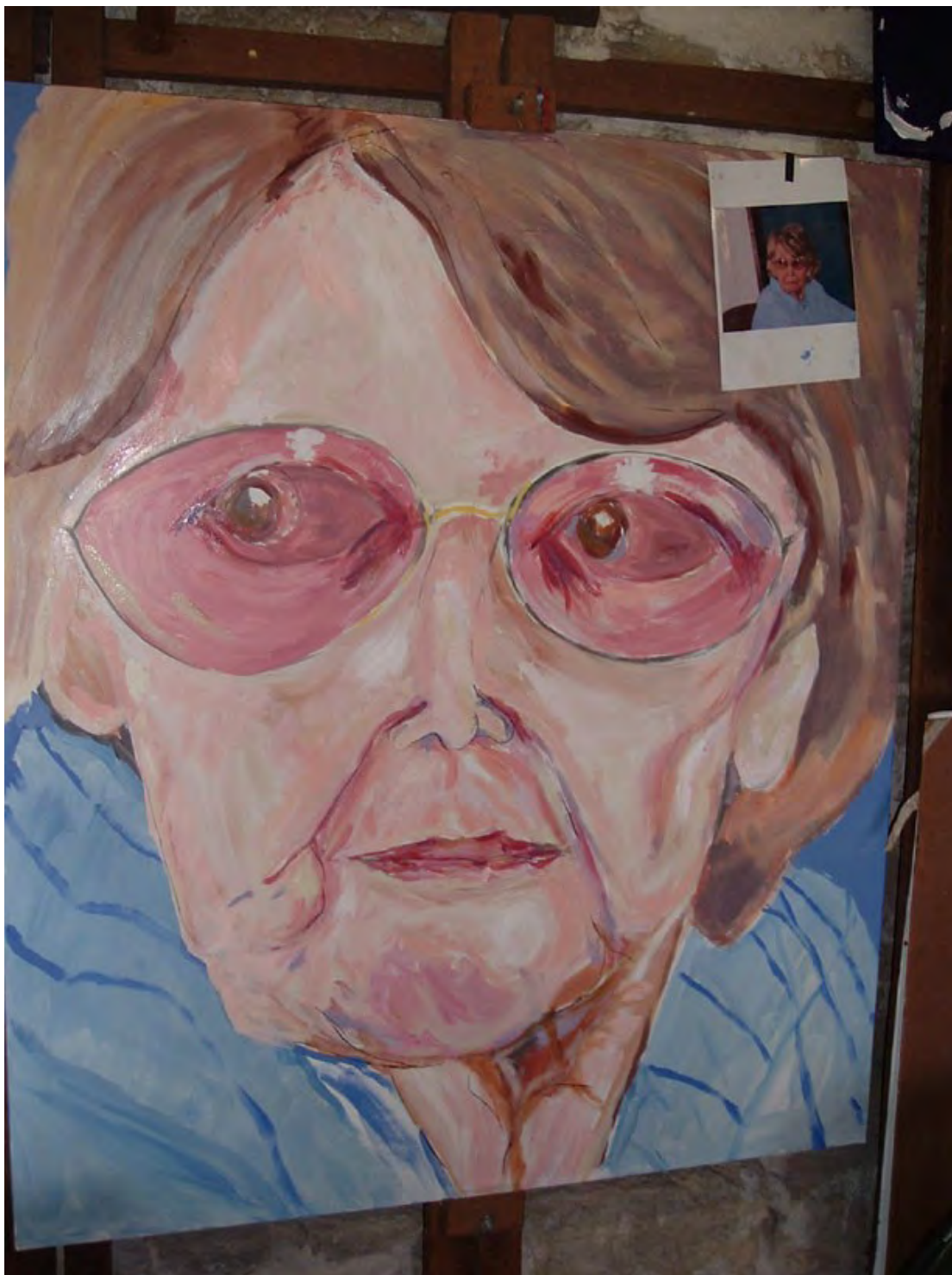
Painting 1: Jan (120X140 cm)

Painting 2 Dorothy (60X120 cm)

In the larger painting entitled 'Jan,' the flat lighting, flesh tones and hair colour are more about the representation of the digital print than the original subject. This approach has drawn several comments about the unreal nature of the hair colour and suggestions as to how to make it more natural. It is difficult to consider it as a painting of a photograph, when it looks like a person.

As paintings, these images still claimed to be portraits and images of a

person. This raised further issues of representation and meaning. The paintings were representations of the photographs and representations of the primary subject. They were not derived mechanically from the photograph, although a simple grid was used in the construction of the image.

These do not pretend to be painterly images; they are merely an attempt to analyse the reality of the photographs, including their colour range and contrast. In this, they differ from the previously mentioned work of Paul Gauguin and Bob Dylan. They are clearly more about the subject or the discourse of painting than they are about the photographic originals, even though some of Gauguin's images are close copies.

Close ups and snapshots

A small section of a weather-beaten table is the source for the first of these paintings. The shape of the timber joints and the colour of the surface (enhanced digitally) create a desert like feeling. This effect is reinforced by the blue sky glimpsed at the top of the picture.
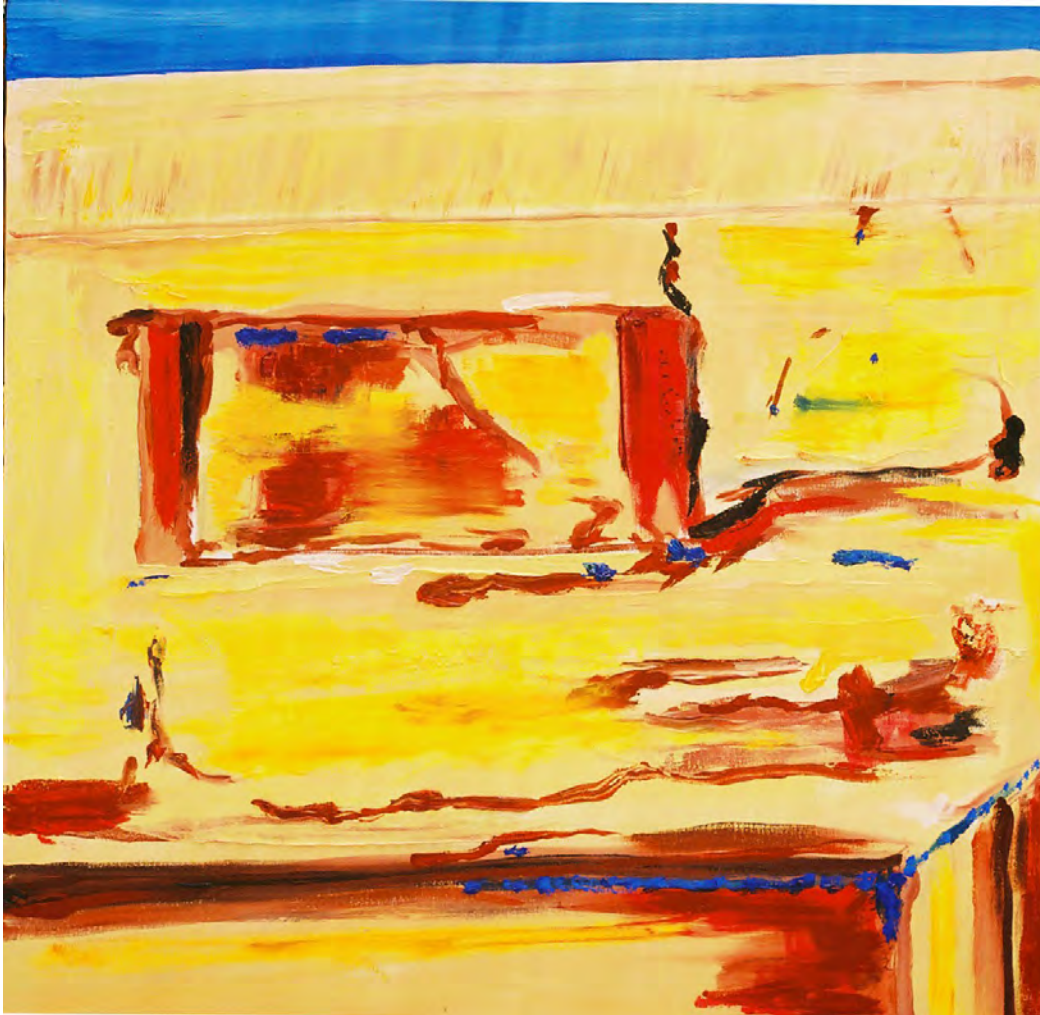
Painting 3 Chinese table (70X70cm)

With this painting, there is a feeling of completeness about it. It is a representation of a photograph, the colours of which have been enhanced. It has in itself a compositional balance that looks as though it could not be modified to any extent without becoming a different object. Again, people were curious about what this was, some reading it as a desert landscape. It may be that when people can read an image and have the subject explained the image takes on a completeness. This is a topic for further reflection and exploration.

Painting 3 Bess close-up (70X70cm)

The interior image is taken from a casual snap-shot taken with the head of a dog close to the camera and the wall of the room in the background. These casual throw-away images are all around us. They are a form of visual experimentation - encouraged by the use of digital cameras and camera phones. Now, an image can be taken almost without consideration; there is no concern about the cost of the image as it doesn't need film or processing. Such images are different to the first series of paintings, where subject matter is discovered and explored with a view to creating designed images.

