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Flickr: A case study of Web2.0

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Abstract

The “photosharing” site Flickr is one of the most commonly cited examples used to define Web2.0. This paper explores where Flickr’s real novelty lies, examining its functionality and its place in the world of amateur photography. The paper draws on a wide range of sources including published interviews with its developers, user opinions expressed in forums, telephone interviews and content analysis of user profiles and activity. Flickr’s development path passes from an innovative social game to a relatively familiar model of a website, itself developed through intense user participation but later stabilising with the reassertion of a commercial relationship to the membership. The broader context of the impact of Flickr is examined by looking at the institutions of amateur photography and particularly the code of pictorialism promoted by the clubs and industry during the C20th. The nature of Flickr as a benign space is premised on the way the democratic potential of photography is controlled by such institutions. Several optimistic views of the impact of Flickr such as its facilitation of citizen journalism, “vernacular creativity” and in learning as an “affinity space” are evaluated. The limits of these claims are identified in the way that the system is designed to satisfy commercial purposes, continuing digital divides in access and the low interactivity and criticality on Flickr. Flickr is an interesting source of change, but can only to be understood in the perspective of long term development of the hobby and wider social processes.

Keywords Flickr, Web2.0, Photography, Amateurism, Hobbies

Paper type

Introduction

A classic rhetorical strategy in the presentation of Web2.0 is the wall of logos (e.g., <http://flickr.com/photos/stabilo-boss/101793494/in/set-72057594060779001/>). This is designed to excite and terrify an audience by confronting them with their ignorance of what is supposedly the latest technology or the latest cultural trend. The aggregation of many different sites into one phenomena in Web2.0 rhetoric obscures the history of each specific service, which in itself may be quite comprehensible. For example, wikis were first developed in 1995. The educational uses of wikis were exhaustively listed by Coweb in 2000. The sudden “storm” of interest, one might say mania, about wikis tends to forget such previous history. There is a strong case, therefore, for calmly reviewing the history of specific services gathered under the Web2.0 umbrella in an effort to identify what, if anything, is really new and how new it is. In particular a study of Flickr (<http://www.flickr.com>) is justified because Flickr is invariably mentioned as a classic Web2.0 site. Such a study can help unravel the true extent of the novelty of Web2.0.

This paper takes three approaches to looking at Flickr. In the first section the development and features of Flickr are discussed in relation to the rhetoric of Web2.0

to establish more specifically how novel it really is. The second section explores Flickr's place in the social world of amateur photography, as a wider, longer term context. The third considers some problems with more optimistic views of Flickr that have been put forward in the literature. Before beginning this analysis a summary of data used in the study is offered.

Methods

To build up a picture of Flickr four sources were synthesised. A first major source was 30 published interviews with the designers of Flickr, especially Caterina Fake and Stewart Butterfield. The earliest is from 2003. Secondly, use was also made of a number of "texts" on Flickr itself including the long running threads in which users state the one piece of new functionality they most desire (Flickr, 2005-7) and Tik's 80 point summary of "why Flickr is so successful" developed (he claims) from reading the forums (Tik, 2005). Reference is also made to the August 2007 thread of 250 comments responding to Soth's blog entry "Where are the great pictures on Flickr?" where he reports that the art photographer, Stephen Shore, had described Flickr as "thousands of pieces of shit" (his complaint being that too many members were trying to be "artistic") (Soth, 2007).

A third important source were 11 telephone interviews of active users in a geographical based group conducted in 2006 by the author and colleagues at the Department of Information Studies, University of Sheffield (fully reported in Cox *et al.*, forthcoming). A fourth source was exploratory content analysis (Herring, 2004) of a sample of 50 active users of Flickr, looking at their profiles, the type of photos they were uploading and "interactivity". These users were identified via the part of the Flickr site which displays recently uploaded photos, and collected with a concern to avoid over sampling from particular time zones. It represents a relatively random sample, at least of users actively uploading publicly accessible photos in 2006. Supplementary to this some reference is made to demographic figures produced by Yan (2007) in an unpublished MSc dissertation, supervised by the author. Yan examined a sample of 200 users, collected randomly in a rather similar way to that detailed above.

The sheer scale and flow of Flickr is daunting for analysis. Given the developers' intention of making Flickr a community of communities, like a city with distinctive neighbourhoods (Perez, 2007), it is a challenge to balance interesting episodes of creativity with a sense of more typical seeming behaviour. The range of sources used here seeks to address these issues. How the developers (working with journalists) construct the purpose of the system is likely to help us understand the rhetoric of the system itself, even if we think certain types of purpose (e.g., commercial ones) will be systematically misrepresented. These interviews also give us access to some basic "facts" about Flickr, such as claimed numbers of users. The texts and telephone interviews give us insight into how users respond to the rhetoric of the system itself, often appropriating it to their own purposes, at least within the limits hard coded into the functionality on offer. Content analysis balances the views of active users, with some evidence about what may be more typical behaviour patterns.

