Title: Knowing photographs now: the knowledge economy of photography in the 21st century

Abstract

The shift to digitality in the capture and viewing of images has had a profound influence on the student experience and engagement with the image. Consequently the technological tools that have transformed the capture and viewing of the image, and also the new image-based activities that are facilitated by these technologies, determine the knowledge base that students bring to the classroom.

The photograph, as a glossy printed cultural document is an alien concept to today’s student for whom the capture and reading of the image is largely mediated through an electronic interface. Captured electronically and referenced in pixels, the image is downloaded and interpreted on display devices, screens and interfaces instead of glossy photo-paper. The 21st century experience of the photograph has been transformed; the process of viewing, storing and using the photo image has become processual. The capture of images in digital cultures acknowledge functions including formatting and file sizes; storage of the images references activities aligned to downloading, filing and file sharing; viewing the image involves searching and tagging practices.

As this knowledge base changes, education practice that addresses images and image making needs to acknowledge the changing cultural and social landscape in which the construction and reception of images takes place. This article aims to assess whether critical discussions about visual cultures associated with images and image making in the 21st century, are fully acknowledging the changes in the knowledge economy of photography. It argues that issues of access, production and consumption of images in the 21st century, call for new theoretical approaches and new teaching strategies in
photography education that acknowledge the current status of the image as a social and cultural document.

Introduction

In order to signpost new paradigms for teaching and learning in photography, the author approaches the construction of knowledge as dependant on how the human mind operates as an embodied form. Knowledge is not merely gained through how our minds accept abstract information, but rather understanding is developed through how our bodies engage with material contexts (Merleau-Ponty 103 - 111). The manner in which the potential student is currently engaging with the photographic document will inform their perception of the photograph. The subsequent knowledge base that the student brings to the classroom therefore, is inextricably linked with what the student is currently doing with the photograph beyond it.

We can assume that our potential students of photography will have already engaged with photographs and photography as both producers and consumers. The argument for change to existing teaching paradigms is based upon the observation that both these encounters will have largely been mediated through digital forms. Capture and reading of the digital image is today negotiated through an electronic interface where computable applications can transform the original reading of the image. This paper is proposing that the familiarity the student has with these digital imaging processes and the subsequent knowledge base they draw from is at variance with traditional photography curricula where the learning base presumes the photographic form as a framed, glossy, printed document.

To establish a methodology that provides an analysis of the current status of the image as a cultural document, this article acknowledges that the learning framed by the material contexts in which the potential student is engaging with the photographic document, is also dependent upon other social and situated perspectives (New London Group, 1996). The embodied knowledge base is shaped by how the learner engages with others in relation to photography (social) and how they understand these experiences in the relation to the public realm in which these photograph practices are taking place (situated).

Therefore, in order to analyse how the potential student’s social and situated practices might impact on their knowledge base, the author has used observations from activities
and behaviours revealed in the online image-based environment *Flickr*. *Flickr* is an online community where capture, storage, display and sharing of digital photographic images form the core common practices engaged by the community members. These practices present evidence of how negotiations and collaborations amongst its community members are shaping experiences of photography and its sociocultural setting renders an awareness of how these practices are considered between its members (Schiano; Liechti and Ichikawa 232 - 9).

Conversely, existing research (Van House) highlights the way in which the use of personal photographs in the *Flickr* environment mirror conventional image systems and reproduce constructions of memory, identity, narrative and self-representation in ways that are aligned with traditional photography pedagogies. However, this study highlights practices in the *Flickr* community where the function of personal photography as an act of memory is increasingly giving way to new forms of production and consumption that are mediated by technology in ways that dispel conventional systems of visuality. This study attempts to analyse the intricacies of the technological applications that facilitate these new photographic forms and considers how these connect to social and cultural agency. What are the new patterns of production and consumption of images within this image community? Are these new photographic activities significant in that they point to new theoretical paradigms for the teaching and learning of photography?

*Photography and today’s teens*

As the analogue photographic format is no longer the vehicle through which generations continue to consume images, it is not the indexical quality of the image that is at stake so much as how the image as a cultural and social document is mediated in digital cultures and subsequently understood by the potential student in the disciplinary terrain.