There is a stage in production, in most design work, where a representation exists of a final product. In the process of paintings 'of' photographs, the

photograph is the representation of both the original subject and the final painting.

> There are some subtle confusions. In graphic design, it is typically the 'blueprint' for making the poster, or rather its representation in the desktop computer software or for some, by hand. Many confuse the representation on their desk computer screen with the poster as finally 'manufactured'/printed but the two are very different . (Love, 2008, para. 2)

This state of representation becomes diminished or even absent when the final painting is ambiguous. This occurs when the level of abstraction of the image is such that the final image has no recognisable links to the previous stages. This occurs in both the paintings of off-form concrete and the brick series.

3 Dimensional Shapes

From looking at flat surfaces and patterns the next series extended the dimensions to include building details, revealing off-form concrete surfaces. The colours derive from ambient lighting in the building enhanced by digital manipulation.


Paintings 4 and 5 Off Form Concrete (70X70cm)

These paintings created some interest and provoked discussion during the exhibition. This feedback, and my own reflections on these images, led me to believe that they had achieved a level of resolution: that there is not yet any new direction or refinement that emerges from this work. Feedback included comments that these could be seen as examples of a method that could be applied in a prescriptive manner to subjects. In the above paintings, the same photograph was used and variations were made in Photoshop. The two paintings were made using the photographs shown below as models.
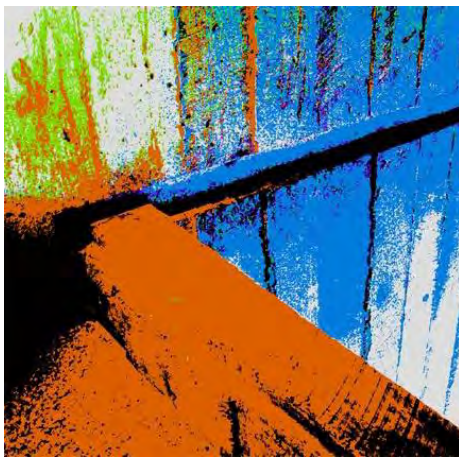
Photograph1 and 2: Off Form Concrete (25X25cm)

It is possible that the inherent contrast and the strong graphic content, with intersecting lines and planes, dictated the response to the paintings. One person who viewed the exhibition commented on the similar angles and shapes in the paintings derived from three-dimensional originals.
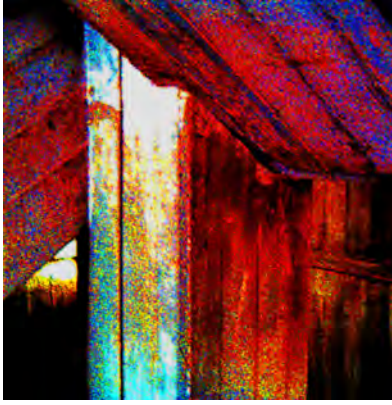
Photographs 3 and 4: Off Form Concrete

These two digital photographs of off-form concrete stairwells derive their colour from the subtle shading of daylight mixed with fluorescent artificial light. The colour saturation and contrast were enhanced, revealing a new set of possibilities, both in colour and in the nature of the space. The space appears less of architectural and one starts to lose the sense of perspective.

The final digital image is printed out A4 paper. This A4 image becomes a new primary source for the painting stage. The image is used as a source in the same way that an artist might paint from a landscape photograph. The painting remains close to the digital image in form and colour. It is, in effect, a replica in a new medium. What changes is the surface feel. It takes on the qualities of oil paint. The finished works are an exploration in two parts, firstly a process of translation from analogue to a manipulated digital form. Secondly, the painting stage explores the relative values of the digital image and the fluency and plasticity of oil paint. Both stages are an exercise in colour management.

Oil paint was chosen over any other medium for its plastic qualities and the potential for adding to the paint whilst it is still wet to blend and soften parts of the painting. Oils also allow a range of brilliant colours to be mixed. It is worth considering the ways in which a painting would differ from a digital photograph enhanced with filters and effects and printed on to a canvas

substrate. It would be possible to get painting like effects using Adobe Photoshop and there are many systems available for printing on to canvas. The main differences appear to be that the effect of canvas created digitally has a predictable, uniform texture and pattern. The colour palette available in digital media is also very compressed when compared to the rage of colours available in paint. At the micro level, natural canvas is less predictable; it has subtle irregularities in texture. A canvas or board painting surface is three-dimensional. It affects the passage of the paint across the surface. The thickness of the paint and the qualities of the brush or pallet knife are also variables in the process.

The paintings express the forms and colours of the digital images and add to them by translating the surface from a manageable, predictable digital form that is dictated and limited by constraints of the program, to a more randomised, tactile image. The painted form is limited by a different set of strictures. The artist has a different set of possibilities with paint that include choice of paints, choice of medium, choice of brushes, skill set, and working environment.

The finished paintings become another stage in the action research cycle. They are a 'work in progress' and can always suggest further directions and ways of dealing with the subject. They relate to Dick's model. Taking Dick's (1997) model and applying it to the problem of action research in examining the relationship between painting and photographs, the steps he suggests could be interpreted to become:

> 1a Decide what practical methods will be examined, for example, digital images and oil painting.

> 1b Decide what practice activities you will use, what subject matter, for example oil painting from manipulated digital images.

> 2 Act, do the work.

3a Check the information you collected; devise ways of testing it in the next cycle.

3b Interpret the information -- what does it mean? Devise ways of testing your interpretation in the next cycle.

3c Check the adequacy of your choice of subjects and methods and practice methods. Amend them for the next cycle if desirable.

3d Check your data and interpretation against the relevant literature; you may not do this for every step, but may limit it to every few cycles. (This and the three prior steps are part of reflection) and return to step.

1a of the next cycle with an improved methodology, technique, and subject matter.

The final off-form concrete images have recognisable elements. Certainly, when the source is pointed out to viewers, they easily recognise the characteristics of the concrete surface. The brick series seems to bring in further levels of ambiguity. Even when describing in detail what is represented in the images (the firing patterns in house bricks) it can be difficult for a viewer to maintain the connection between representation and manifestation. Perhaps because we are not used to looking at bricks as individual objects, we do not see the colour and pattern of an individual brick side. Bricks are usually read as parts of a wall. We see the qualities and characteristics of the wall and whilst we are conscious that the wall is made of components, we prefer to read it as a whole.

Coming out of this realisation is a side project to this research. As an exercise in recognising the individuality of brick patterns and colours, a recycled brick wall was built. It was always intended to build a wall in that location, but the experience of working with brick patterns h lead to a slightly different approach to that originally intended. A large wall was built of

recycled bricks. In building this wall, recycled bricks were bought; usually, in this process bricks are chosen that have some uniformity and have clean faces. In this wall, bricks were used that had a mixture of reasonably clean red bricks and those that had paint marks and graffiti on. The bricks were distributed randomly, batches being taken from several pallet loads in no particular order. Bricks that had interesting marks and patterns were used in prominent positions, rather than being used inside pillars

or in other less noticeable positions.

The wall then becomes a further source for material to be photographed and used as the basis for new paintings. At this point, meanings are being constructed. Up to the point of the first generation of brick paintings, the painting has little meaning in its self. It has a narrative and much of the interaction with the paintings is mediated by relating this narrative, in an exhibition catalogue, in words, and in writing like this. Other than this story, there is not a great deal of meaning in the paintings. When they are taken further, and paintings are generated from images of the wall, will meanings happen? If so, what kind of meanings and to whom? There will certainly be meaning for the artist at this stage; these paintings will reflect a journey, not just a technical exercise in image production. Perhaps this stage is where design and art become separate. The process of producing paintings from brick images, using Photoshop, is a design process. It deals with colour and form and constructs two-dimensional images.

