The Digital Matrix and the Paperless Print

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Abstract

This paper examines, from the perspective of a critically engaged practioner within the context of contemporary fine art printmaking practice, the concept of a "digital matrix" and the consequent "paperless print". It identifies that "digital printmaking" is a definition that can encompass both material and non-material manifestations of the fine art print when set against developments in presentation technologies and subsequent increased demands from the digital cultural consumer. The implications of de-materialisation and subsequent shifts of the print art object from the physical to temporal are considered in the light of the challenges they present. The inherent implications for the practioner and their perception of practice are examined in the light of the printmaker / artist now having access to new forms of expression which no longer rely on physicality. The paper further suggests that the adopted mechanisms of establishing and maintaining "authenticity" of the de-materialised print art object must be commensurate with the complexities of digital practice; collaboration, partnership, duplication, authenticity and interpretation, and are evolved from ethical considerations of conduct, and the spirit of "creative commons" which are perhaps more akin to musical and performance arts than traditional visual art.

Introduction

As the title of this paper indicates, it is concerned with the "digital matrix", the "paperless print" and the implications therein for contemporary printmaking practitioners. It is a product of the author's research within Grays School Art – The Robert Gordon University and is founded in the context of critically engaged practice.

Although a practice founded on tradition and permanence, employing some techniques and working methods hundreds of years old, contemporary printmaking practice also espouses new developments and technological change. Historical examination of the "traditional" disciplines within current practice reveals that each was a new development in the technology of image transfer in its day (Pengelly, 1997). Within printmaking practice there exists a spirit of innovation, adaptation and invention, which results in the rapid development of methods and practice models amongst the diverse international community of practioners (print artists). Thus printmaking is in essence a paradox; wherein it is a practice founded in and defined by tradition, which also wholeheartedly and passionately pursues innovation. This places the print practioner in a unique position to respond to change evoked by the new or digital medias and the corresponding challenges presented in production and presentation. Therefore this paper examines the concept of a "digital matrix", the consequent "paperless print" and that "digital printmaking" is a definition that can encompass both material and non-material manifestations of the fine art print set against developments in presentation technologies.

The Digital Matrix

Put at its simplest, a print may be seen as: - "the transfer of an impression from one surface to another" (Tate-Britain, 2008); whilst the digital print is defined as "incorporating digital technology into the creation of an image or it's printing" (Wye, 2004). The Digital Art Practices & Terminology Task Force (DAPTTF) provides a more comprehensive definition, which includes a range of printmaking processes (Etching, Lithography, Serigraphy, Relief, Photography and Digital) and conditions (traditional, photographic, and digital), through which the print may be produced.

It is clear that "original prints are works of art printed from a matrix or matrices conceived and produced either by the artist or according to the artist's instructions" (Malenfant and Ste-Marie, 2000). Consequently each of the core printmaking processes (Relief, Intaglio, Lithography, Serigraphy and Digital) utilise a matrix or matrices particular to the process which is by definition a physical surface from which an image is printed, woodblock, plate, stone or screen (Wye, 2004). Although these matrices may in themselves be produced digitally they still comprise a physical entity. The "digital matrix" however is a repository of material, which stored digitally, is combined by the artist's hand and instanced with original intention rather than mechanism; Philip George's "fluid diary" providing an early example (George, 2002). Technically the "digital matrix" comprises stable digital storage mechanisms, which retain the data when switched off, rather than volatile random access memory. Both technically and conceptually as there is no need for this storage to be in the physical presence of the artist, then online and remote storage (including the internet) may form, as a whole or in part, the "digital matrix". Furthermore within the context of digital printmaking there lies the opportunity to manifest works of art through the transfer of artistic expressions from a digitally constructed matrix to a secondary surface or surfaces that are not traditionally based for example; Liquid Crystal Display [LCD], Plasma and Thin Film rather than paper, fabric or wood and by means which are also not traditional - projection, ink jet and 3D printing.