Today’s adolescents are encountering digitally mediated experiences on and offline, and using digital information and communication technologies in social contexts and within cultural rituals in ways that are making these kinds of computer mediated communications meaningful to them. This generation of young people, some of whom are the potential students of photography, live in a culture where they not only encounter and use information and communication technologies in the form of wikis, podcasts and blogs, but also have their activities shaped by these technologies through social networking sites such as *Friendster, MySpace, Bebo* and *Facebook*. The activities of
teenagers have often been predicted as a benchmark of innovative and creative practices offering clear indicators for the future of new media cultures (Jenkins 67) and offer consideration of the knowledge base students are bringing to the classroom.

Chalfen’s *Snapshot Versions of Life* considered how people’s engagement with their personal photographs was the mechanism by which they have both understood pictorial messages and also made meaningful interpretations of them. His ‘Kodak Culture’ (referred to the production and consumption of traditional photographs, images collected and contained in shoeboxes and albums. Typically, these images were ‘of’ friends and family, who, in turn, shared in the viewing of the photos. This analysis of the production and consumption of the photograph points to the importance of face-to-face social conventions and cultural rituals that framed the activities of taking and exhibiting photographs. It is clear that for today’s teens, the convergence of image technologies with other media devices has brought about new methods of capture, production, compilation and viewing that are far removed from this Kodak Culture. Yet, in the same vein, the tools, practices and symbols mediated by images and image-making in the digital realm are important perceptual dimensions of student experience. The technological tools available in online image environments enable the storage, viewing and sharing of images that in turn offer possibilities for reciprocal bonding and collaboration between individuals within online communities. These tools are therefore creating behaviours and activities that were previously only associated with face-to-face communications (Slevin 90). Research into teenage behaviours reveals a preference for photography as social communication (Schiano et al.), most significantly the circulation of images as a peer group message system (Liechti and Ichikawa 232-9). The evolving methods of production and consumption of new forms of digitally mediated image content and the new cultural mores associated with these social activities, exemplifies the networked dimension of contemporary everyday life, and represents a widespread mode of personal photography as ‘sharing’ (Van Dijck 68). The potential student’s perception of the image continues to be shaped by social and cultural contexts, but it is being proposed here that these are now contexts which contain new behaviours and activities, ones that are shaped by forms of virtual interaction.

*Teaching paradigms: Vygotsky and learning*
In order to address this situation and work toward appropriate methodologies for teaching and learning, we need to pay attention to psychologies of how we learn and align these with situation specific approaches for knowledge construction with respect to photography in the digital arena. In viewing learning as knowledge construction occurring outside of educational contexts (Buckingham 395; Wenger 3), the methodological approach taken here is drawn from cognitive-psychology and its address to learning in relation to prior knowledge (Piaget, 1950; Ausubel, 1968). A cognitive approach identifies that most of what we know we learn through experience (Kolb, 1984); perceiving, thinking, remembering and problem-solving are at the core of knowledge acquisition. Acknowledging these factors should enable the student to acquire new knowledge, without tension, and reflexively juxtapose this with prior experiences, threading a meaningful narrative through both.

To further establish a critical approach to pedagogy and learning styles, the author acknowledges Vygotskyian educational perspectives in an effort to clarify how potential students are engaging in photography and photographic practices. Vygotsky’s hypothesis of the determination of mind through activity places human practical activity and mental functions in a relationship in which they are aligned with each other (Davydov and Radzikhovskii, 67 -74); what the student does with the photographic document informs how they think about it.

As Vygotsky (57) places emphasis on the situated and social contexts for learning, then it is important to realise that the potential for new teaching paradigms is not merely resolved by investigating the content of images in the Flickr environment, but by addressing how these environments are providing new forms of social and cultural engagement with the photographic image. Flickr is important in this instance as it is not merely a digital photographic album as such, it relies on collaborations between its members, both in the production and consumption of the image constructions found there, providing situated and social contexts from which to draw useful analysis of the potential student’s knowledge base.