Development of Flickr

The story often retold by Fake and Butterfield in published interviews is of their first attempting to develop a web based Massively MultiPlayer Online Game called the Game Never Ending. This was not a “shoot ‘em up” game, rather the intention was to create a rich social space in which users were given a degree of freedom to construct and manage things themselves (Sugarbaker, 2003). “We want to gradually free the game world from our control” Butterfield said (Sugarbaker, 2003). As part of the development work they produced *Flickr live* a chat tool which made possible real time discussion centred on photos[1]. This was then redesigned as a more familiar website, recognisable as the skeleton of the current system and launched in February 2004. Functionality was gradually developed over the next few months apparently relying heavily on input from users (Garrett, 2005). Thus ironically the development path seems to have been one retreating from the cutting edge, back to something more familiar:

Costello: People understand a website full of photos better than they understand an innovative chat interface with photo sharing. Power users got what we were doing with Flickr Live and learned to swim pretty quickly, but people like my mom weren't quite as quick to figure it out. (Garrett, 2005)

By April 2005 Flickr had 27 million users and 4 million photos (Koman, 2005) and it was at this time that it was bought by Yahoo! for \$30 million. By Spring 2006 its membership had grown to 3 million, with 130 million photos (Romero, 2006). By April 2007 it claimed to have 7.2 members and 400 million photos (Quittner, 2007). This was even before Yahoo! photos was closed and the membership moved onto Flickr.

In one interview the developers describe Flickr as about “photo sharing, social networking, blogging, photo organization and group scrapbooking” (Fastcompany, 2005), though it is most often simply described as a photosharing system. The central functionality of Flickr is to allow users to upload photos (by email, through the Web, from a mobile phone) and push them out (through Flickr itself or via a blog, RSS, applications built from the API). Actually Flickr is not the top site for photostoring (Prescott, 2006). It is consistently reported that 80 per cent of photos on Flickr are shared publicly (Torrone, 2004; Fastcompany, 2005; Schofield, 2005). Thus Flickr illustrates one “big idea” of Web2.0 (Anderson, 2007), namely, user generated content (UGC).

Another notable form of UGC on Flickr, often seen as a key aspect of Web2.0, is tagging. Tagging on Flickr was copied from Del.icio.us (Koman, 2005). The difference in its application is that whereas on Del.icio.us hundreds of individuals might tag one URL, so building up a collective view of what it is about, in Flickr tagging is primarily by the author of a photo. Although some telephone interviewees did tag the photos of another as a favour, others were not aware of the feature and several disliked others tagging their work and felt it was intrusive, partly because it is not possible to tell who has added the tags. Although commentators generally focus on tagging, other forms of author generated metadata such as sets, titles, free text description and notes are used as much as tags. Since Flickr is often a storage space, much of the metadata may be placed elsewhere – for example, in the user's blog.

For these reasons, although tagging has been central to information studies' interest in Flickr (Marlow et al, 2006) it may not be central to user behaviour. Where people do tag a lot they do so to get traffic on their own photos, and the objective is maximum impact, not necessarily to fully represent of the subject of the image. The tagging of some very active users looks like spamming. The quality of tags is often quite low, with misspelling and use of concatenated words. There is no automatic expansion of queries by language translation in searching. That using Flickr is not compromised by these weaknesses is possibly for two reasons. In the first place, the huge number of photos in the system means that any specific search is likely to be satisfied, even if the theoretical recall of the system is low. Secondly, and more importantly, it is probable that most users are not searching Flickr with a certain "information need" in mind. Rather, they are browsing for direct visual pleasure. Precision and recall are largely irrelevant, as a result. What is key to creating this pleasing visual experience is that enough paths are opened up to keep finding new visual delights to pursue. Navigation in Flickr is by browsing, jumping from photo to photo, from photo to photographer to contacts to favourites to groups and so forth. Pathways are spotted from thumbnails. An almost infinite number of paths open up, offering a sense of endless variety with user choice at the centre of the experience.

Interaction occurs around photos partly by other users adding comments. It also occurs in groups. Users can set up groups, which consist of a pool of photos, a discussion area and member listing. There were 300,000 groups by 2007 (Sieberg, 2007). This is one of the ways that Flickr supports many sub-cultures simultaneously. Users construct their own pathways through the site. One telephone interviewee said that he browsed via contacts. He had chosen them "because I enjoy their photography - so they're the best selection of Flickr for me". For him, commenting focussed on these users too, "They're regular visitors to my photostream and I'm regular visitors to theirs." To explore further he would go to the groups and then do searches looking at recently uploaded material which was high on interestingness. This seems rather typical of the way more active users manage their participation.

A common reference point in talking about Flickr in published interviews and elsewhere (Davies, 2006) is the squared circle group - where a large number of users have posted a particular type of photo. This is used to illustrate the idea of "emergent behaviour" where useful activity occurs in an unplanned way. Flickr also has elements of a Social Networking site, through profiling, partly direct self profiling but also derived from the display of online activity such as through the photos displayed, favourites and group memberships.

Another classic Web2.0 feature of Flickr is its open Application Programming Interface (API) which has allowed a large number of applications to be developed using Flickr content sometimes to extend the functionality of the service itself, sometimes "mashing it up" with data from other sources (Bausch and Bumgardner, 2006; Flickr bits, <http://www.flickrbits.com/>).

In the first year of its development Flickr relied heavily on quite intense interaction with the initial user base (Garrett, 2005). The early logo said "Flickr beta" - referencing the Web2.0 trope of permanent beta (although this is never mentioned in interviews). This then became "gamma" (May, 2006) and in June 2007 the logo said "Flickr: loves you". These changes symbolise the way that Flickr functionality had

become fairly stable by 2006 and the participative development stage had a limited lifespan. The Flickr loves you mantra seems to reflect an increasingly purely commercial relationship. Active involvement probably involved a small minority of the user base who chose to participate in the forum discussions, but the value to the users involved is evident from Tik (2005) and Flickr (2005-7). It would not be terribly surprising if Flickr's development path is an accelerated version of Web2.0 in general: from experiment to mainstream, from participative development to stabilised subscription service.