Therefore if we consider this potential for the transfer of the image to non traditional surfaces in the context of rapid developments and uptake of personal, domestic digital equipment such as Mobile Media Devices (MMDs) including multimedia mobile phones and Personal Digital Assistants (PDAs), high definition digital projection equipment and large format flat screen entertainment centres. These developments supported by rapid and increasingly cheaper mobile and fixed broadband services (OFCOM, 2009) have created the conditions for an exponential increase in demand for content (news@cisco, 2009). The private collector is now able to amass, view and share the "digital print" as never before. Consequently we have now both demand and the potential for the printmaker / artist to digitally edition the

original print from "Digital Matrix" to "Digital Surface". Thus through "the digital matrix" the print artist now has access to forms of practice, which no longer rely on physicality and have indeed provided the conditions for "the paperless print".

The printmaker / print artist and de-materialised practice

The implications of mechanical, electronic and digital technologies, on creative practice as discussed by Benjamin[1], Baudrillard[2], Gere[3], Popper[4] and McLuhan[5] are the subject of ongoing discourse. These discussions have in common, consideration of issues of originality and reproduction and the implications for the original art object. This is a debate, which now permeates the critical landscape of art practice.

It is within this context that the printmaker / artist enters the state of digital making by either; primary intention, through the hand of the print artist in making all, or part of their work by digital means and / or secondary intention, through scanning and online publishing of a physical or material print. Thus the print undergoes a process of de–materialisation and becomes temporal; in the time taken to invoke it and its duration to sentience (Corcoran, 1996). Furthermore as traditional views of art that prescribe a relationship between medium, materiality and genre have become increasingly eroded with the advent of postmodernism (Buskirk, 2003) wherein we see the "dissolution of traditional categories" (Atkins, 1990) and the "emergence of hybrid art forms" (Marshall, 2008a). Then the digital or paperless print should be categorised as work in variable media and as such; that it becomes subject to local interpretation and reinterpretation. If the manifestation of the print artist's output remains as a static transferred image the general form or structure is relatively simple to interpret / reinterpret at each instance of the work. However once we move to more complex multi-media / multi aspect works, further complications arise.

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[1] *BENJAMIN, W. The work of art in the age of mechanical reproduction,*
[2] *BAUDRILLARD, J. & GLASER, S. F. Simulacra and simulation*
[3] *GERE, C. Art, time, and technology*
[4] *POPPER, F. Art of the electronic age*
[5] *MCLUHAN, M. & FIORE, Q. The medium is the massage*

Consequent Challenge

As print artists take up the opportunity for their expression to become manifest in de-materialised form (through either primary or secondary intention) for exhibition, consumption and exposure via public and private "affinity spaces" (Davies, 2006) such as Flickr Groups[6], Inkteraction[7], Facebook Groups and online sales sites such as Etsy[8] and eBay; artists are increasingly providing their works for distribution through networks over which they may have little or no control. Once the print lies in the digital domain its nature shifts from the physical to the temporal (Corcoran, 1996) and is subject to new questions of allocation[9], authenticity[10], and authorisation[11]. Therefore the crux of establishing and maintaining the artist's rights over the de-materialised print work presents a significant challenge.

Rapid developments in digital technology have left few elements of our society untouched by change. In fact, to quote Charlie Gere; -

> *"Nowadays most forms of mass media, television, recorded music and film are produced and even distributed digitally; and these media are beginning to converge with digital forms, such as the Internet, the World Wide Web, and video games, to produce a seamless digital mediascape." (Gere, 2004)*

It is therefore within this context that the demands and expectations of the cultural consumer are shifting, and consequently the practice of printmaking must respond. Therefore just as printmaking adopted previous technological advances and is currently espousing digital technologies, it must also espouse the growth in demand for the "online", the "de-materialised" – the "paperless print", rather than digitally produced paper-based output only. The production and presentation of works in variable media – paperless prints are often complex, both necessitating and allowing for collaboration and