Organising learning in photography

On this basis, I will go on to ask here, ‘what are the implications of the new social and cultural mores exhibited in image sharing environments?’; and, ‘how might these form new paradigms upon which relevant pedagogic systems might be conceived?’. At the
most basic level, learning is disseminated using a defined set of languages and definitions for each discipline. Therefore, in the construction of new teaching paradigms, it is important to investigate existing literacies around which knowledge has previously been constructed and assess whether they are relevant to the new contexts of learning. For instance, is the definition of a ‘photograph’ consistent across existing theoretical approaches to the teaching of photography and the image sharing environments investigated?

Traditionally, thinking about photography has assumed a materialist approach; where the critique of the ‘photograph’ originates from the fact that a photograph is a physical, material object. In developing photographic paradigms, cultural theorists have defined these through the exemplar of the photograph as a tangible artefact: from Roland Barthes’ reflections of the photograph of his deceased mother to Jo Spence and her series ‘Beyond the Family Album’. Sontag’s (4) photograph is one which is “plagued by the ills of paper objects...stuck in albums, framed and set on tables tacked on walls, projected as slides”; for Kember (6) “a photograph is a small, tangible object, a trophy or a token which defies the passing of time and insists on the presence of that which it depicts.” Crary (1) further contextualises the materiality using scientific analogies to phrase the concrete analogue media as items “that still corresponded to the optical wavelengths of the spectrum.”

The images shared between Flickr’s community members are not the chemical prints on emulsion paper, but instead electronically captured digital images. The potential student of photography is engaging with image capture that is mediated by digital devices where light sensitive film used to record the spectrum of light to create an image of a scene, has been replaced with a semiconductor that records light electronically. It is not just the electronically mediated capture that mediates a shift from the analogue format, but its construction as units if digital information. The digital image is formed in a Cartesian grid of units referred to as pixels. These pixels can undergo a repertoire of transformations or distortions: rotation, shearing, morphing and filtering. It is this endless series of digressions and mutations of the sequencing of the data that form the images that will define teaching strategies concerning patterns of seeing in post-photography cultures.

Lister (3) in settling the debate in the digital arena resorts to definitions beyond the ‘photograph’, as something that is ‘chemical’, ‘framed’ or ‘collected from Quick Print’ to one that yields languages framed around a ‘photographic image’; ‘more generic and less casual than the ‘photograph,’ but not as far removed as the ‘digital image’ with its
suggestions of endless transformations. The image appendix denotes that although the photograph may not have been conceptualised as such, it has now entered an image arena where ‘images are the raw material’ (Burnett 90) to which processes of contexts of viewing and visualisation are to be applied.

The perceived definition of a photograph clearly differs greatly between analogue and digital approaches. The *Flickr* community refers to its image forms as photographs, but essentially the definition understood is the form constructed by pixels and mediated though a screen, not the printed form bound within a frame. The student of photography who has engaged in these environments and participated in shared but disparate literacies between pre-digital and digital image photography, may struggle in reconciling these two approaches. Therefore the construction of the image as mediated by pixels and its implication in digital visual cultures needs to become central in defining new literacies through which knowledge of photographies is disseminated.

*Production and consumption of the digital image*

Although a corporately created platform, *Flickr* operates as a media channel that promotes and distributes image content across the media-scape, creating new forms of expression and content that perhaps challenge (or potentially damage?) older conventions and meaning attributed to image production and consumption. Both originator and receiver of images in the *Flickr* image sharing network have the power to produce and distribute content and thereby transform the perceptual dimensions of the cognitive experience in these emerging ecologies. As a socially engaged and networked environment, it essentially relies on the collaboration of and between its members to generate and inform image-based content. Technologists refer to these environments and the activities that its users are collaborating on, as reflecting aptitudes and influences as defined by terms such as Web 2.0\(^1\).