Flickr has been phenomenally successful in building up a large active user base and gaining a high profile. Much of this is due to skilful design. Subscribers' experience is centred on their own work and figures on viewing and activity on their photos. The site offers many different pathways to explore: via the photos of others, their favourites, via groups and through searching. Telephone interviewees found it inspiring and there was little sensation of being lost in hyperspace, perhaps because there is little purposive searching. The designers' bold decision to set the default to share photos openly in a browsable system and generous free accounts must also be a success factor. The user interface is unfussy.

Flickr is a fascinating model of a new type of "digital library" to be set against the classic digitised special collection or indeed Dempsey's Recombinant library concept. The table below summarises the main contrasts. Surely it will be a complementary or supplementary model to the classic digital library, but will be very challenging to the quality orientated values that are at the heart of the earlier concept.

Table 1 Flickr as a new paradigm of digital library

Digital library	Flickr as alternative model
1. Digitisation	Born digital
2. Rare/special content	Everyday material, massive scale
3. Preservation + Access	Access
4. Public data	Private experiences
5. Quality control / selection	No quality control
6. Professional metadata	Folksonomy and tagging – lack of order
7. Textual documents	Multimedia
8. Archived content	Annotation and edits as valuable as original content
9. Fixed entry points	Surprising pathways

10. Specialist host institution	Commercial body
11. Centralised	Networked and syndicated
12. Clear ownership	Complex IPR

It is important also to acknowledge the preconditions for Flickr's success. One of the founders, Stewart Butterfield, summarises the favourable conditions quite fully:

So the proliferation of capture devices, the always-on lifestyle, and the fact that people are now more familiar with computers and the Internet, very simply leads people to be more comfortable with interacting with each other online. It's not weird to publish a stream of your photos and have people tune into that. (Koman, 2005)

Thus the number of people with many photographic devices, pervasive access to the Internet by high bandwidth connections and a familiarity with Internet mores permit the success of Flickr. This is combined, as Butterfield also says, with cheap memory (Koman, 2005), allowing Flickr to establish itself by offering free or cheap and reliable storage space for digital photos. The value of such a service to bloggers and photobloggers is part of the explanation of why awareness of it spread first through the blogosphere (Hall, 2006). The link to blogging is apparent in Flickr's continuing structure, for example, the photostreaming concept echoes the most recent first structure of a blog. Flickr's open API made it popular with techno enthusiasts and they also developed applications that spread awareness of Flickr, though also creating problems (Butterfield, 2005).

Thus few of the functions of Flickr are wholly novel, rather the development path seems to reflect a retreat from the cutting edge. An early close relationship with the users becomes increasingly a simply commercialised one. Flickr's working is premised on users increasing understanding, value and trust in social software. Commenting or even tagging are fairly easy to understand activities in themselves. Flickr has new features but does not seem to be revolutionary.

The social worlds of amateur photography

A larger perspective on Flickr can be constructed from what we already know about domestic and amateur photography. The highly conventional nature of domestic photography, made possible by the mass ownership of simple-to-use cameras, has institutionalised the photography of family events, pets, and holidays (Slater, 1999, p. 289). Often this was controlled by adults for the purpose of creating a happy family image (Williamson, 1984). The vast preponderance of photos taken every year are of this type.

It was sharply delineated from the world of the serious amateur (Stebbins, 1982, 2004) organized at least until the 1950s in camera clubs. The work of Griffin (1986) and Schwartz (1986, 1987) describes this world of more serious amateur photography very clearly. Griffin identifies a quite specific code of photographic values,

“pictorialism”, that is central to practices in the club. He identifies fourteen specific genre of photographs in which club production invariably falls. Subjects are “non-threatening, non-critical and non-controversial” (Griffin, 1986, p. 618). The code is quite specific about qualities of composition, such as “a single dominant subject against a non-competing background with leading lines, a dynamic balance, strong cohesion and impact”. This code’s fundamental character is an interest in:

[...] certain kinds of ‘beautiful’ things, ‘beautifully’ photographed ... This preoccupation with the ‘beautiful’ makes amateur work light-hearted, romantic, optimistic, and by some standards ‘trivial.’ (Griffin, 1986, p. 374)

This rather narrow and conservative code is linked to the rituals, competitions and close-knit ties of the camera club. If it can be seen as very conventional, it is effective in supporting the development of strong ties between members, a high level of craft skill (Griffin, 1988, p. 361) and a systematic technical discourse about the hobby. This code is further linked by a network of individuals and institutional connections and affinities of interest to the camera industry and its needs. The pursuit of pictorialist values was used in selling new cameras and helped to produce a predictable market place. The clubs are key to technical innovation (a common argument used for the value of amateur, for example, by Leadbetter and Miller (2005), but apparent in this earlier account). The code also seems to have a wider link to effective advertising imagery (Leadbetter and Miller, 2005, p. 610):

American industry was quick to embrace happy, upbeat imagery for advertising and promotional purposes and in the 1920s and 1930s photographs were increasingly integrated into the cheerful and optimistic advertising layouts of major magazines.

Griffin’s study is from the perspective of the role of clubs. Reversing the perspective one could interpret this same link as suggesting that hobby photography has a close relationship with a specific set of photographic professionals (i.e., commercial photographers). There does seem to be an affinity to the values of the camera club code and that of advertising.

