

Print the code > Code the print

Creating art at the cusp of printmaking & mobile media

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Theme: Medium and Materiality

INTRODUCTION

In contemporary western society print-media and mobile phones have become so ubiquitous they meld with the very fabric of our lives. Both have been appropriated by artists and transformed from communication media into independent platforms for art-making. Technically, physically and aesthetically the pair seem poles apart, yet their boundaries do touch. It is at these touchpoints, that interesting juxtapositions occur, allowing for the development of new art practices, discourse, innovation in overcoming technical challenges, and exploration of the relationships of physicality between material and digital entities.

Many printmaking artists use digital tools such as photoshop to develop their ideas, rework source imagery from photographs or to create separations for photosensitive processes such as screenprinting or photopolymer etching. In this context, one can easily see the relationship between a digital entity and how it is articulated in a printed form. It is harder, however to bridge the gap between a communication device such as a mobile telephone and the handcrafted print that has been created in the artists' studio. Unless, that is, takes a step sideways and leverages an emerging technology first seen in Japan in 1994, which until recently was used primarily in manufacturing for tracking objects (Wikipedia, 2010), from one place to another.

PRINTMAKING, MOBILE MEDIA & CODES

This technology is that of the graphical tag, which is a two-dimensional barcode scannable by phone-camera linking to web-based content, taking any form, from text to audio, images and video. There are many types of graphical tags, with no universal standards, but currently the most common in use in Britain, where this artist-researcher is based, is the QR-code. Their use is gaining momentum in popular media across the world, from being endorsed by the high profile UK retailers, Harrods (Richards, 2008), to telecommunications companies such as Telstra in Australia (Telstra_Australia, 2008), in a bid to make the technology ubiquitous and usable by wider audiences.

The shift to utilising graphical tags has been slow, particularly in English speaking countries. Although mass usage has been in Japan since the beginning of this century, it has only been in the past two years that people in the UK understand what they are, and even still QR codes are not yet mainstream media. Telstra's attempt in Australia to roll out QR codes in early 2008 failed to such an extent that in April 2009, repeated visits to shopping centre Telstra Shops in Sydney and Brisbane revealed that most staff still had no idea what QR codes were. Issues like this can make it difficult for an artist to use the technologies, however they can

also serve to elevate the mundane to a more exciting status, providing uncharted territories for the artist to discover.

Graphical tags link to mobile web based content. Like their familiar cousins, the one-dimensional barcode, graphical tags are most commonly realised through the form of print. To create print-based artworks in which a graphical tag is embedded is to turn the print into an interface enabling interaction with digital content via a mobile phone. The tag becomes a portal, mediating the viewer's journey from the physical space of the gallery, which they share with the print, to the virtual space embodied within the content displayed on the mobile phone screen. This shift from physical to virtual space using a mobile phone is known as mobile augmentation (Chan, 2008).

Mobile augmented artworks pose a challenge for the gallery space, both logistically and critically. Actually exhibiting works which rely on the mobile web, until recently has been problematic, firstly due to the wide range of handsets that exist, meaning that there are difficulties ensuring that content looks good on different screen types, and secondly due to the ways in which telephone service providers bill for mobile internet access. If handsets are in the gallery, then sim cards and credit need to be provided for access to the internet. If visitors are using their own phones, they need to be able to download and install software, and, either be on a plan that includes mobile internet access, or pay additional to see the mobile content in the artwork. The ease of access to mobile-web content in a gallery space has been one of the major stumbling blocks in widespread use of graphical tags in art, however, recent developments of smart phones which can connect to wifi networks have alleviated this pressure.

There is now freedom for the museum or gallery to set up an exhibition with dedicated wifi allowing visitors to go online for free on their phones to see what the artworks link to. The diversity of handsets is still an issue, however the most prudent solution is to design for a small range of popular handsets, ensuring that at least one of these is available for gallery use. Currently, iphone and android handsets provide the most versatility for designers and artists. The ipod touch released in September 2010 provides a less expensive alternative to a mobile phone, with all the required functionality of a camera, qr-code scanning app and wifi access needed to interact with graphically tagged artworks without having to maintain credit on a sim card or be locked into a telephone service provider plan.