At a basic level, *Flickr* is a web application where users can store, arrange, share, discuss and discover photographs. Reflections on its content, remark on image content that privileges the mundane and elevates ephemera (Murray 156); an environment where members of the community share “fetishes for certain objects, colours styles and

\(^{1}\) Web 2.0: Activities and user behaviours in and through networked environments that position the web as a platform whose core competencies include service, participation, user as contributor and rich user experiences.
themes”. A history of photography that is based on memory and the construction of the self through image, while recognising the mundane has not valued it as such. Personal photographies, for example snapshots and photo-booth portraits, form part of the pre-digital discourse in the analysis of the elevation of the amateur in photography. However these forms have previously not dominated the practices of the amateur in significant enough quantities to warrant significant redirection of teaching paradigms in the discipline. The dominance of ephemera in digital fields today can be partly explained by the advancing capture technologies, which ensure that we always have a camera to hand (mobile phones) allowing us to capture more fleeting and immediate moments than previously possible. Through these practices image capture has become less to do with the ritual or ceremony of life’s significant events, and more about mediating everyday life experiences. Now, proliferation of this type of amateur practice gives greater visibility and influence to these forms of content and subsequently informs the knowledge base of those that engage with these images.

Yet it is not so much the content of individual images or image collections that is under analysis here, rather the new forms of production and consumption of images that signal a shift in our relationship with the photograph and point to new knowledge in photographies. Specifically, this study is acknowledging the tools attributed to Flickr that allow its members to create new forms of the photographic artefact, not acknowledged in traditional photography pedagogies. It is the Flickr tools that facilitate the activities of tagging, sharing, and mashing of image content and which result in new expressions of production and consumption of the photograph and it is these forms that are adding new layers to the perception and reception of image content.

A range of technological applications and conditions are attached to the images displayed in the online environment and these in essence determine production and consumption of the community’s images. To become part of the community, the user (producer) first uploads digital images to create a public journal of photographs that has the potential to be accessible to anyone with a web browser. Access to these images is dependent on the level of privacy that the user allocates to the image; this facility can privilege either ‘friends, ‘family’ or ‘contact’. Defining public, private and friends is an editing exercise which assigns viewing to specific audiences. The performance of this editing requires decisions from the moment of upload, a formal categorisation of output, an organisation and determination of audience.

Once users upload images to the virtual domain and set privacy controls, they are
provided with a range of facilities to describe the image and aid the wider community’s access to their image. At a basic level the producer can provide a title and/or a description of the image. However, the producer is encouraged to add additional categories or ‘tags’ to these images (apply key words that provide a definition of the content found in the images) so that other users (consumers) of the content can apply word specific searches to retrieve relevant images. These tags are most often applied as descriptions of the image reported, but can also be comments or allocated categories as defined by the author of the image, such as the location where the image was taken. The author may also tag the image with descriptions that cross reference a number of categories; the primary function of tagging is to provide other users with tools with which to search for specific image content contained in the Flickr database.

This shift in engagement with cataloguing practices encourages two significant changes in the community’s engagement with the digital image. Firstly, this type of referencing or cataloguing of images is no longer limited by historical constructions of indexing. The keyword applied to the image is dependant on the choice of the author rather than a reliance on a presubscribed classification system. Tagging provides more of a ‘bottom-up’ structure of organising and reference information representing a cultural transition from the dominance of a single-authored text with its hierarchical ordered system (Corso and Williamson 39-40). Secondly, as Flickr operates as a network of exchange, users are actively engaging with the meaning and reception of images, not in relation to their own perceptions of the image being described, but in their understanding of how a global audience might search and receive the image. In using these parameters a user might apply a range of different tags to one item. For example an image of a fruit might have a range of tags that define its colour, shape, variety, country of origin and taste. This functionality in terms of retrieval of images creates a structure that encourage users to browse the image collections serendipitously. This activity may in many cases supplant the proposed reading of the images as intended by the original author; a holiday snap of a family member taken on a beach on a Greek Island, can become an invaluable insight for a potential tourist to that location. Tensions between images and image-words have for a long time been a matter for discourse in the disciplinary terrain (Barthes 155; Burgin 142-154). Titles and other forms of textual decipherment in analogue forms have informed the perception and interpretation of the image presented. Yet these interpretations are traditionally resolved in terms of a fixed classification or description. In
Flickr, an image can accumulate a multitude of readings through textual transformations (Davies 549-564) and develop a variety of perceived meanings and definitions.