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[6] *http://www.flickr.com/groups/printmaking/*
[7] *http://inkteraction.ning.com/*
[8] *http://www.etsy.com/category/art/print*
[9] *Mechanisms for apportioning rights of exhibition, distribution, use and re-use.*
[10] *The degree of an artist's original intent in the instantiation the art object.*
[11] *The mechanism used for the print artist's sanction over an edition.*

partnership. When the issues of evolving technology are added, a complex scenario develops which occupies a position very different to hanging a print in a gallery space or placing it in a browser. The printmaker / artist, however, is uniquely placed within this scenario given their historical skills in collaborative practice, wherein collaboration has traditionally focussed upon the relationship between artist, printmaker and publisher (Ashe, 2001) . In essence, the evolution of new models are apparent through printmakers networks such as Inkteraction which may be viewed as being akin to " a group of artists working together, pooling their ideas, communicating to one another their discoveries and achievements" (Read et al., 1949). Originally conceived in connection with the working practices S.W. Hayter's Atelier 17, this concept is equally applicable to the internet based digital networks operating within contemporary art practice, wherein artistic collaboration over time and distance is engendered through de-materialised practice and thus further emphasising the unique position of the printmaker / artist and the significance of the "Digital Matrix".

When considered as a whole, the presentation of contemporary print art produced using variable media, is a complex model, the more so when it has a technological base. This scenario challenges the practioner to adopt new models and practices, developed to facilitate the exposition of the art form. One such model is Beta_space (an adjunct of the Powerhouse Museum, Sydney) :-

> "Beta_space is a practical solution to two areas of need: the needs of artists to engage audiences, in context, in their practice, and the needs of the museum to provide current and dynamic content to their audiences in the rapidly changing field of information technology." (Muller and Edmonds, 2006)

The implications of these challenges are that the demand for participatory and collaborative approaches is increased, and that the presentation of contemporary art using variable media be viewed as a partnership between artist, curator and audience. This is a view supported by Muller and Edmonds (2006) who identify that the shift to audience engagement is in fact vital to

ensuring cultural institutions remain relevant to "aesthetic experience".

Within printmaking there is a predisposition toward making works on paper which "can be damaged by light, extreme or fluctuating temperature and relative humidity, pollution, pests, and poor handling, storage and mounting"(The-Conservation-Register, 2006), evidence of the temporal nature of paper itself. It is therefore that the practical application of "archival quality" in the selection and use of the materials and processes within the printmakers practice became significant. Traditional processes have evolved over time and the means of conserving them has developed in consequence. It is logical that with the development of new materials, mechanisms and methods then there will be an inevitable delay in the development of new means of conservation and methods of archival.

As the permanence of the product of digital print art may be questioned we see established and accepted mechanisms of archival set against digitally mediated works of variable nature extending into questions of materiality of the physical object, compared to temporal manifestation. Consequently an art object's physical permanence may no longer be as significant within the digital matrix as opposed to its potential for variable but repeatable instancing (the manifestation of a digital construct to sentience) in the manner of Deleuze's "objectile" where "the object assumes a place in a continuum by variation" (Deleuze, 2006).

Furthermore given the facility for repetition and duplication inherent within the digital, de-materialised print artifact then questions of authenticity (raised by the availability of the digital multiple), authorisation (the artist sanctioning of the edition) and allocation (rights of exhibition and distribution) come into question. Given the possibility of artistic collaboration over time and distance engendered by de-materialised online practice then further questions of individual creative rights and production control may be raised.

Responding to challenge

As suggested by various commentators (Besser, 2001, Buskirk, 2003, Maitland, 2003) answers to questions of authenticity, authority and allocation

lie, in part, in documentation surrounding the artwork and (it may also be argued) the communication of the artist's intent.

In examining the methodologies and practice of inception, distribution and possible redistribution of original but repeatable artwork produced using variable media; Sol LeWitt's wall drawings provide an invaluable exemplar. As identified by Buskirk (2003) it is only a certificate and a diagrammatic set of instructions to create / install the work which are transferred. In fact, the model allows for two instances to be made at the same time in differing locations whilst retaining authenticity.