THE STUDIO BECOMES "THE FIELD"

This paper is part of an art practice-led PhD investigating de/ remateriality in graphically tagged print based artworks. Logistical problems working in the studio open up paths for critical thinking and writing, which would never have occurred had the studio practice not taken place. Working in an open access studio at Dundee Contemporary Arts has been a very fruitful experience. As I tackle technical issues in my work and muddle through bad days and good, other artists share the studio and a discourse emerges as the works progress. We all look at each other's work as we wait out the timely processes of printmaking. For example conversations emerge at the light unit while waiting for photopolymer plates to expose. It is in

these snatched moments that I am given invaluable insight into my work through the eyes of other artists. I have come to realise that if this were a sociology or anthropological PhD, this work in the studio, and these conversations with other artists would be akin to being out in “the field” a “participant observer”. Such experiences have informed my practice, leading to critical investigations that would not have been possible had I been working in isolation.

DE/ RE MATERIALITY

Due to the newness of the field, critical writing specific to mobile augmented artworks is sparse, which means there is a need to generate awareness amongst other artists, critics, researchers, curators and writers to build up a context for debate and conceptual exploration pertinent to this area. Drawing from related fields, critical thinkers Walter Benjamin, Lucy Lippard, Martha Buskirk and Rosalind Krauss are some who can provide a conceptual backdrop for art practice and research into de- and re- materiality for mobile augmented works in a print studio environment. The location awareness of mobile a device, pinning it down to a specific place in time and space has also given rise to creative practices in locative media, and its “always on” nature has opened up artistic works in ubiquitous computing. Writers such Lev Manovich give insights into locating artworks such as mobile augmented prints within this larger critical framework

The concepts that Walter Benjamin raises in his seminal piece *The Work of Art in the Age of Mechanical Reproduction* of 1934 have as much resonance today as it did when it was written. The context has changed, but “Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be” (Benjamin, 1934) is a point which raises debate relevant to today’s issues, particularly in printmaking and digital media. Like Benjamin, when Lucy Lippard wrote *Dematerialisation of the Art Object* in 1967 she could not have pre-empted how her words would be applied to artforms that didn’t even exist at the time of her writing. The points she makes about demateriality and the art object are important when one is creating artworks which have both physical, material qualities and well as a digital entity. The crux of Lippard’s writing was the idea that the concept was more important than the material object. It should be remembered that her writing was contextualised by conceptual art in the 1960’s, but she then also qualified this later in 2001 with:

“ And since I first wrote on the subject in 1967, it has often been pointed out to me that dematerialisation is an inaccurate term, that a piece of paper or a photograph is as much an object, or as “material”, as a ton of lead. Granted. But for the lack of a better term I have continued to refer to a process of dematerialisation, of a deemphasis on material aspects (uniqueness, permanence, decorative attractiveness)”. (Lippard, 2001)

With digital media her points remain valid, and in the 1990’s Lev Manovich took this idea even further. He argues the case for the “new media object” (Manovich, 2001), a concept to which he returns throughout the narrative. He uses the word “object” instead of product or artefact when describing final pieces of new media work. He purports that objects themselves can be

“digital” and that the term “object” is one to do with culture rather than the medium in which the work was produced. What happens then, when one adds a material object, for example a print with a QR code embedded in it, which can be scanned and linked to digital content? One is in effect to be *re* materialising an art object, which previously had been dematerialised?

Printmaking is a key medium in contemporary art, yet there are few printmakers who would ignore the material aspects of the print. The relationship between the ink and the paper, the technique, and any tactile qualities, such as the mark of an etching plate edge on a print are of great importance to the print artist. For many contemporary printmakers this is not at the expense of the concept. In fact the materiality and medium can serve to enhance the concept if the artist so chooses. British artist Peter Ford's work illustrates how conceptual exploration informs the final print. His work *Evidence 1*, a series of six blind embossings on handmade recycled paper which emulate wood grain of tree trunks highlights this point. This paper, combined with the embossings, gives the print very tactile qualities while the making of moulds from two cross cut tree stumps highlights the importance of technique relating to content of the work. The main aim of the work was to “respond to or illuminate the place of wood and woodlands in our culture” (Saunders, 2006), showing that the work has a critical concept which is conveyed through a very specific medium relating to that concept.