Sontag’s (1977) critique of photography, in so far as it touches on amateur photography, seems to argue that only the most high minded, socially committed uses would be of value and her argument is premised on a loathing of consumption as a form of false consciousness. Yet her argument does seem to be relevant in stressing the aestheticisation of photography. Her complaint is that it is never a tool for inquiring or questioning the social order, only for creating beautiful or surreal images. The photobloggers/self documentors seem to epitomise this aestheticisation. As Slater puts it, despite it being one of the media where the means of production are widely spread, photography is well established as a “conventionalized, passive, privatized and harmless leisure activity” (1999, p. 289).

Schwartz’s work (1986) further delineates a very clear divide between the cultural values, photographic practices and social world of art photography and the camera clubs. Watney (1999) identifies the same dualism in photographic education. So for Schwartz the former see themselves as artists, with photography as the medium they happen to have chosen, rather than as photographers. They are concerned to improve on certain chosen photographic models, where the hobbyists tend to reproduce what is seen as an established standard. Their vocabulary in evaluating photography uses

words such as “vision”, “investigation” and values ambiguity it is not based on an idea of photography as representational. The language of the hobbyists is much more straightforward, they talk about “good technique” and pleasing images. For the art photographers their work is to develop a personal vision across their body of work, whereas hobbyist competitions are precisely judged anonymously.

Although from the 1950s mass ownership of the classic hobbyist camera the SLR has broken down the influence of the camera clubs, the work of Griffin (1986) and Schwartz (1985, 1986) is still useful in identifying a photographic code which, though loosened, still seems to have considerable influence over amateur photography. It points to the links between this code and the interests of the industry. It also points to the existence of an alternative social world governed by a different, more artistic ideology. This is the larger context of Flickr.

We lack later studies to fill in how this picture has changed over the last 50 years, so the following paragraphs are somewhat speculative. It does seem that the pictorialist code invented by a nexus of camera clubs and industry still has much power in defining what a good photograph is. This presumably is propagated via camera magazines, books, manuals and courses and continues to be underwritten by the camera industry. It might also be effectively reinforced by all advertising imagery if the hobby code is seen as derived from commercial photographic values. Whereas the clubs had some independent role in creating the code, propagated in these ways it is arguably more directly “imposed” by the industry. At the same time it seems that more artistic views of what photography should be about have greater currency at a mass level. Cohen’s excellent work on photoblogging (Cohen, 2005a, 2005b) suggests discourses among enthusiasts which focus on mundane subjects and have an anti-technology feel that reflects something more like the artistic values described by Schwartz (1986). Though few of the photobloggers Cohen interviewed would surely consider themselves artists, yet the photobloggers borrow their style and values from art photography, which has itself adopted a “snapshot aesthetic”. This spirit is captured by one of the Flickr developers in an early interview:

Fake: I’m not much of a gadgeteer, but I love my cameraphone so much! All those cool-weird-interesting-beautiful things that you see when you’re out in the world: you can finally save them and share them because you’re carrying the camera with you everywhere. (Torrone, 2004)

Equally the mass ownership of cameras seems to have loosened the grip of the patriarch on the camera and the matriarch on the album. In the phone interviews with Flickr users we noted a discourse of self documentation (including increased photographing of self (Walker, 2005)) which could be seen as a redirection of the subject matter of domestic photography, with the self rather than the family as the key focus. This would reflect long term social changes such as in the organization of the family (the decline of the nuclear family as an unquestioned ideal) and an intensification of belief in individualism. In addition, and more obviously, mass camera ownership and the cameraphone has led to young people capturing social events such as clubbing or travel to be shared in social networks increasingly via the Internet.

How Flickr fits the social worlds of amateur photography

Logically if the picture above is correct and if Flickr were developed by a purely participative process, without any limits of resources or technical possibilities, one would expect it to reflect the shape of amateur photography. For example, one might be able to fit the functionality of Flickr to the requirements of one of the social worlds described. Though this seems to be true to only a limited extent, yet it is argued here that the exercise increases our understanding of Flickr.

Clearly the option to restrict access to photos to “friends and family” intends to offer a separate private space for what has been referred to here as domestic photography, including self documentation. However, this function could only work if friends and family are all themselves members of Flickr (at least until the end of 2006, when new facilities to do this were added). As this was unlikely, much domestic type photography is “shared” with the whole Internet. This failure to implement the division between domestic and hobby photography leads to a mixing of types of photography. This is illustrated by looking at a random sample of 50 users who were actively uploading publicly visible photos on Flickr in 2006. By the time of this analysis two were no longer Flickr members, but of the remaining 48, 27 were identified as taking photos that could be classified as “domestic” - either pictures of family members (including pets) (nine) or friends and/or travel (eighteen). The greater frequency of the latter reflects the nature of the sample (since there is more reason to keep family photos private than ones of friends) and the greater likelihood of posting photos of friends online, partly because they are less valued than say pictures of one’s children and more likely to be used to share with others who have high Internet usage.

Looking further at the functionality of Flickr, one could argue that the photostream idea fits much better the artistic project or the self documentation genre than it does the structure of camera club pictorialism. The latter typically focuses on sorting photos by quality and genre, a stream of photographic consciousness is not very relevant. This suggests that the function of displaying photos in group pools, groups themselves which are often based on photo genre, plus social activity such as building up contacts and marking favourites fit better hobbyist activities. Certain genre groups very commonly mentioned by phone interviewees, such as “macro” photography, are rather typical of camera club interests. Close up photos with their demand for perfect focus and the use of special equipment pose the correct sort of challenges to demonstrate understanding of the code of techno-pictorialism.