Clearly in the case of LeWitt the art object was always intended as a physical manifestation however the mechanism adopted provides a model of significance to sanctioning de-materialised print art objects. In consideration of the implications of new technologies and printmaking Richard Ste –Marie argues that as the new methods share the originality paradox (whereby the work only begins to exist when the first copy is pulled) with traditional print forms and consequently should adopt the same system of proof identification (Malenfant and Ste-Marie, 2000). Traditionally authenticity has been guaranteed by custodianship of the artefact's "provenance" (Besser, 2001) and signature. With the latter having historically evolved as having particular significance within the practice of printmaking as a result of the division of labour between the artist, the engraver, the printer and the publisher (Daniels, 1996). Given the questions raised through digital process and its facility for repetition and duplication then the traditional link between signature and the authorisation of the artist come into question. Within printmaking practice where "digital" is part of a process of mediation which results in instantiation through traditional means, then accepted norms of signature and editioning will continue to suffice. It is as digital and de-materialised mechanisms – "The Digital Matrix" - allow the printmaker to expand their methods of instantiation beyond ink on paper "The Paperless Print" then new paradigms are be required. Metadata is clearly significant in the development of digital signature and in fact may become the provenance of the "Paperless Print". Overall however, the hand of the artist and the and the existence of original intent in the creation of the artefact (Wisniowski, 2003) may be of greater significance. To quote Nicole Malenfant;

> *"In creative fields, freedom reigns and modes of experimentation*
> *are in no way circumscribed, which is why the most avant-garde*
> *works regularly break down the codes of identification and the*
> *borders between genres. A static code of ethics would ultimately*
> *not correspond to the practice of the art."*
> *(Malenfant and Ste-Marie, 2000)*

Consequently hard and fast concepts of copyright, which are currently being eroded by Internet usage including "mashups", social networking, blogging and micro blogging – the "instant publishing" predicted in The Medium is the Massage (McLuhan and Fiore, 1967) are becoming increasingly outmoded . Perhaps answers lie in the Creative Commons movement which "consistent with the rules of copyright" provides "free licenses and other legal tools to mark creative work with the freedom the creator wants it to carry, so others can share, remix, use commercially, or any combination thereof" (Creative-Commons, 2009).

To conclude therefore; it is through the adoption and use of "the Digital Matrix" and "the Paperless Print", print artists now have access to forms of expression, which no longer rely on physicality and present the print artist with new challenges. Within this medium issues of interpretation are further complicated with every instance or manifestation of the non-material digital print being potentially different as a result of computer platform/browser combinations and local viewing technologies adopted. These are peculiar to each percipient of the print artists output and are in addition to the intention of the artist. Therefore theories expounded by Duchamp, Benjamin and Baudrillard are reasserted with in the context of this practice. As are questions raised by the temporal nature of the de-materialised art object (Corcoran, 1996).

As a consequence of the potential diversity of print art work in variable digital media being set against questions of repeatability and hence authenticity we must evolve a new language of practice. Not merely reflecting a simplistic

model, which might view traditional printmaking as pre-digital and new printmaking as post-digital. In this approach, the differentiation will be greater than these, and reflect global approaches to practice. Referencing contemporary trends for mixed method and mixed media techniques in the inception and production of diverse forms of art making. Reflecting the dissolution of traditional categories through hybrid art forms (Atkins, 1990) which transcend traditional modes of practice (Marshall, 2008b).

As the language of the "digital print artist" changes, practioners may need to adopt a shift in the perception of their practice, wherein the mechanisms of establishing and maintaining the authenticity of these variable media works lies in the documentation surrounding the artwork and perhaps the communication of the artist's intent. Not simply metadata, but a mechanism which is commensurate with the potential complexities of practice – collaboration, partnership, duplication, authenticity, interpretation – mechanisms evolved from ethical considerations of conduct, and the spirit of "creative commons" which are more akin to methods adopted in musical and performance arts, than traditional visual art.

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