Photostreams, notes and maps: dynamic narratives and spatial perceptions

Most significant to the evolving practices that are supported by the technology, are the activities that redefine narrative production and perception. These changing forms of narrative are not only involved in the reading of the images but also the self-narrative of the author. Once a Flickr member has created an account, they can add personal information to a profile so that other members of the Flickr community can learn more about them. This means that at the very origins of the Flickr facility, there is a social community where each member is taking part in group activities and processes. Every photo that is uploaded as part of this community, appears in a ‘photostream’\(^2\). Although there are tools that allow the user control over the ordering and display of the photostream, this device creates a dynamic interface, where revisiting contacts and profiles that are being continually updated, creates a temporal element assigned to each image and in turn signals a temporally aware narrative of the self; of the author.

If photographs are credited as narratives or identities of the author, then this has implications for the post-photographic era. Flickr users appropriate functions of social networks such as Facebook and Bebo so that their profile pages appear as part weblog and part photographic album where daily information and notices about their lives can be published for consumption by other members of the community. This identity created via the Flickr interface is therefore creating a dynamic narrative, not just of the profiled user but the collective community’s evolving photographic autobiographies. The digital image on the screen and the number of times the image is revisited is not restricted by the same physical limits of the analogue image that is chemically fixed. Access to a networked image on a computer screen requires a constant processing of data. Revisiting the profile of a Flickr member will give the viewer access to continually updated information and offer continually shifting presentations of images and subsequent autobiographical image constructions.

Oral narratives are a significant part of the processes of viewing personal photographs in offline worlds (Rodden and Wood 415). Articulating the significant parts of a photograph to family or friends, or highlighting additional visual cues from the visual image

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\(^2\) A photostream is a list of every photograph uploaded in reverse chronological order, with the last photograph uploaded appearing as first
presented, is part of the social activity and behaviour exhibited in the sharing of images in real environments. The exhibition of images as analogue artefacts shared in face-to-face interactions involve verbal contextualisation where the storytelling and related comments often, in turn, stimulate additional activities.

Without the use of the face-to-face interaction and subsequent loss of an orally mediated narrative, *Flickr’s* ‘notes’ application allows an element of contextualisation for the image presented. The notes tool allows the author of the image to insert a layer of textual information about the image presented that can be accessed by all members of the community. As a viewer’s mouse hovers over an image to which notes have been attributed, a textual description or reflection inputted by the author of the image is revealed for that specific section of the photograph. Analysis of these text elements reveals that, in the most part, they go beyond merely the naming of people and places in the photographs, to reflections and analysis that enable viewers to identify meaning and understanding of the significance of objects and locations posed. These pop-up notes reflect attributes of conventional offline memory supports, such as sticky notes, post-its and pin boards that help in the construction of narrative and documentaries. These web tools help to organise memories, sign post important histories and thread meaningful narratives through these reminiscences in ways that replicate oral narratives.

However, the significance of the ‘notes’ tool is that its functionality has the capacity to create additional interactive applications that engage narrative in more dynamic ways. By using html tags available within notes, the user can create a hyperlink in the notes, which connects to another image. This makes it possible to string series of photographs and descriptions together using one image as an anchor. Such examples include wide panoramic landscape images³ where notes have been used to allow the viewer access to images of internal locations within the wider landscape presented, revealing hidden spaces and places. The access to the linked images in the evolving image system relies on interactivity between viewer and interface. Perception and reception of the image and image system is therefore mediated by a process-orientated activity where process is defined as a set of consecutive procedures sequenced in time. In these computer-mediated photographies, the processual character that the image artefact acquires, highlights that photography and photography practice in these instances, are moving away from paradigms structured by the subjects of photographs. Instead of a single

³ Panoramic landscape image of London created by *Flickr* member n1ckpharris
http://www.flickr.com/photos/nickpharris/190133558/
subject structure, interactivity and the subsequent assemblage of data streams that are instigated by the viewer produce image structures that are more akin to cinematic presentations. Additionally, the interactivity involved is generating a dialogue between the viewer and image system. The interactive digital image artefact only exists if the viewer interacts with it. A process of exchange has to take place between the viewer and the artefact, pointing to new models of understanding that engage with photographic ‘image structures’ that are considered as communicative systems.