Thus reviewing the functionality of Flickr one can very loosely see certain functions and ways of using the system as likely to be more suitable to three different forms of amateur photography. However, overall the match is very loose. Looking again at the content analysis of a sample of 50 users what is apparent is that the usage base is much more diverse than implied by the analysis of amateur photography outlined above. Table I and II in the appendix list the activity levels and type of photos of the non-domestic photographers. They do clearly show a different pattern of behaviour compared to domestic photography. Thus these 21 photographers were significantly more active than the domestic photographers group, posting on average about twice as many photos, and having nearly five and a half times as many contacts, four and a quarter times more favourites and three and three quarter times as many groups. They also had over five times as many comments and views of their photos, on average. They also had more comments and views of their photos. Thus they uploaded a few

more photos, but have much more involvement in Flickr in using the social features of the system. Yet only four could be seen as fitting the hobby model: one very much in a single genre of photography (flowers), another developing a mini-career in classic techno-pictorialism, a third had a small collection of high quality art photographs, the fourth seemed to be more self consciously “arty” with lots of photos of blurry pictures of empty spaces, enigmatic titles. The most significant other categories among users were the self documentors (five), commercial or charitable uses (five) and other hobbies (three). The self documentors seemed to take very large numbers of photos mostly of mundane aspects of life with many pictures of themselves. They also have somewhat more photographs and group memberships compared to the hobbyists, who have more contacts, favourites and views of their photos. The commercial or charitable users were mostly using the site to store pictures of events, such as workshops for children, presumably for publicity or as a record for participants. The “other hobbies” groups were documenting other hobbies, such as craft work. The others make an interesting selection of diverse activity: a set of photos with a very high rate of hits on computing, a small collection of joke photos, and one “street photographer” (who produces semi-pornographic images). The range of uses stretches beyond that suggested by domestic photography or the serious hobby. So what characterises Flickr is the way it encompasses all forms of photography.

Again, reviewing the stories that were collected from the phone interviewees, there were many that cannot be encompassed within the notion of “serious amateur” photography. There was the woman who was experiencing an interest in the hobby as rehabilitation from a phase of loss of personal confidence. There was the young man who constructed himself as the classic would-be teenage entrepreneur, operating a business from his bedroom. Another had had success selling photos to the media. This makes the point that photography is diverse, serves many functions and Flickr serves many of these.

One of the comments in the “Where are the great pictures on Flickr?” thread satirises its content:

Everyone else seems to fall into one of the following categories:

1. The amateur fashion shooter.
2. The celebrity portraiture copycat.
3. The hipster snapshot diarist.
4. The stock image reject.
5. The new DSLR purchaser.
6. The macro maniac.
7. The sunset wide-angler.
8. The camera tosser.
9. The timelapser.

and, of course,

10. The perv. (Soth, 2007)

Again this range does not quite mirror the order of amateur photography that we read about in the literature.

Thus it seems that Flickr only poorly fits into the template suggested by the social worlds of amateur photography. Again, the 25 interviews with the founders of Flickr make very little reference to photography as such. For example, they do not express a

passion for promoting photography as an activity. The Fake quote above suggests sympathies with the photoblogging view of photography. But it is apparent that they identify their expertise in the area of “social software” defined by Fake as online community, personal publishing (blogging), and knowledge of how people use communication tools on the Internet (Katz, 2006). Again, debates about the functionality of Flickr rarely seemed to turn on anything specific about photography (Flickr, 2005-7). Tik’s (2005) explanation of the success of Flickr only mentions the word “photo” twice, does not use the word camera, and lens only metaphorically. However, it makes many references to the classic debates about online sociability, such as it creating less hierarchy, generosity, disinhibition, addiction, loneliness and online community. In each case no doubt about the negative sides of these is acknowledged, as in the quote below:

55. This makes them feel less inhibited, and it has helped many to open up.

56. People are less lonely because of Flickr (Tik, 2005)

So it is the social features of networks that are central, not photography. It may be partly possible because photography is seen as known, inherently safe because concerned only with producing “beautiful” or safe domestic images. Interestingly a paradigm of online sociability not referenced is the seminal notion of exploiting the relative anonymity of the Internet to explore identity through play and interaction. Also somewhat under-represented is the focus of Anderson’s (2007) account of Web2.0, i.e., the way that a mass of users acting from their own motives, without knowledge of each other or direct coordination, can do economically useful things. Rather the stress in Flickr is very much on a positive, close knit community (whether this is an accurate picture is another question, discussed below). This positions Flickr somewhat precisely in the debates about online sociability.

As regards the world of amateur photography Flickr seems to be positioned at the lower end, serving to encourage more and more photos to be taken and luring users up a ladder of involvement in the hobby (Porter, 1989/90; Slater, 1999, p. 299). In this context the pictorialist notion of photography as purely aesthetic, of the appropriate genre for amateur photography, are a continuing influence. But if Stebbins (1982, pp. 6-7) is correct in identifying the pseudo professional character of the career of the “serious amateur”, Flickr lacks the systematic structures to support such a career. If it were in competition with a club structure it might even be seen as an assault on the institutions of amateurism (cf Keen, 2007). But there is no reason to see it in such a negative light, rather it offers a useful resource for such a personal career, especially in the early days but perhaps not after that. It encourages people to take more photos and several of the phone interviews expressed the intention of taking more systematic photography training. Flickr is complementary to the hobby institutions of clubs and courses.