Martha Buskirk in *The Contingent Object of Contemporary Art* suggests that an artist has two choices when making a work of art - the choice of the medium they use, and the choice of conventions that are associated with that medium. She later questions what actually defines a medium and draws on Rosalind Krauss's definition (Krauss, 1999): “a set of conventions derived from (but not identical with) the material condition of a given technical support” (Buskirk, 2003). In the context of a print which has been augmented with content to be delivered on a mobile phone, there are yet no conventions associated with this as a new medium in its own right. One could argue that hyperlink conventions are the default, where the user can scan an image, rather than pressing a button, but the actual physicality of doing this, and the fact that the user is not tethered to a desktop computer alters such conventions as they currently stand. This freedom is refreshing, allowing those working in the medium help shape and define what those conventions may turn into. The conventions of *looking* at a print in the gallery space are challenged when interaction with a mobile phone turns the passive looking at art into an active, exploratory act. Meanwhile conventions of etiquette for mobile phone use are broken down when the artist actively encourages the viewer to play with a mobile phone in the gallery space – something that could be seen as the height of bad manners by current conventions (sTiggy, 2010).

This changes the print into an indexical sign where a QR code is the signifier for the existence of digital content/ mobile augmentation. As people learn to read this sign and it becomes more ubiquitous, the conventions attached to “looking” or now “interacting” with the works will become more defined, and this will then inform an artist's expectations of reception of their work. The QR code calls the viewer to take out their mobile phone and act upon the work in a way that printed works have never done before.

STUDIO PRACTICE

In creating works where there is a physical material component (the print) and a digital component (a mobile optimised website), making gives rise to questions such as, *Which comes first - the digital media or the physical print?* In order for the qr code to exist, a web address needs to provide the data for the code to “point” to but in making the works, sometimes the digital content is actually influenced by the printed artwork or vice-versa. The actual content of the work, itself, too is important. The medium must fit the message (McLuhan, 1997), for there is no point in going down this technically challenging route without considering the message that a mobile augmented print is going to convey to its audience.

Artworks in progress at the time of writing (December 2010) articulate my experiences after the recent birth of my son. The works take the viewer on a journey through the first sleep deprived months of fog and confusion to the clarity and confidence, which evolve as one comes to terms with their new situation. Ever conscious of those who have warned that one should treasure every moment because the “time goes so quickly” this work is about moments. Not specific moments, which are attached to individual memories and often captured in photography, but rather universal moments, identified by many new parents, captured through mixed media prints using a range of processes such as embossing, chine-colle, screen printing and solar-plate etchings based on cyanotypes which through QR codes, link to interplays of light and audio delivered on mobile phones.

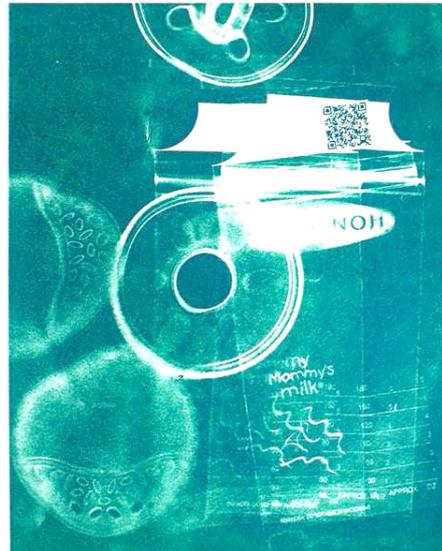
Though the content of these works may be reminiscent of Mary Kelly’s Postpartum Document (1973–76), the sentiment is very different. Where Kelly’s work was immersed feminist politics and ideas of fetishisation of tokens by the mother (Kelly, 1999), my work is about reaching out to other people. It is not about challenging gender based politics, rather it is an experiment in combining physical and ephemeral media in a non-linear way to emulate personal experiences, the essences of which can be quite hard to articulate through one medium alone.