An extension of this series was to 'zoom out' to capture a larger architectural space to create images that contain complex three-dimensional interior forms.
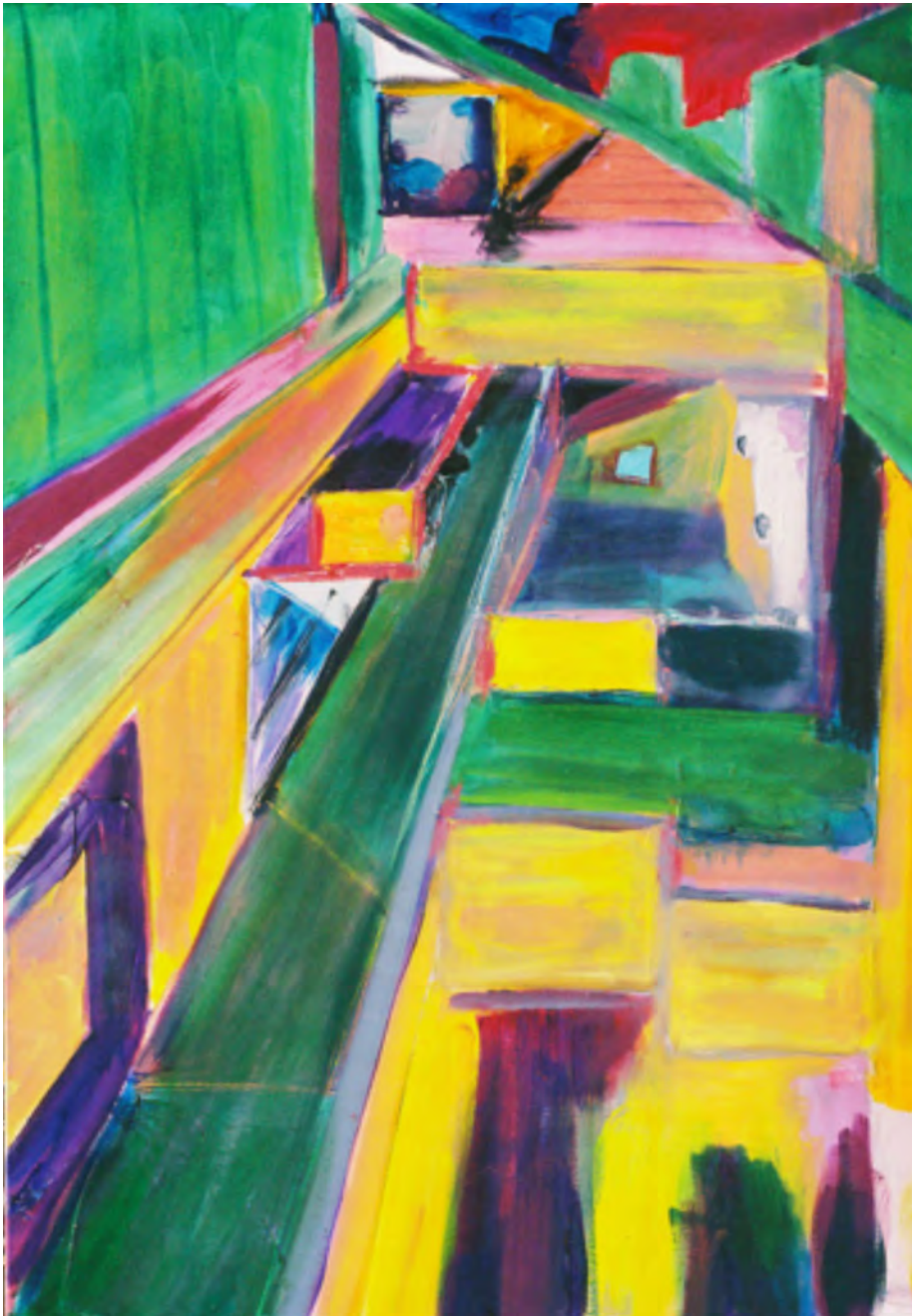
Painting 6: Interior (50X120)

For the purposes of analysing these paintings, there is a point to be made about the making of art. In non-figurative or non-symbolic art, meanings can, at best, be implied. Sometimes the meanings of a work are negotiated in a discourse involving the artist and the viewer. Discursive elements can be elusive and memories and feelings can be a part of the process of creating meaning. John Langrish (2004) describes a situation where the influences on artists and designers were manifested in the artwork without conscious memory of the source of influence on the part of the artist. This lead to the

invention of a new narrative to explain the meaning of the artwork. This phenomenon of 'post decision rationalisation' is seen in many domains.

Brick Series

This series of paintings is derived from digital photographs taken of individual red bricks in the walls of building 201, the Architecture and Planning building on the Bentley campus of Curtin University, Perth, Western Australia.

I have worked in this building in one capacity or another over the last 30 years, as a full-time or part-time staff member in some of the departments that use the building. In late 2004, I started to look at the fabric of the building in a different way. The surface of the bricks hold traces of firing patterns caused by both the way in which the bricks were stacked in the kiln and the density changes within the brick itself.


Bricks in a wall: photographs 1 and 2

These patterns were seen as a source for digital manipulation. In themselves, they exhibit fascinating patterns and shapes with echoes of primitive art forms.
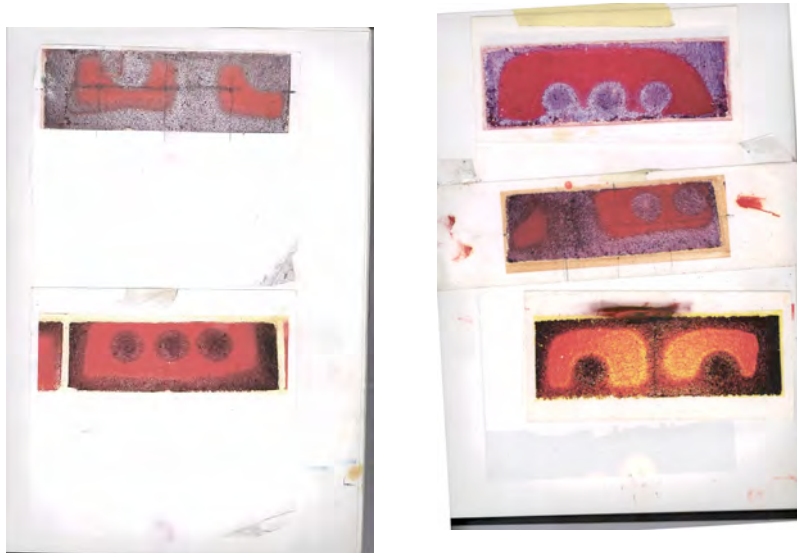
Digitally enhanced photographs in the sketchbook

These photographs, taken on a digital camera, were enhanced using Photoshop. By manipulating colour, contrast, and saturation, it was possible to create abstract images that developed the shapes and colours inherent in the fired clay. The question that is raised by this process is: what are we looking at when we view an image derived from a simple photograph?
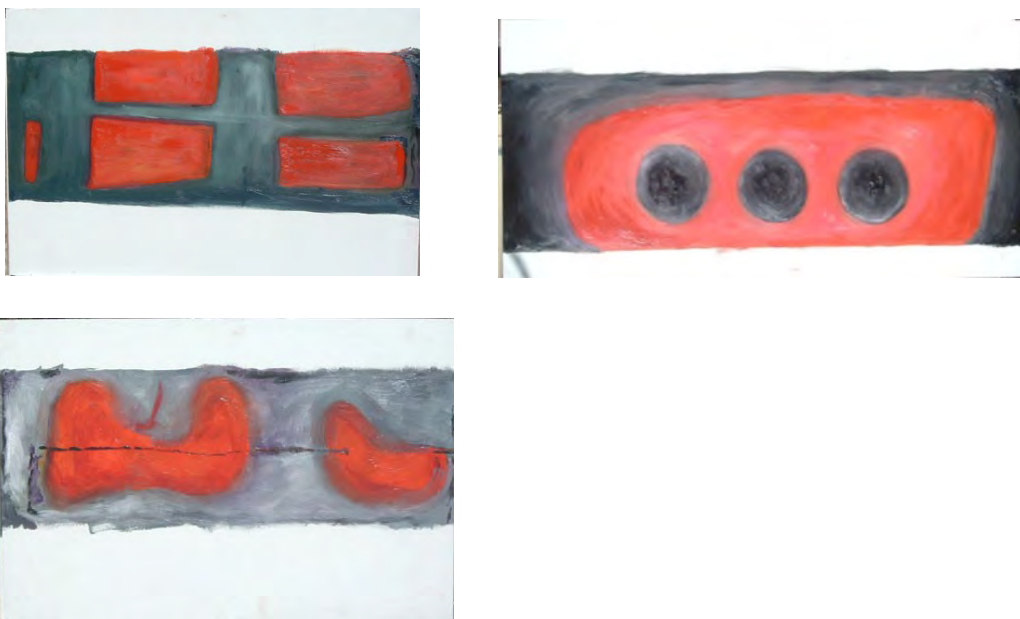
Brick Paintings 7, 8 and 9 (oil on board). (70X90, 77X92)

These brick images are a way for this artist to engage with the issue of representation and the similarities and differences between photography, digital image making and painting. This process was carried out using an

'Action Research' approach whereby an image is made and reflected upon, feedback is sought and considered, and each image becomes part of a cycle of research and development.

A typical action research cycle proposed by Greg Dick (Dick, 1997, Online) can be adapted to the project of painting:

- Take a photograph and open it in Photoshop. Decide on the composition
- Look at the colour profiles and adjust contrast, hue and saturation.
- Reflect on the images created in the first stage, consider them in terms of a finished painting. This reflective stage asks the artist to start making judgment about what is painterly (whilst these are action stages, in the context of this project they take on the status of the planning stages in Dick's model).
- Using these reflections, start to transfer the composition to board or canvas, mix paint colours that are representations of the digital image. (This is the action stage, and in these paintings it is a quick process with less reflection than the previous stages.
- Reflect on the finished painting and decide whether to work further on it or to take what has been learned and move on to another subject. Devise ways of testing assumptions in the next stage of the cycle.
     Gain feedback from others.
-
- Use feedback and reflections to start new cycle. Enter the cycle at an appropriate stage for the assumptions being tested.