Optimistic stories from Flickr

In the following sections some optimistic views of Flickr are outlined and then some problems with these accounts are explored. The purpose is not to argue that the optimistic accounts are simply wrong, setting up the type of “polemical, dualistic, ahistorical, anecdotal” debate that surrounded the idea of online community in the ‘90s (Wellman and Gulia, 1999). Rather the purpose is to argue only that the

argument is much more complex, the benefits more qualified than these authors in their initial work acknowledged.

Several of the interviews with the developers used the argument that Flickr provided a forum where anyone could post eyewitness photos of events, i.e., as an example of citizen journalism (Terdiman, 2004; CNN.com, 2007; Perez, 2007). Pictures taken from mobile phones of people leaving underground trains after the London bombings were quickly uploaded to Flickr. Surges of use of Flickr are tied to such events as well as holidays (Goad, 2005). One of the telephone interviewees had had quite a lot of success getting photos bought by big media organizations. Interestingly, he stressed the unimportance of quality of definition of the photos and made a point of spending the minimum on photographic equipment. The potential for Flickr to be a vehicle of citizen journalism is probably a key argument because it seems to demonstrate its potentially “serious” uses, making it seem more than “just” a leisure pursuit.

Keen (2007) sees amateurs dabbling in the media as a threat to professional standards in the media (though he does not mention Flickr). Yet the media has always been keen on “User generated content” (Kilbourn, 1994, p. 426), for its cheapness and authenticity. The low quality of eyewitness photographs, far from a disadvantage, may be of value here, giving the photos an extra feel of truth. The grainy quality seems to prove that the shot was not staged and also captures the extraordinary situation. Nearly half of Pulitzer winning prize photos were taken by amateurs (quoted in Golan, 2007). It may also be that visual content is particularly of value, partly because of the continuing belief in the truth of photos but also because the media continues to maintain control. Such control is exerted through the commentary in text or spoken word which anchors the meaning of the image and also through the gatekeeping process of validating the authenticity of the photo (Golan, 2007). Mass photo-journalism is not a threat to media control or values.

The BBC seems to be one of the main promoters of Web2.0 partly because of the special qualities of the content it produces, partly because it fosters a closer relationship with the audience and partly because users contributing content is itself newsworthy. Keen’s argument seems to be belied by the BBC’s lack of fear for Web2.0. Ultimately it is difficult to think of a story that was made purely by a citizen journalist; certainly it has failed to set the agenda or influence news values. Interviews with the developers that mentioned news uses tended to stress the speed with which photos were available on Flickr, reflecting subordination to conventional news values (Terdiman, 2004; Perez, 2007).

Flickr is also sometimes seen as potential competition to stock image banks (Koman, 2005; Brown, 2007). This is an interesting idea, for as Machin (2004) has recently argued the images of stock image banks are homogenised, decontextualized and stereotypical. Flickr might reasonably be seen as a source of more real, contextualised images, “authentic” in feel. Yet it may be doubtful that the quality of photography in terms of definition or execution would be acceptable to commercial publications.

The citizen journalist idea is extended by Burgess (Burgess *et al.* 2006, Burgess 2006) who finds in Flickr examples of “vernacular creativity”. Here rather than exercise of democratic rights, citizenship takes the form of active participation in low level creative cultural activities. This is an exercise of “communicative rights” (Murdock,

1999). She explores an episode in which a geographic based Flickr group display relatively complex meaningful interaction in which some participants undertake significant effort and new behaviour, new understandings of local identity emerge, and there is a recursive deepening of social relations. Such episodes though trivial, it is suggested, illustrate a potential for an unexpected degree of creativity in which the identities of active citizen and creative consumer come together.

An extended optimistic account of Flickr is Davies' (2006). Davies gives many examples of learning, learning to learn and reflection that arises from interaction on Flickr. To theorise this she draws on Gee (2004) to construct her own specific version of the notion of an "affinity space". Its attributes are listed and include "a common endeavour", organized content, "individuals can choose to interact with content and/or each other", new content can be generated, "many types of knowledge are valued", interactivity is required, "novices and the experienced occupy the same domain" (Davies, 2006, p. 220). This is an ideal learning environment, Davies argues.

More specific activities are identified as significant by Walker (2005) and Nightingale (2006). Walker suggests that the digital camera has increased the level of self portraiture, and taking some examples from Flickr, she argues that this is an empowering process. People gain greater control over their own image, and greater ability to resist the homogenised and stereotypical identities offered in the media (cf Slater, 1985, p. 290). Overall Nightingale (2006) is sceptical about the value of photoblogging sites, but she does discover some instances where photos seem to articulate and share sceptical responses to commercial culture, for example, in the genre of photo where onscreen images are mimicked by someone in the foreground. This genre produces some examples of resistance to media imagery. However, this is to stress the importance of one, rather infrequent genre. There was only one photographer who seemed to be in this genre from the sample of 50 active Flickr users in 2006. Further, the interpretation can be challenged, for example, one photo of a girl posing in front of a screen shot of a glamorous model could be seen as simply claiming celebrity with the screen model, rather than resisting the notion of celebrity, as Nightingale argues. Nevertheless, Nightingale's analysis is useful in drawing attention to the photo sharing site as a possible stimulus to the taking and sharing of photos as acts of active resistance to the role of passive consumer.