Faced with the dilemma of which to create first, I worked from the heart and started with what I enjoyed most; making in the studio. After being away from the studio for almost a year on maternity leave, I needed a way back into working which any sleep-deprived new mother will attest, can be very difficult, so I started on a series of cyanotype “sketches”. These became source imagery for the final works. The nature of these cyanotypes, where the light creates interesting shapes due to paper and objects being exposed in a UV light unit with a tight vacuum applied, is ad hoc, and ethereal. This contrasts greatly to the visual aesthetics of a blocky computer generated QR code, so there was a need to reconcile the two aesthetics.

Due to the nature of exposing the objects, each cyanotype is a one-off, a monoprint. Ironically, though these monoprints could be seen as “unique and original” artworks in their own right, I wanted to reproduce, alter and edition them. This is where working with photoshop, being used to the myriad of options has impacted how I think in the studio – I want to be able to take the original image and work it down different pathways. I want multiple levels of “undo”. By creating etching plates of the cyanotypes I can experiment, as I would do

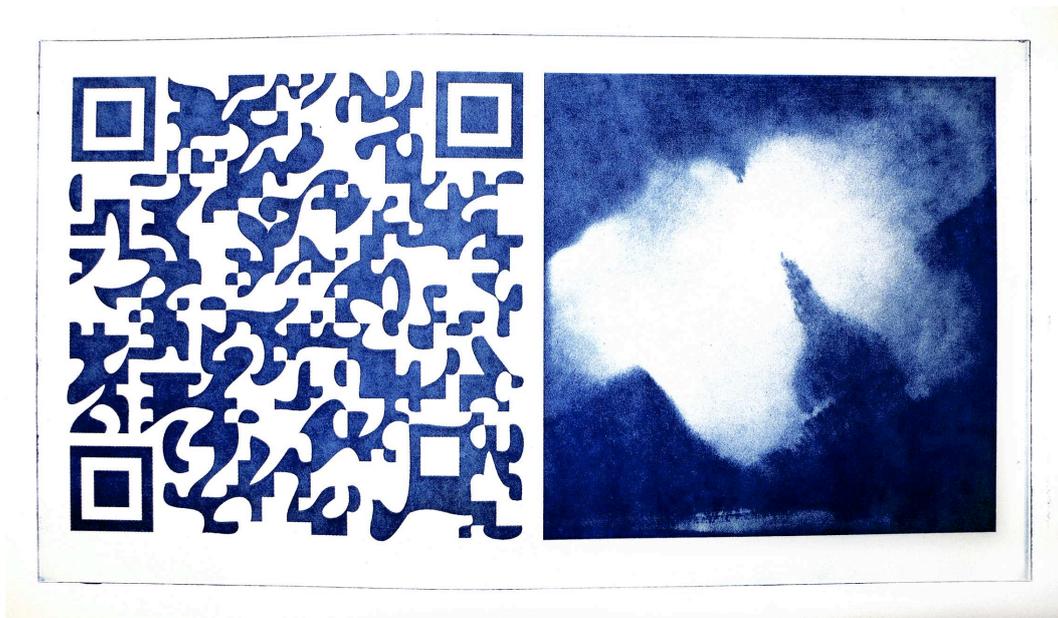
in photoshop without irrevocably damaging the original print. I love the blue of cyanotypes, but I want to change the colours. I want to see what the print is like if tone is built up through a series of different plates. I want to be able to explore how a print looks and feels through different processes of embedding the QR codes.

In embedding the code within an image the aim was to break away from the mechanical feel of a computer readable code, giving it more a handmade feel. Different ways of dealing with the code in the image were explored, where the code was inserted in a way that it become part of something already featured in the image, or where the image space itself was designed and the image and code became design elements of a larger combined image.



Code embedded at the top of the milk bag photopolymer etching

Where the image space takes on a more design feel, the code itself was reworked to make it feel more organic, testing the latitude of what phone-cameras can actually scan. Experiments with smaller codes embedded into an image, showed that their size, coupled with the alterations rendered them unscannable. These codes can withstand 30% damage,(Densowave, 2010) which is difficult to visualise when working in the studio because this is a numeric quality defined by computer scientists, not a visual concept by artists. It took many experiments to change the blocky pixelation of the codes to the smoothness of Bezier curves seen below.