Here is an example of the changes made to one painting using this cycle.
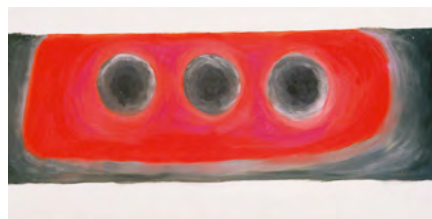
The original on the top left was painted in a free, gestural manner as a quick response to the digital image. The second painting took this original concept and developed the image, going back to the digital file, further enhancing the shape, by manipulating contrast and saturation. The third version of this painting (shown below) takes these stages of reflection to a point where the image is resolved as a final painting on canvas. This third painting was produced in 2006, and some of the feedback that I had received, both at the exhibition and elsewhere, influenced the final artwork. Comments that helped inform this progress included the suggestion that the round shapes gave a feeling of a passage into another space, that they had depth. Comments were made about the fact that the paintings were on board and did not have the credibility of works on canvas.

My own exposure and reflection on the early images caused me to paint the third version in a much smoother way, with more consideration of the modeling effect. Both the original enhanced photographic image and the painting on board became the sources for this painting.

Federation Square

Federation Square oil on canvas and oil on board (90X90 cm)

These two paintings are derived from photographs of the natural stone pavers that make up the surface of Federation Square in Melbourne. The painting on the left is a considered representation of the stone surface, staying close to the original. The other is a more gestural painting. These paintings show one cycle in the reflective process. In the exhibition, these were hung side by side in a

prominent location facing the door of the gallery. What little discussion there was about these paintings tended to be along the lines of: what are we looking at? The changes in context and medium did not link back to the subject in viewers' minds. These paintings were hung on a wall rather than being flat on the ground. The scale is similar to the original. The colours on the left hand image were slightly more intense than the original, though not far from the appearance of these stones when wet. There was a genuine satisfaction in being able to interpret the image after viewers were told what they were looking at. One

person wanted to know what the stone was and where they could get it; the paintings here functioned almost like an advertising image, representing the product.

The more abstract image which did not as closely follow the original was interpreted as being a version of the more realistic painting and people needed to think about whether they preferred one or the other. There are two issues for reflection coming from this image: whether to consider coaching through the meaning of an image; and the issue of versions. Coaching could take the form of a didactic element or descriptive panel (one direction to be explored is the incorporation of text in the paintings). Versions could be explored by looking at multiple images, each a version of a generating image.

Action research, participant research
This exhibition was a stage in my action research project on the process of

painting. There is a difference between passive observation and participant observation. Passive observation suggests a level of detachment and non-engagement with the subject being observed, whilst participant observation can involve the observer at higher levels of engagement. The exhibition involved both these positions, sometimes being a detached observer, working away behind an easel ,and at others engaging with the visitors. The protocols of observation observed were based on a grounded theory approach, where the material, in this case the day to day activity within the Gallery, was experienced and lived in until themes and avenues for enquiry began to emerge. "Trust in emergence" (Glaser, 1994).

This opportunity for feedback also had a dimension of chance. Not all visitors to the gallery were expecting to see abstract paintings. There seemed to be modes of being, some people wearing a tourist persona, others being critical viewers. Another variation was the manipulation of space, sitting the easel in the room, acting the part of an artist. The artist became an exhibit in his own exhibition.

The gallery is in a tourist precinct and sits right on 'Bathers Beach', a sheltered beach sweeping between two rock walls groins. The building is a listed heritage building and was the former 'Kerosene Store' for Fremantle. The building is in itself a tourist attraction. This position means that a variety of visitors are attracted to the gallery. There are two galleries; I was in the smaller of the two. The other gallery held an exhibition of work by students of the art school that runs from the center.

Visitors fell in to two main categories. The first identifiable group was those who felt alienated when they stepped through the door and saw a series of colourful abstract images. This group simply left and there was little or no

chance to get any feedback from them. The second group was people who came and looked at the work. Of this group, about half were quite cursory in their viewing; they came into the gallery and scanned the walls, before moving on. The other half spent time in looking at the paintings and leafing through the sketchbook/workbook on display in the gallery.

Overall, about 20% of visitors chose to engage with the work by spending time viewing it and the workbook and by discussions with me. This is probably what I expected due to the location with its high numbers of unsolicited 'walk up' visitors. The exhibition was not advertised outside local university and art networks and there were no large posters or specific content information other than an A4 flyer on the door.

Whilst it is tempting to believe that art gallery visitors can be identified by their clothing and mannerisms, there was no clear evidence of this. It was possible to judge that a person of middle age in conservative casual clothes would not be likely to come in and look at the exhibition and that those wearing 'designer casual' clothes would be likely to engage with the paintings. These were generalised observations, more often true than not, but with such variability as to be unreliable. Pierre Bourdieu, in his sociological work on photography, carried out extensive testing on what viewers thought was an acceptable subject for a photograph. In that work, he was able to demonstrate that the acceptability of subject matter such as a cabbage or a pregnant woman depended on socio economic and educational variables. It became clear during the week working in the gallery that what people liked depended on socio economic and educational variables. Without making any empirically justified claims, it was clear that a person's apparent social coding was an indicator of who would and would not spend time looking at the work.

Bernstein (1973) refers to restricted codes and describes the way that language codes can position us within society. Visual codes can also operate in this way. If we conflate these early works in sociology, it is

possible to conclude that what individuals consider to be legitimate art can position individuals within society, and those preferences can be read by others, reinforcing the concept of high brow and low brow art (Gopnik & Vernadoe 1990;Rubin 1992).

Painting in the age of mechanical reproduction

In August 2008, the Art Education Association of Western Australian held an exhibition, 'First Love'. This was a members' exhibition and included work from art educators in WA. I exhibited two works in this exhibition, one predominantly dark red and black and one dark brown with a yellow pattern. At the exhibition I was approached by an owner of a commercial art and craft gallery, who asked if they could exhibit some of my work. They particularly asked for some of my works that are more colourful.

This notion of 'colourful' seemed worthy of exploration. What did it actually mean? As a way of exploring this, I decided to produce a series of images using enhanced colours. I intended to take some existing paintings derived from brick photographs and produce variations exploring the notion of what is colourful. It was hoped that these images would differ from the existing body of work and in some way establish a dialogue between the paintings and an audience that could provide insights into the notion of colourful, when applied to artwork.

The basic question that this project raised was: when does a painting become colourful? All pigment used in painting, including black, has colour; therefore, the question is to do with what do people perceive to be colourful and where the lines are drawn. ,I set out to work with existing images and to make them more
'colourful' using colour theory to enhance the experience of colour and mixing colours that would work with each other in what might be called a 'designerly' way. I would then use these paintings by showing them at the gallery and by discussing them with the gallery owners and getting feedback

from gallery visitors, establishing some shared understanding of what 'colourful' might mean in this context.

My background in colour theory comes from my training as a graphic designer. Colour was a key element in my three years of design school training at the then Western Australian Institute of Technology (now Curtin University). At that time, Paul Green-Armytage (1981) ran a comprehensive course on colour and I benefited from his teaching, especially in the rigorous first year program. This training in colour gave me an understanding of the properties of colour and how to manipulate them. It also changed my level of sensitivity to working with colour. This was demonstrated by an exercise carried out in week one of the course and then replicated in another exercise at the end of the fifteen week course. As a starting point, we were asked to provide some personal preferences for a colour exercise. At the end another exercise was formulated that raised some of the same colour combinations. These exercises confirmed in an explicit way the development in skill in the use of colour. These colour exercises were carried out using gouache paint 'designers' colours' and the skills learned in using paint have been employed in the work currently being carried out. Colour theory is discussed separately later in this document.

The current work is executed in oil paints, and these lend themselves to the same kinds of colour mixing and colour control, with attention being paid to hue, value, contrast, colour relationships and ways of managing and controlling colour. In addition to the mix and use nature of designers' colours, oil paints can be layered and worked into. This flexibility is what attracts some artists, myself included, to oils. As oil paint is flexible in its application and can be blended and modified post application, it can be more challenging at a kinaesthetic level. There is a kind of sensuality in the use of the medium that does not exist with gouache.

Working in oil paint has added an unexpected dimension to the task of generating 'colourful' alternative versions of paintings. In attempting to push

colour limits, I discovered an important aspect of my own work practice and the limits of my abilities. I took three canvases and ,using the basic composition that I had painted in previous examples, I set about trying to mix colours that pushed the notion of colourfulness. To me, this meant using bright colours, high saturation, and light colours, using a palette exploring both harmony and discord. In attempting this I felt that there was not a sufficient frame of reference to make sense of the task.

In my original paintings, the work was a close representation of an image produced using Photoshop to enhance and manipulate colours. The resulting image was printed out and used in the studio as a reference for the painting. The oil paintings refer to the digital image. They closely follow the colours and forms found in the original. Their purpose was to understand what subtleties of translation can do when transferring images from one medium to another. The process operates in a similar way to Polaroid transfers or other photographic processes, where the final image relies on an act of translation from one medium to another.