This process-orientated image reception has been deployed further in the *Flickr* environment to create recollection spaces or what the community refers to as ‘memory maps’. These are image systems where notes and hyperlinks have been used for annotating maps and anchored photographs with personal stories and reflections of people and places. Users *mash* (that is they appropriate and blend sourced images from other contexts, in these cases, satellite images from Google maps) with their own personal photographs, to create new visual forms. *Flickr* member Matt Howie\(^4\) anchors the narrative of his childhood through an appropriated Google satellite photograph of Placentia, California upon which he places notes, revealing stories of swimming lessons and childhood dramas, anecdotes of games played and journeys taken, and nostalgia for friendships gained and loves lost. Howie binds these narratives together with an exclamation of his bewilderment of the quantity of memories attributed to one small geographical space.

Bob Snow’s memory map\(^5\) anchored with a satellite image of Collingsworth, New Jersey builds a similar dynamic narrative of memories and places. Using html tags embedded within the notes he draws the viewer back and forward through time and place as he traces recollections through photographs and textual descriptions of his memories between 1952 and 2007. Snow documents first days at school, resting places of lost ones, relatives homes and games played using autobiographies that are located in spaces and assigned timelines. The implementation of these constructions reveals the manner in which the image operates as being inextricably bound to the manner in which they are experienced. Both these examples use hyperlinks to open up the Goggle map into an interactive image space that draws on different text and image information that has been connected to it. Additionally, the reading of the narrative generated by the

\(^4\) Memory map by *Flickr* member Matt Howie [http://www.flickr.com/photos/mathowie/8496262/](http://www.flickr.com/photos/mathowie/8496262/)

image system involves actions in the system by the participant. This constant shift in audience perception of viewpoint from one piece of the narrative to the next, reveals that the viewer is not negotiating one image, but has to construct a narrative through different presentations or systems of images. The resulting viewing experience and narrative understanding is therefore perceived as a performance; the narrative is dependent on the sequencing of each hyperlinked element and the overarching perception is revealed in the manner a play or story would unfold. The narrative content and structure also points to a reorganised relationship between the photographer and spectator. The viewer/consumer moves into and out of the images, revealing, constructing and connecting to the hidden narratives, and thereby empowering their role in the viewing process. This empowerment in the consumption of such image systems in turn acknowledges in the viewer an awareness of the interface and the technology that aids them in the wider construction of the narrative.

Flickr member GustavoG takes the implementation of linkages further, creating an interactive journey or walkthrough of Seattle using photographs of people, places, and ephemera to create narratives through and beyond the picture plane. The viewer is presented with a sequential documentation of places and features attributed to the cityscape of Seattle, and through a series of html links embedded within notes, is able to direct a virtual tour of the city. The projection of the journey through the interface creates a sense of inhabiting the world viewed, augmenting perception and data construction in a continuous system of image, information and spatial flows. Such perceptions acknowledge that the photo frame, which confines traditional photography based teaching paradigms, has been broken. The photo frame places physical boundaries on a photograph that limits the viewing of an object to a frozen moment in time; a convention that is central to photography in relation to memory cultures. Breaking the frame produces a new form of narrative and a different relationship with memory constructions. Interactivity refashions these ‘frozen moments’, to become perceptions of space, object and time.