QR code & cyanotype image as design elements photopolymer etching

In having the code on the separation, this meant that the code is exposed onto the plate, and there is the risk that if the url changes then the code will not work anymore, so test codes did not link online. One can look at changes to the url in two ways: either that this is a problem needing to be resolved, or this is the nature of the medium and if the link is broken this too becomes part of the artwork. With a background in interaction design, my desire was to have something “workable” for as long as possible. In any digital field one does have to accept that obsolesce at some point will be an issue, so futureproofing works for as long as possible is the ideal.

The choice of techniques used to create the prints was based on the tonal ranges that could be achieved in printing. Originally the work was going to be created as toray plates, however toray has a limited tonal range and the subtleties of the cyanotypes were lost in translation. Another option was screenprinting, three or four colours to give the subtleties of tone. However the actual process of making a screenprint did not respond to the nature of the content. Once the screen is set up, it is a fast printing process. One has to print quickly before the screen dries and inks clog the mesh. The process doesn't lend itself to contemplation at the point of printing. In a screenprint the ink sits on the paper and the printed image can feel superficial, rather than being enmeshed. This body of works is contemplative, experimental and slow. The embeddedness of the codes and the shadowy feel of the images is more evocative of etching techniques. In etching, the ink more seeps into the paper and becomes part of it, and these works demand that, where depth and ambiguity are their nature. So it has been photopolymer etching processes that allowed for rich tonal qualities to develop creating a feeling of atmosphere.

In a previous body of work exhibited in 2008, QR codes were placed in red at the bottom of the prints, reminiscent of the artist's seal in Japanese woodblock prints. This aesthetic worked for a black and white photographic series, which was refined and had a strong design element, however red ink on a series of free flowing cyanotypes was too harsh and seemed to make the images appear defaced. The process of creating the woodblocks and printing them over the etchings was satisfying but aesthetically this needed more work.



The joy of printmaking is its versatility with options to layer up an image with different processes as the works develop. Experimentation suggests it is wiser to generate the code *after* the print is created, and add it on at a later stage. It is safer not to add the code to all the prints in an edition, so that if the url changes, so can the code. Adding codes later has also led to using process such as chine colle, creating a lighter softer feel than the woodblocks. These respond better to the nature of the cyanotypes based etchings and are one solution.

In determining how to “go about things” creating these bi-partite artworks, establishing a viable process to do this has been key in realising the works. This involves creating the printed artwork in the studio, then working on the digital content, hosting this content on a server and determining the url, then generating the code which is added to the print in a way that is sensitive to the content and nature of the image.

At the time of writing, work has now entered a phase of concentrating on the digital content. Collaboration with a programmer has been integral to creating the works and could not have been done without the help of Caitlin Rowley, a composer and programmer whose creative mind has been invaluable in understanding needs from an artistic point of view. To meld the digital with the printbased components, and direct how a user interacts with the artwork it is important for the artist whose vision is driving the work to have a strong knowledge of designing for the mobile web. This includes interface design for small screens, interaction design, and information architecture. To communicate effectively with a programmer and to work within the technical limitations of the mobile web, understanding of html, CSS and support for audio and video formats on a mobile phone are also needed. While experience collaborating on app development for iphone and android devices also helps. This combination of skills in a printmaker may seem daunting, but many artists have their own websites and some are gaining enough confidence in the digital arena to take on board such challenges.

CONCLUSION

This duality of skills required by the artist means that their mental space needs to be able to switch between working ephemerally with digital media and working physically in the studio. Such shifts can really serve to investigate how the material properties of print such as paper choice, tonal range, texture and colour taken on heightened importance when viewed in contrast to a digital component, which is limited by the nature of a mobile phone screen.

The conventions of the print, as a passive object are challenged as it is turned into an interface, inviting the viewer to interact via a mobile device to uncover what is hidden behind the codes. The online presences that the viewer assumes when interacting with mobile augmented prints highlights the pervasiveness of a networked society, however this is an opt-in choice. For ultimately, there is always the option to ditch the phone and just appreciate the print “on the wall” for what it is: A work of art crafted in the studio by an artist exploring concepts and choosing the tactility and nature of the printed medium to express some of her ideas.

WORD COUNT: 3983

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