In the attempt to make new colourful versions of the existing oil paintings, the frame of reference was lost. When the colours are manipulated using Photoshop or other digital media, the process is technically mediated. Colours are changed using numbers to increase and decrease hue, contrast and saturation. The on- screen images created are reviewed and selected for printing and saved as digital files. When I had experimented with colour mixing and the development of colourways as a design student, the process was to mix flat 'designer's colours' water paint with reference to existing colours, making variations that had a direct relationship to the original. They may have been complementaries or tonal variations or shifts of hue. They were not, however, an attempt to devise intuitive colour compositions.

From this I draw the understanding that this part of being a painter is for me clearly defined. I can operate in a clearly defined controlled way, making selective judgments referenced to an original. With Photoshop, the changes

are applied across the entire image. With designers' colours, the first change made dictated all other changes. The freedom of the medium of oil on canvas means the variables are increased to the extent where there is no logical way forward.

What I am able to do is to translate images into a different medium in a literal way, almost like a linguistic translation where the original is translated, but not necessarily transformed. Reflection on this process has lead to the notion that translations can form layers of meaning that (just as a Photoshop image can be constructed of layers, some transparent, some opaque so translating a digital image into oil) could be creating a new layer. In Photoshop the layers can be combined and flattened into one image. With the layers created in photographs, digital manipulations and oil paintings, each of which could be made from their own layers. Does the final painting need its contributing elements to make complete sense?

The above series of experiments in visual research culminated in a painting from the brick series which made me think that I had gone too far. It was a painting of a brick with enhanced colours and I felt that it was moving into new territory. It was becoming a painting (and not a very good one).

I cannot explain why I thought that, but for me it became a transition point in my reflections. There was no purpose to be served in pushing this any further unless I wanted to move into painting and away from the search to understand photography using paint.

Colour management

As processing the brick images progressed it became clear that the just relying on basic controls in Photoshop was not providing sufficient creative control over the colours generated. This lead to a stage where images were produced that I considered to be slightly out of control. In light of a reflective action research approach this was an example of imagery being pushed to a boundary. This boundary was one determined by my personal experience, training and taste, and as such a self-reflexive construct.

The two paintings below set what for me became a limit of my ability to push colour combinations

My personal response to them was that they did not reflect the nature of my work. In response to this I returned to my design training and brought in some elements of colour theory to help in colour management. Until this point considerations of colour had been based on intuition, coming out of my design education.

In an attempt to formalize the use of colour I drew on my earlier experiences at art school in 1967 and experimented with discordant colours. This approach also relied to some extent on a self reflexive approach, building on and taking from my previous experience. In attempting to substantiate theories of discord I found a lack of resources to draw from.

It may bet hat the fashion for discussing and using discordant colours was short lived and recognized mostly by practitioners who used it in their work without academic comment. An enquiry to an internationally recognized authority on colour produced an inconclusive reply "Yes, I have heard that you will get a 'discord' if you combine colours with lightness values reversed…. Mind you, theories of harmony and discord are a bit dodgy. They are often no more than personal assertions or 'received wisdom' with limited

research to back them up." (Green-Armytage, Paul 2014)

Theories of colour harmonies usually rely on the relationships of colors on the colour wheel. These relationships were first described by Isaac Newton in about 1706 (Best J. 2012). Newton's original wheel is shown here:
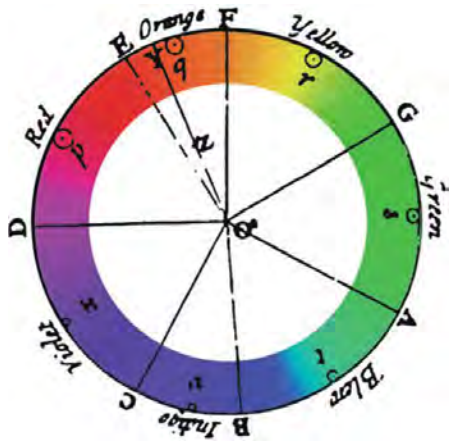

Newton's original description of a hue circle (with added colour). (Best 2012 p.14)

The principals used in constructing colour wheels vary depending on the purpose of the wheel. There are no absolute rules and to some extent they rely on conventions. Best describes the basic rules of construction of an artists colour wheel:

> The artist's colour wheel derives from the empirical practicalities of pigments rather than physiology. It may be developed using a scientific approach to mixing the primaries (which are positioned at 0, 120 and 240 degrees, respectively), with the carefully measured proportions determining the angles of intermediate hues between the primaries. The result is highly dependent on the particular paints, lighting conditions and specific observer
> involved.
> (Best 2012 p.14)

Green-Armytage gives examples of other versions of colour wheels
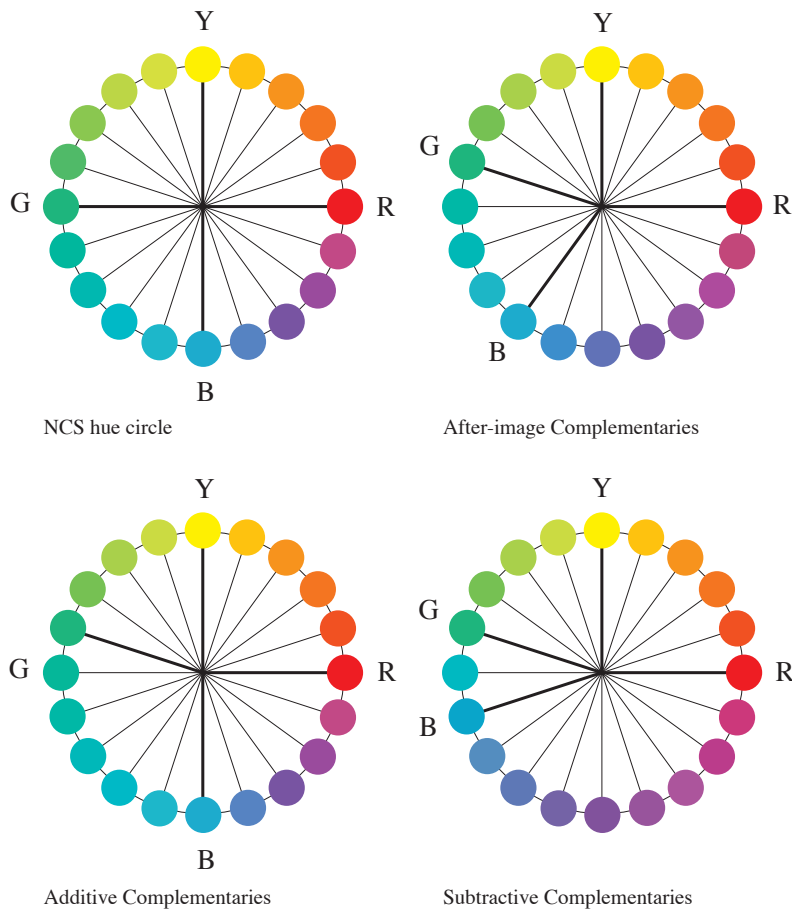
The elastic colour circle. The NCS hue circle compared with three other circles which have been stretched and compressed to bring pairs of differently defined complementary colours opposite to one another. (green-Armytage, 2005 p.272)

The image below was created from a colour photograph of a brick in a wall using Photoshop. This is an exercise in manipulating the colours according to their apparent value when viewed in a colour circle. Looking at the red and blue colours on opposite sides of the colour circle used to determine subtractive complementaries, the red hue reads as slightly darker than the blue. By deliberately reversing these relationships making the red lighter, it appears to clash with the blue in an un-harmonious way, creating a discordant effect for some viewers.
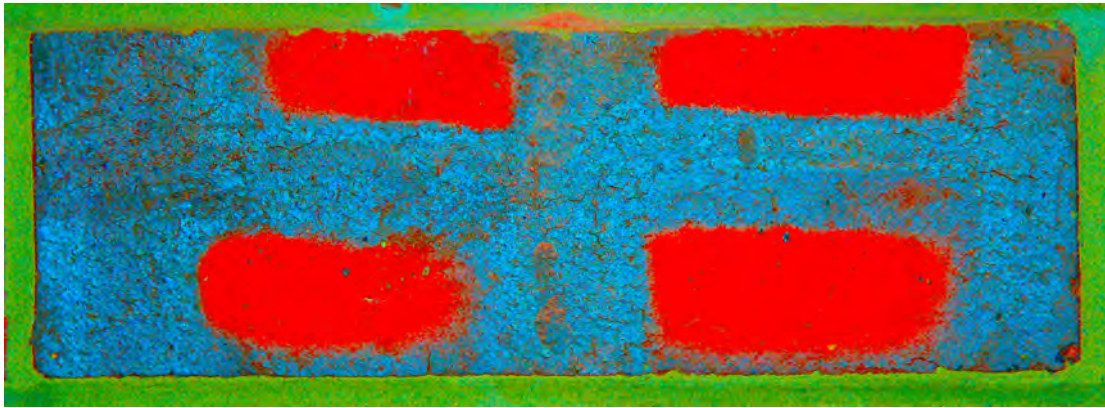
These colour relationships were some of the ways in which colour was manipulated to create effects in the paintings based on manipulated images.