Flickr and information paradigms

Flickr essentially operates as a vast repository of mutable, accessible image based information. As such, Flickr content is a rich field for knowledgeable programme

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6 Seattle walkthrough by Flickr community member GustavoG (http://www.flickr.com/photos/gustavog/22054241/)
developers. These programmers can access on the open platform provided, the community’s images complete with the additional pieces of meta-data associated with them including the tags and notes attributed to them by their authors and use them to produce new forms of content. There are many innovative examples of where programmers, having appropriated and repurposed images from the Flickr database and combined them with additional computable parameters, have created applications that interact, challenge and play with the images and their assigned data flows. *Flickrtagfight* created by Flickr community member Nils K. Windisch is an image-based API that displaces two tags from the global community’s content and pitches them against each other to see which tag is the most used across the community. The reading of the image content is irrelevant in the application; the image value is determined by the information that has been attached to it. If these cultures dismantle, reconfigure and store new visual forms that are framed in information paradigms (Lister 265-267), then this participation in image communities and subsequent constructions of mediated image creation acknowledges the image content as data and/or data flows. 

Such information based data flows between images and the information values that have been attributed to them have the potential to displace conventional cultures of vision associated with subject and object. *Airtight Interactive* is one such Flickr API that assigns images with information values that privileges the image subject over object. Here, the user first allocates the tag from which the application begins, and then by further selecting and clicking on the ring of related tags, instigates a system of events that reveals related image content drawn from the Flickr database. The interface opens up an interactive image space that draws on a databank of information, pulling into the foreground a selection of thumbnails of the images that have been labelled with the selected tag. The viewer can then, by clicking on a thumbnail, be drawn further into the labyrinth of images relevant to the selected tag. The resulting change in the visuality of the interface as the viewer navigates through the structure, creates a more poetic search system than the conventional images searches in the Flickr database. The visual result draws on aesthetics and characteristics that move beyond conventional photography paradigms to those more akin to gaming and/or moving image formats where

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7 *flickrtagfight* API created by Flickr community member Nils K. Windisch  
http://nilswindisch.de/code/flickrtools/tagfight/  
8 Application Programming Interface, a set of computable protocols that support the building of an interactive application  
9 Airtight Interactive API  
http://www.airtightinteractive.com/projects/related_tag_browser/app/
assemblages of components are arranged in ever changing constellations. This level of engagement and processing of image content is spontaneous. The visual content the application draws from the database is entirely dependent on the input of text assigned by the user and not the author of the construction. The interactivity privileges the associations of assigned meta-data, and the resulting performance of the images and image words, over any construction of meaning or aesthetic preferences. The aesthetics of the image system hinges instead on non-visual aspects such as processuality, performativity and interactivity.

Such technosocial creativity (Weight 413) and its associated symbol systems reflect how potential students might know photography now. It is not being suggested here that all potential students in the field of photography have taken part in the kind of construction or consumption described here. However research (Deuze 150-151) has shown that significant numbers of online teens have created content for the Internet and are not only familiar with the consumption of these bricolage forms but have actively taken part in the construction of such forms.

So how might these information paradigms contribute to contextualising new forms of experience of the image in the digital realm? Perhaps a useful analogy to build upon is Manovich’s concept (45-48) of ‘cultural transcoding’ which differentiates between the consumption of digital space and photographic images. Here the ‘cultural layer’ (principals of narrative, pictorial representation etc) and the computer layer (coding, file sizes, types of compression) influence each other and determine our perceptions of images and image systems in such a way to that it is necessary to acknowledge the computer or the ‘machinic’ in the process. To the viewing complexities associated with images and digital technologies Flickr is further disrupting conventional associations of image perception, with tools that facilitate the tagging, sharing, and mashing of image content. The output of these constructions might now be perceived as a participatory performance of images that add layers to the perception and reception of image content and signal a shift in our relationship with the production and consumption of photographs. In creating interactive formats using photographic records, producers and consumers in image-sharing environments may be less interested in an objective connection with reality than in the highly subjective process of memory. Images have been re-contextualised; they have been appropriated, displaced from their original contexts and given new meanings by their associations with other appropriated images.
This re-contextualisation acknowledges a shift to production and consumption of image formats that are entrenched with information paradigms. In addition to temporal effects, the reading of these images within dynamic interfaces, where a continuous system of image, place and memory is created, causes the viewer to directly sense spatial queues. Their peripheral visions are challenging what Benjamin defined as the ‘optical unconscious’ or ‘collective viewing’ with a dynamic new form of image consumption and related viewing experiences. The interactive element of the navigation through the collective memories adds a new dimension to the photographic experience. The intervention by the user of the memory map, through their displacement of the presented trail of memory spaces, delivered as a ceaseless performance of photographs, images, descriptions and recollections, encourages an engagement with the media text in a more powerful and individualised manner. This intervention subsumes other modes of engagement such as playing, experimenting and exploring under the idea of interaction.