Three limits on Flickr as utopia

Demands of commercialism

Nightingale (2006) herself outlines a critique of photoblogging websites based on the impact of the needs of advertising. Although photoblogging sites begin as quite open to any form of content they soon have to change to meet the demands of advertisers. The advertisers want more and more members and more and more activity, especially countable activity. It is the sheer statistics that impress; the quality of interaction is immaterial. Yet they have a preference for certain demographic groups. Furthermore, the advertisers do not wish their adverts to appear associated with certain types of content, for example, pornography or extremist political messages. This means that service providers must develop mechanisms to manage the content on the site, such as moderation or peer review mechanisms. A hollow rhetoric of community is used to talk about the site, which must be counted as an extra cost in that it devalues the quality of online sociability (Werry, 1999).

Some of this argument does seem to fit Flickr. For interviewees of the Flickr developers, statistics of the rapid growth of membership and content are always assumed to be in themselves good (e.g., Korman, 2005). The logic of keeping to a small user base to maintain quality is not considered. It is interesting the way that the apparently altruistic objective of “being the eyes of the world” (Perez, 2007) implies a value of inclusivity which also fits the commercial logic of recruiting the largest possible membership.

Optimists see Flickr as unmanaged. Yet in the early days the control of content and generation of a culture on the site was the result of very active intervention:

"We haven't had much of a problem with that [pornography]," says Butterfield, "partly because we were very vigilant in the beginning." Some moblogging sites - on which people blog from their mobile phones - have become almost porn sites because they didn't stamp it out immediately. "What people see there, they will post there," adds Fake. (Schofield, 2005)[2]

According to Caterina: “The most difficult part is not the technology but actually getting the people to behave well.” When first starting the community the Flickr team were spending nearly 24 hours online greeting each individual user, introducing them to each other and cultivating the community. “After a certain point you can let go and the community will start to maintain itself,” explains Caterina. “People will greet each other and introduce their own practices into the social software. It’s always underestimated, but early on you need someone in there everyday who is kind of like the host of the party, who introduces everybody and takes their coat.” (Hall, 2006)

Those who idealise the site as completely “self organizing” ignore the importance of these interventions. Interestingly, in the interviews of the developers these interventions are represented as important at the beginning of the development of Flickr - whereas Nightingale (2006) stresses how control comes in at a later point.

More importantly, the functions and terminology of Flickr are designed to influence behaviour in the system. Thus rather than offering the model of a “collection”, where one might build up a limited selection of one’s favourite or best photos, for example, Flickr’s concept of a photostream (as well as echoing the structure of blogging) implies a constant need to take more photos. Note the way that the stimulus to taking more photos was also one of the effects of camera club membership, which also served industry needs. Navigating to older photos in an individual’s collection on Flickr is laborious. Equally the formula for “interestingness” evidently weights the interest of a photo by how recently it was uploaded. So Flickr is designed to reward recent activity. This demand for novelty cannot be traced simplistically to the needs of advertisers; it reflects a general cultural value, for example, generated by the media values about news. Yet if one cannot trace the systematic demand for new photos simplistically to the demands of advertisers, such influences do represent a limit on more reflective behaviours. As one contributor to the “Where are the good photos of Flickr?” thread commented:

The entire format encourages superficial browsing, following link after link. It’s a very different experience to the contemplative atmosphere of a gallery or an artist’s photobook. (Soth, 2007)

A further aspect of this is the way that Flickr encourages users to commodify their own use of the system. Thus one of the phone interviewees talked of wanting to “boost traffic” on her photos. Several interviewees showed a concern with which was their most viewed photo. The system gives users reports of activity on their photos and this seems to lead them to such concerns. Other phone interviewees talked about behaviours such as adding photos to groups, commenting on the work of others, etc. (i.e., “sharing” and other “generous” behaviour) but which is ultimately directed towards increasing activity on their own photos. Networks are very carefully cultivated. Again others had a nexus of blogs, websites and domain names which they coordinated to maximise hits, mimicking classic spamming strategies. Fake refers to this as the “attention economy” (Terdiman, 2007). Users’ behaviour combines quite conscious altruistic appearing behaviour whose purpose is gaining attention with a cloying language of community and positivity. In this way the users’ consumption of the site leads them to commodify their own behaviour, in ways which coincide with commercial purposes. Much of this behaviour, like blogging, seems quite solipsistic. This seems as realistic an interpretation of self portraiture as Walker’s (2005) idealisation of it as representing greater control over one’s own image.

If Flickr does seem to fit Nightingale’s critique of photoblogging sites as controlled by their need for advertising this must be qualified by the fact that it is essentially subscription based, with some income from adverts and marketplace sales (CNN.com, 2007). Yan’s figures suggest that about 76 per cent of members have a “pro” account (2007, p. 34). Advertising, which is quite discreet, is only seen by non subscribers. Further Tik’s (2005) text implies that Flickr is experienced as “free”, that the lack of commercialisation is highly valued, at least for those who were contributing comments on the development of Flickr functionality in its first two years.