Shadows series

In developing the painted works from photographs it became clear that while photographs were a powerful tool in managing perspective and allowing translation to the canvas, they were in many ways removed from photographs. They enabled me to create new abstract images based on patterns and shapes. They were most effective when the original subject was already two-dimensional

The next stage in the reflective cycle was to build on this and to return to the subjects that had emerged for me in my photographic practice. In my artist's book titled 'origins' I have compiled images taken throughout my career and re- contextualised them as a component of this visual research. They either contain shadows as key elements or have characteristics that hold meaning for me as

part of being a photographer. They include images (such as the railway scrapheap image of a boiler end) that have technical qualities that I value. The boiler image is printed on a silver rich fine art photographic paper and for me encapsulates the craft sense of being a black and white photographer who processes and prints his own work.

One of the photographs was a picture of the shadow of a runner followed by

a running dog. This was a favorite image and encapsulated much of the style that I had developed as a photographer. I have even made it into a Christmas card design. Many of my images use shadows, perhaps because I favour late afternoon sunlight for its qualities. In reflecting on this photograph, I realized that the shadow, although being split across two surfaces, still held a full version by the simple process of extending it outside the perspective. This led to a series of further experiments and observations of shadows in the environment.

Claremont Station Jogger and Dog (Christmas card version)
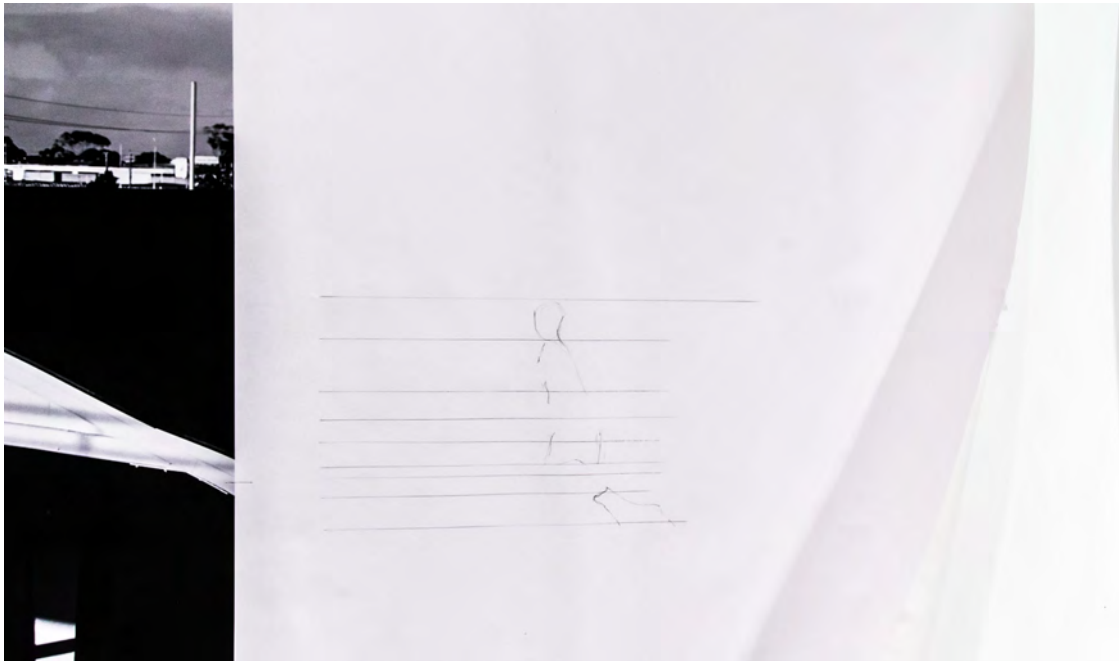
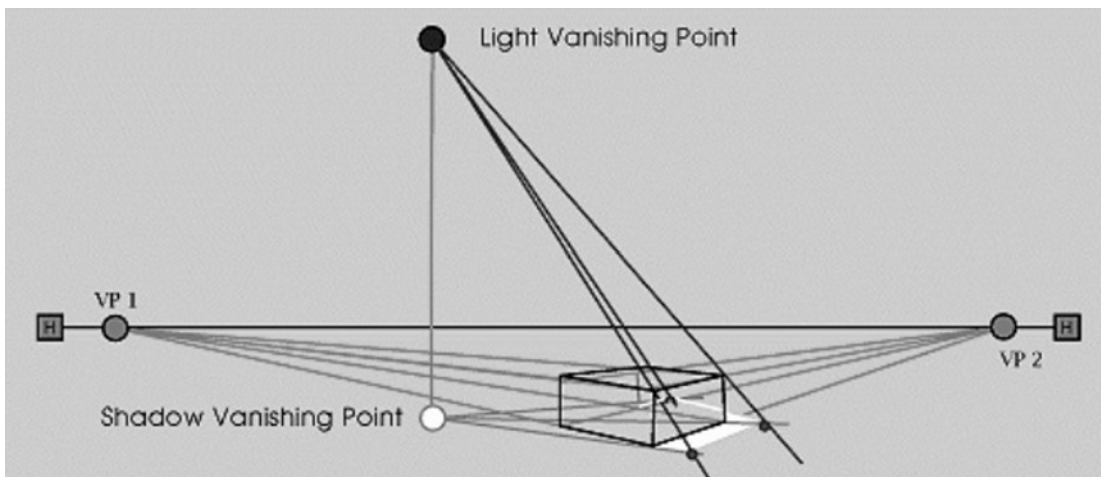Extracting the shadow

Shadows

Diagram 1 Linear Perspective as a Realist Constraint (Derksen, 2005, p.237).

Derksen (2005) seems to imply in the diagram above that sunlight converges and diverges in the same way as constructed perspective. In reality this is not so; the sun is so far away that on earth its rays are effectively parallel. In observing shadows made by the sun in photographs, the lines do not converge significantly. This phenomenon can be observed in the shadows of highflying aircraft: their size on the ground is similar to their real size, modified only by dispersion of light rays by the atmosphere.

Making and reading photographs this adds a further layer of complexity. If the viewer is conscious of the relationships between formal perspective and photography, how do we make sense of shadows? In the image of a jogger and dog, it is possible to extrapolate the shadow lines to approximate the outline of the subjects, even though the shadow is displayed on two planes.

The sun's rays are effectively parallel and objects are represented by the absence of sets of these parallel rays where the object stops their flow. Rays of light also bend around objects and are refracted by them, softening edges and creating subtle changes. This image making is analogous to formal drawn perspective: it relies on rays of light that function in a similar way to drawn lines. It is similar to the workings of a camera obscura or photographic camera in that images are formed from light reacting with the object. In a camera, the rays of light reflect off the object and are focused on a surface - a film or a viewing screen. In a shadow, the absence of rays of light, due to the interruption of the

object, creates the image. This leads to a range of possible representative results, depending on variables such as the surface where the shadow is cast, the nature of the sun's rays, and the softness of the edges of the object. The sun's rays can change depending on the amount of atmospheric interference, including light cloud cover. The object's edges can be soft and translucent, like a flower, or hard and sharp like a machined metal object.

Following on from observations on perspective and the way that shadows work in photographs, I produced a series of photographs to explore some of these connections. A frame was made in the shape of the edges of a square box. This was photographed in sunlight on a flat surface and the resulting images were printed in high contrast. Exploring the nature of perspective in these images, by drawing extensions of the perspective lines, created new images. These explorations were inconclusive and the images, whilst appearing simple and straightforward, were not easy to analyse. They did reveal that that particular approach is worthy of a serious exploration.

Following this came a series of explorations of the shadows by drawing over and extending planes. The most interesting, to me, of these investigations was a large-scale drawing made over a projection of the frame/shadow image.
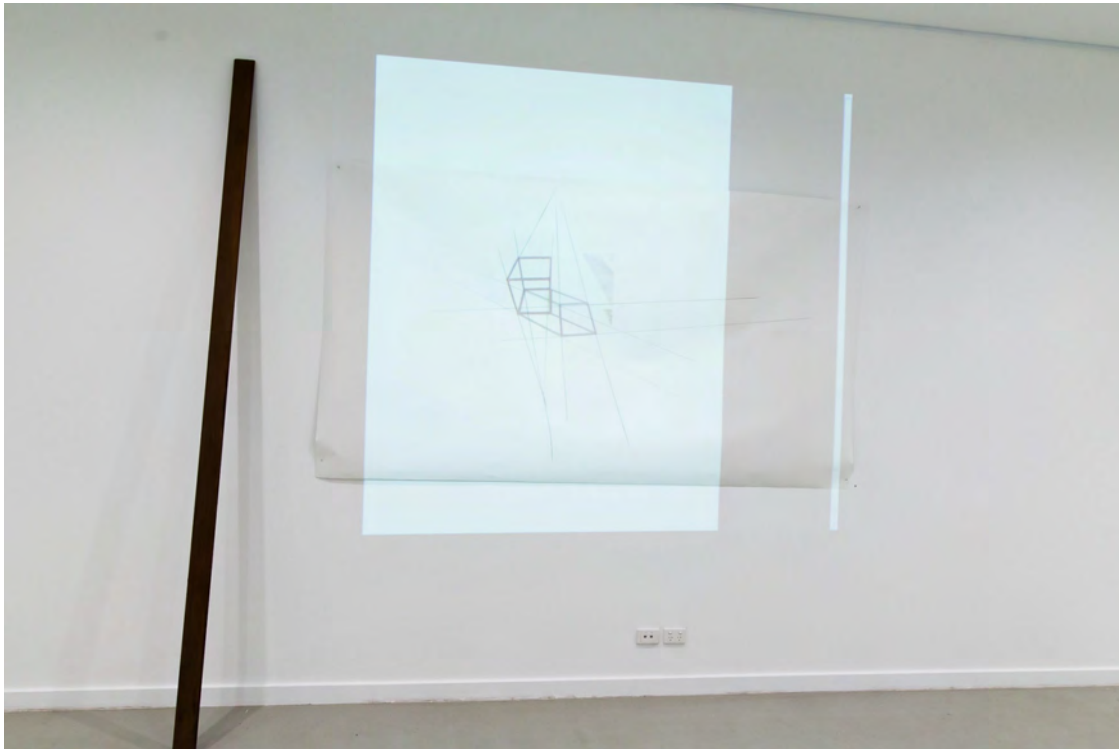
In this, a frame casts a shadow on the ground. In projecting the sides of both the frame and its shadow it is clear that all lines share the same vanishing point, even though they are on different planes. The long straight edge was used to project all the lines that appeared in the image.