The negotiation of the digital environment privileges spatiality over narrative development, where spatiality (Bolter 169-179) defines the user’s movement through a particular textual space. Therefore in these interfaces the visual has also become a spatial mode of communication. Bolter’s definition of spatiality references both space and time in the progression of a narrative where creators make strategic use of structural tools such as hyperlinks, and images facilitate the reader’s exploration of the narrative space. This interactivity is what Strickland (1997) acclaims as the allure of the medium, “shifting the focus away from interpretation and towards composition.”

Conclusions

The productive practice demonstrated in the image communities analysed here, reveals the emergent status of the photograph in the knowledge economy today in relation to the potential student of photography; a place where audiences are engaging with the image in modes of production and consumption that are processual, communicative, spatial, temporal and performative. These present a new phase in the development of human involvement with an image where there is no longer anything material linking the content of the image with its frame, that has moved beyond previously identified paradigms in photography. The knowledge base of the potential student has changed and education methodologies that address images and image making need to acknowledge the changing landscape in the cultural and social practices involved in the construction and reception of images. These new interactive approaches have created new forms of
photographic based-media with which to create, experience and share memory that has implications for photography in the sense of how we use images in the construction of social memory and memory space. The examples used in this argument have revealed forms of photography where interactive applications have freed photography from traditional notions of representation and expression as well as modernist concepts of the author and receiver. Interactivity has suffused the image with new meaning and value where the perception of the image is enhanced with processual events. These forms release the individual images from a dependency on communicating meaning to one where the function of the author of the image and image system becomes more akin to a designer of interpretative concepts (Kluszczyński 221).

Vygotskyian perspectives suggest the manner in which we engage with the digital image is shaped both by past practices and current requirements. As new tools are developed for the capture, storage and sharing of images, new activities and behaviours facilitated by these technologies emerge and new understanding is constructed. We are at the end of media cultures with clearly defined forms (Murphie and Potts 90-94) and are witnessing a different aesthetic where cultures and their technologies are constantly changing. The concern here is not that digital images may be conceived as betrayals of realities, but rather that the image systems analysed here are presenting new realities, and are restructuring institutions, memory, meaning, and social practices previously associated with analogue photography (Mitchell 20). It is interactive image systems that are rendering the digital image as one that is tearing apart the net of semiotic codes, methods of display, and patterns of seeing traditionally associated with modern visual cultures (Manovich 16-17). Accumulative reading perceptions and interpretations in image sharing environments further disrupt these paradigms and contribute to new discourses which foreground temporal, spatial and dynamic interpretations of image texts.

As a model for contemporary photography education these examples and their analysis suggest that paradigms associated with interactive media arts or new media offer appropriate methods and techniques from which to draw inspiration. Paradigms that have been developed in new media art have acknowledged that the interactive interface has created an information space that is open to exchange and collaborative events that deliver process-orientated systems. In the same way that new media art has embraced these conditions of practice, production, consumption, reception and curating, new theoretical paradigms in photography education may find within these perspectives,
models of learning that better align pedagogies with the potential student experience. Currently, reflections on the digital image and interactivity have been subsumed into art and new media debates. These approaches encourage the media art reader to apply experiences of digital culture to rethink a generic form of ‘art’ without encouraging specific paradigms to be developed around how digital cultures rethink photography. Therefore new approaches to literacies, contexts and references may need to be interrogated and deployed in relation to interactive media arts, specific to the activities and practices in digital photography and its social and cultural mores. It is proposed that only with the augmentation of photographies with new media contexts, that dissemination of photographic knowledge and learning in the classroom can bridge the gap between prior knowledge and new learning in the engagement of the photograph as a social and cultural document.
Bibliography