In the series of photographs of shadows, I set out to describe objects by their shadows, cast on the surfaces of a room in my home. Most afternoons in Western Australia see an unobscured sun setting in the West. I have a bedroom that faces due west and in the afternoon the sun streams in through the window. The window has several panes and the glass is not optically perfect; there are some minute distortions created by the glass. Looking at the shadows and light rays being cast on the various surfaces of the room, it becomes apparent that objects outside and inside the room create shadow images. These images are physical representations as much as photographs are. They define the object

and are defined by the object.

This response to the visual arises directly from my background, drawing on experiences with technical drawing: photography and the relationship between photography and formal perspective. It relates to my photographic

practice, including a body of work on shadows. It has always been my practice to make photographs during early morning and late afternoon, as this is when the sun is softened by its passage through the atmosphere. This light quality gives the photographer the ability to control contrast and provides a low-angle light that fills shadows and illuminates vertical surfaces. In this work there has always been an emphasis on technical quality. Control of dust and grain were important in this work.

My concluding images in the visual exploration are printed on wide format digital printers. They reflect on the technical quality that has been a core of my previous practice. They exploit both the finesse and the noise inherent in analogue and digital technologies. The large format prints show the dust and grain of black and white negatives and the colour distortions that happen when printing black and white images using colour profiles.

The Final Exhibition

The work was displayed for assessment at the Spectrum Gallery, Edith Cowan University, Mt Lawley, Western Australia on the 17th April 2014. The exhibition comprised a series of paintings, large format digital prints, and a set of artist's books.

Setting up the exhibition was an exercise in editing and design that formed the final set of reflections. Selecting and placing the images allowed me to reconstruct the journey for myself. The works show the history of the reflexive process and series of reflective cycles. The paintings increased in sophistication as the progression developed. The two portraits that were among the earliest works in the series were edited out. In reflecting on them it was clear that whilst they were significant in the development of my thinking about painting of photographs or photography with paint, they lacked any other value. They are technical exercises that informed my understanding of surface treatment without beginning to engage with the issue of perspective.

Painting 1, the close up with a dog's head, is the start of the engagement with depth and with digital enhancement. The following images in the series are ones that show the progression of experiments with process, through interior perspectives to a flat floor. Assembling these images clarified for me the main stages in the process. The following set of Off Form Concrete paintings were where the experimentation started to coalesce to create resolved outcomes. These followed by the brick series marked the end of my use of paint to explore imagery.

In organising the black and white digital series, it became clear that there were two distinct stories: the story of digitally printed digital images and digitally printed analogue images, combined with an investigation of shadows and the way that they work in photographs. It was a late decision to hang the

photographs from the tops and not to worry about them curling up at the corners, it felt right that these images were presented as experiments and works in progress.

Works displayed

Outside the exhibition is an artist's book titled origins; these images are a precursor to the research, the starting point.

The journey starts with a series of paintings produced from photographs, with only a small amount of digital manipulation. These are paintings of photographs, but hold close to the identity of the subjects. Numbers 1 and 2 are close copies of photographs; 3 and 4 are photographs that have been manipulated to increase contrast and colour; 5 is a close representation of floor slabs in Melbourne's Federation Square.
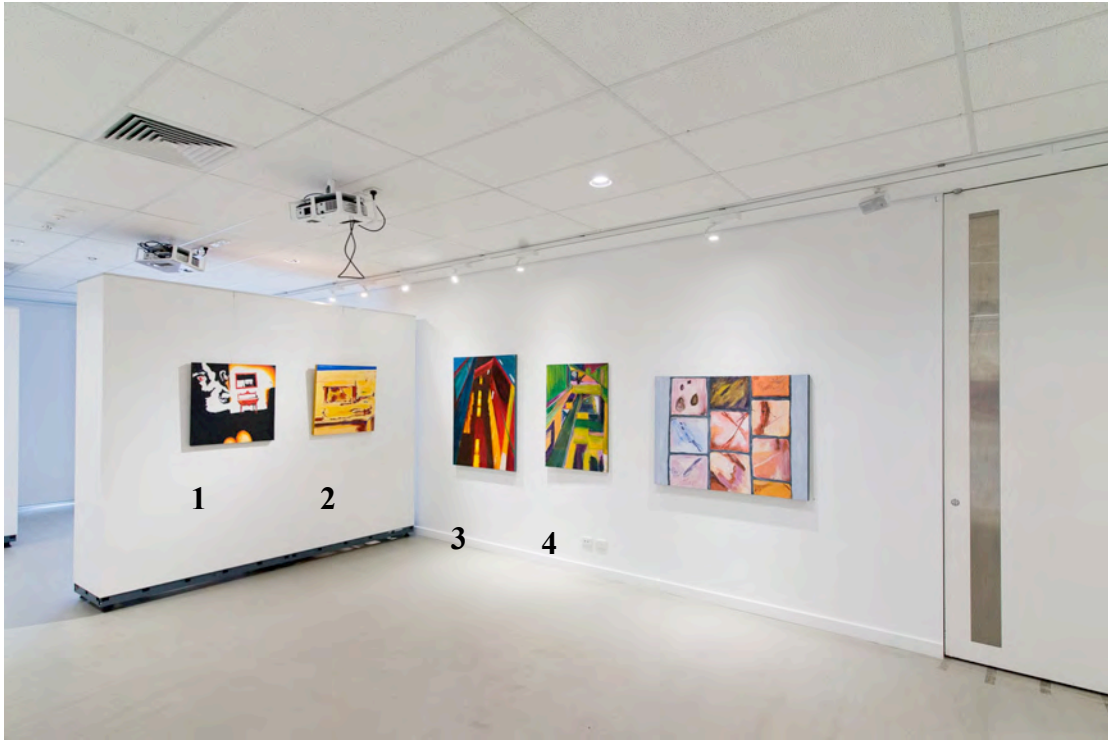
The next steps are a series of paintings of photographs of parts of buildings, 6 to 9. These are attempts at abstracting architectural spaces to change the three-dimensional nature to flat artwork.
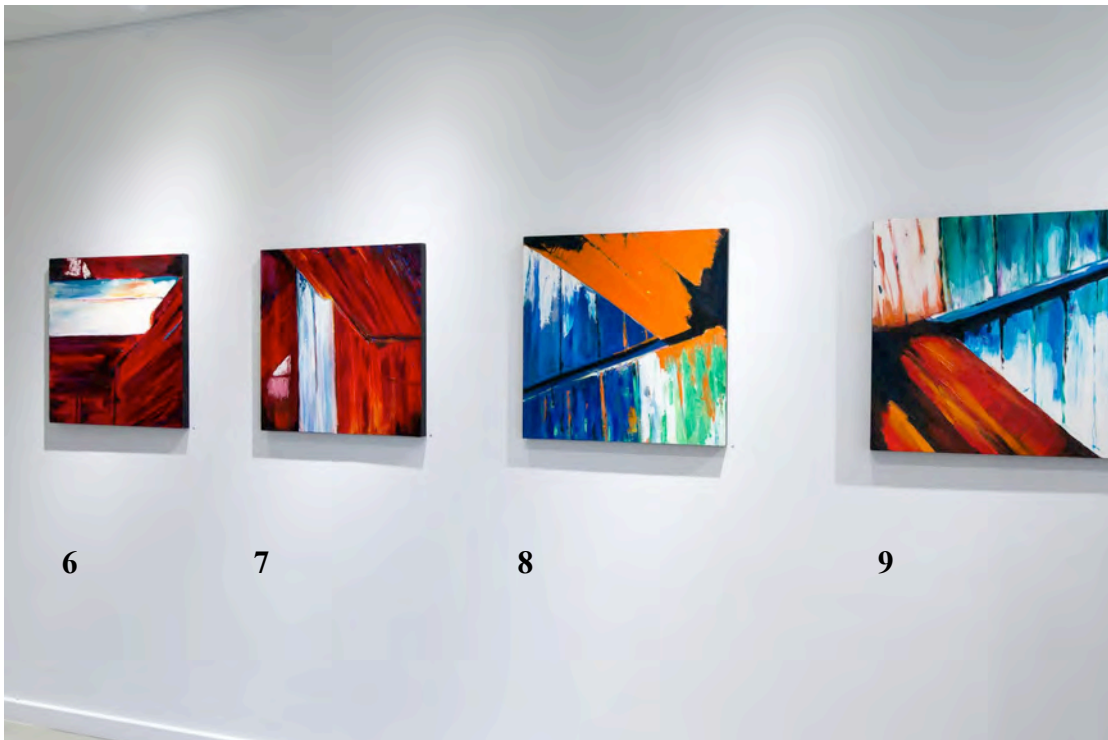
10 to 15 are paintings made using digitally manipulated photographs of bricks. They recognize the firing patterns burned into the faces.


16 and 17 are digital prints from digital images of shadows, These are part of a larger series. Whilst 17 is a straight print, 16 has been printed using colour profiles with a monochrome original. This has caused a phenomenon similar to solarisation, or the Sabatier effect, which is an early form of creative manipulation in black and white photography.

The works on paper are hung informally to denote their positions as working documents.
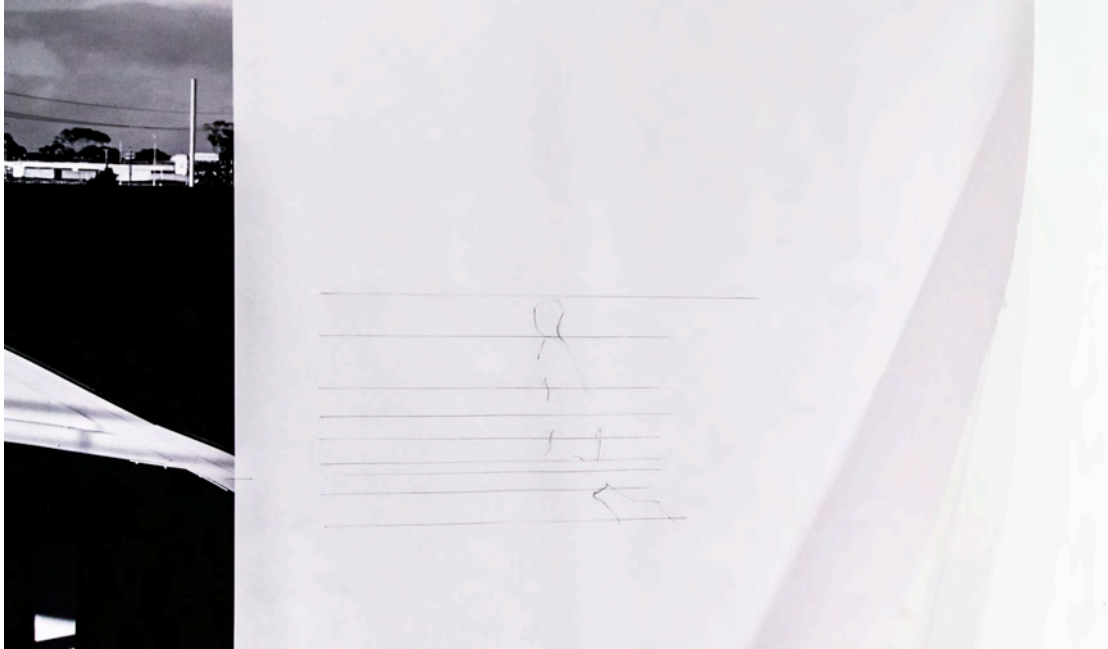
18, 19 and 22 are explorations, using a cube frame, of shadows.The sun casts shadows on a flat surface, and the images explore the relationships between shadows and perspective representation. 22 is a work in progress and has helped me understand some of the relationships.
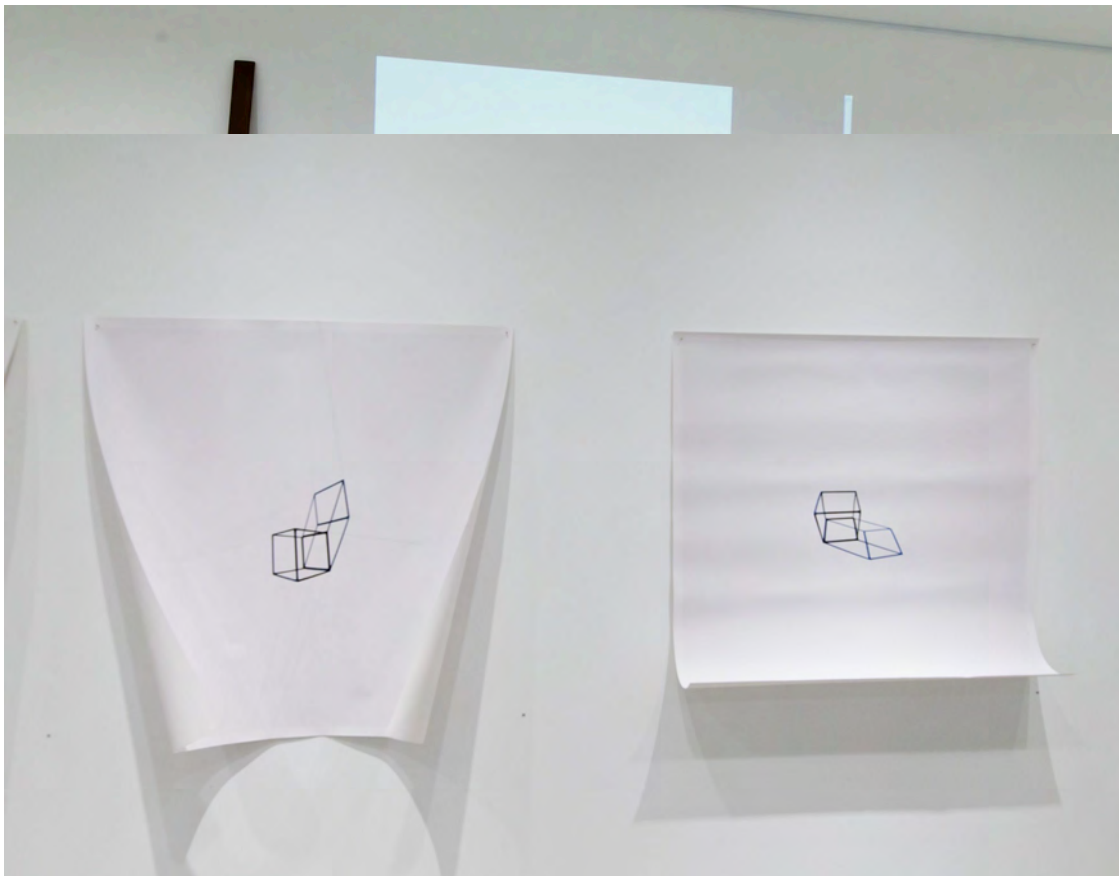
21 is an attempt to extract information from a shadow, in this case of a jogger and dog.

23 is a triptych which uses aspects of black-and-white photography and digital printing to produce a creative outcome. It celebrates the flaws or noise in the medium. It incorporates grain and dust, considered enemies of the fine printing found in the book of images outside the exhibition. It celebrates Iversen's view that "We are being "frogmarched [into a digital future] without a backward turn, without a sigh or a nod to what we are losing." (Iversen, 2012, p.812). It attempts to use the textures of the past technology.

The final element is the series of artist's books that are to be examined in conjunction with this exegesis. They are a creative outcome, summarising the visual explorations and they move the work into another domain, that of art practice and printmaking.

Conclusion

Designers and photographers consistently shift between commercial and self-expressive thinking and practice. Awareness of this shift is important in shaping the development of a designer and photographer. However, the rapid development of technology has masked the conscious self-development that led to the practice being controlled by computer software and printing methods. This research set out to look at the influences on me as a designer in developing a response to the significant convergence in media that occurred during my career. The research led to an understanding of the development of design as a practice and its connections to art, especially painting.

The project reflected on the development of perspective as a key common factor in digital convergence. This influenced a series of photographic and painted outcomes, culminating in a set of digitally printed images bringing together the

qualities of silver- film negative photography and digital scanning and printing.
It has moved me from a craft traditionalist to a practitioner with a greater understanding of my medium. It has allowed me to use processes and methods to create innovative creative works and is a foundation upon which I will develop further creative work that engages with technologies and uses them in a way unconstrained by conventional views of technical perfection.

Key findings from the project are:

> That the constraints of technology influence outcomes and can dictate our view of the media we use.
> Awareness of limitations enables new creative approaches.
> Technological convergence is a major factor in both creative endeavour and our everyday lives.
> A deeper understanding of our relationship to technology and all its possibilities.

The work has increased my understanding of the differences and similarities between analogue and digital photography and has established a number of directions for further work, including the development of new images exploring the nature of shadows. It has shown me that I am not a painter, but can call upon that medium to increase my understanding of visual problems.

More broadly, the works produced and the understanding gained are a contribution to the ongoing dialogue between art and design. They will provide a basis for work by others based on representational practices and encourage the backward look discussed by Iversen (2012). It is important to be aware of the history and traditions of our practices; it is also important to understand the nature of the technologies that we employ, including their flaws and strengths. Our flaws can sometimes be our greatest strengths.

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