Myerson’s (2001) analysis of early mobile phone advertising identifies several rhetorical strategies used in talking about the commercialisation of communication, namely a stress on sheer statistics of activity, the speeding up of communication, emphasis on global connections and increasingly of system talking to system, rather than users understanding each better. Flickr’s functions and terminology do stress activity, scale, speed and increasingly global reach. One is reminded of Strauss’ comments:

Images online are both more ephemeral (in form) and more substantial (in number). They flicker across our eyes and jitter through our minds at incredible speeds. We spend more time collecting and sorting images, but less time looking at any one of them. One can never step into the same data-stream twice. The images from Abu Ghraib suddenly appear and are everywhere, and then just as suddenly they vanish, leaving barely a trace. Photographic images used to be about the trace. Digital images are about the flow. (Strauss, 2007)

However, as has already been shown human relationships are stressed, though it would be optimistic to interpret this as about an increase in human mutual understanding. It is also difficult to trace the urge for more and more activity, for example, simplistically to commercial values, as opposed to news values or even a democratic ideology of inclusivity. Nevertheless the stress on growth and new activity, the impact on users commodifying their own actions do point to the

pervasive impact of essentially commercial values on Flickr. This makes it difficult to idealise it as an “affinity space” or simply as a source of cultural creativity.

Digital divides

Several phone interviewees commented that digital photography was essentially free, because one could take an unlimited number of photos without cost. One of the most expensive and time consuming parts of traditional photography was development and printing of photos. With a digital camera one can preview photos immediately after they are taken. In some senses it is the perfect consumer pleasure, costless, unlimited and immediate. Yet it would not really be true to say that using Flickr is free. Naturally one needs a device or devices to take photographs. All but one of the phone interviewees had bought a new camera in the previous year. One needs also a computer and perhaps photo editing software. One might also have need of a special printer for favourite photos (with its expensive paper and toner). One also needs an ISP to connect to Flickr, preferably by broadband, given the size of image files. A “pro” account on Flickr costs \$25 per annum. In this sense, while one could pay very little to use Flickr (e.g., use a free account), and many people have access to a computer and broadband for other reasons, for at least one of the phone interviewees the way that “photography had taken over his life” was only possible because of this. Yet it is doubtful in general that people spend less on digital photography than on traditional photography. It is merely that the type of cost has shifted. The costs involved imply the existence of a digital divide in terms of who might really be likely to use Flickr.

Further, Butterfield probably rightly identifies another key requirement for Flickr users, namely general familiarity with the social conventions and working of “social software” (Koman, 2005, as quoted above). It was evident from the phone interviews that such active Flickr users were all long term Internet users and they often used language which showed some awareness of the classic tropes of social software, such as online generosity. This is another form of digital divide, this time of skill (literacy) rather than access, though rather than “literacy” it seems to be to do with trust and values more than knowledge.

There is also direct evidence from Meyer *et al.* (2005), Cox *et al.* (forthcoming) and Yan (2007) that Flickr users are the usual suspects: people working in new media or computing or students, people between the ages of 20 and 30, more men than women, Americans and Europeans. Yan found that 62 per cent were men (of the whole 200 sample), 88 per cent from America or Europe (67 for whom there was data), 15 per cent worked in IT, 15 per cent students (of 60) (2007, pp. 34-5). This mirrors wider digital divides (Dutton and Helsper 2007, pp. 4, 62). The active groups are also demographics particularly interesting to advertisers. Thus there continues to be a significant digital divide in how Web2.0 type sites such as Flickr are used, which, as Burgess acknowledges, undercuts the idea that as such they could offer major sites of cultural citizenship.

Learning, interaction and criticality

Davies’ (2006) characterisation of Flickr as a type of “affinity space” has a number of problems. Just as the wall of logos rhetoric of Web2.0 obscures the more obvious development paths that are visible when individual services are examined, the claim that Web2.0 is wholly new creates an opening allowing wholly new theories to be

brought in. This meets academics' need to throw out new theory. The notion of affinity space in some ways echoes Rheingold's virtual community, though in an abstracted form, without the sense of real social relationships. But by drawing on a completely new theory and ignoring previous literature in the area, the whole long and complex debate about virtual and online community is forgotten. It seems to me more sensible to locate discussion of Flickr within existing debates about online sociality rather than start de novo with a new theory. This also respects Butterfield and Fake's stress on their backgrounds in social software and Tik's clear references to previous debates about online sociability. The notion of Web2.0 serves various interests in disconnecting phenomena from the familiar and theorised.

The notion of affinity space also suggests that Flickr is a model of a purely respectful, caring community. Actually this idea is deeply value laden in its stress on the importance of learning, individual creativity, lack of hierarchy. What has already been said about the impact of commercial motives is also relevant here in suggesting that Flickr is not simply a benign space, but one that is ultimately shaped by commercial needs.

Davies describes Flickr as "learning at its best" because "it is social, it is motivated, it is embedded in people's lives and it is compelling and enjoyable" (Davies 2006, p. 218). The claim that these principles are the most important educational values expresses typical fears about the problems of institutional learning: for example, that students do not care about what they are learning, only seek a certificate, that institutional learning is too abstracted from real life, too bookish, too individualistic and that the flummery of education (e.g., ivy covered quadrangles) further alienates those who had a bad first experience with institutionalised learning at school. Yet, if Flickr does not have these problems, it also lacks the virtues of institutionalised learning, such as the presence of persons with a responsibility to manage learning, systematic approaches, criticality and certain specific forms of interactivity. Flickr is not learning at its best, only learning of an uninstitutionalised sort, with advantages and drawbacks. The argument participates in a general idealisation of the informal (Misztal, 2002). It is seen as more authentic, voluntary, but it is potentially also more unfair and open to corruption.

In fact, it can be suggested that in general Flickr is not very interactive - not very social. A sample of 557 photos from these users showed that the mean number of views of each photo was around 47, comments was around 0.5 per photo (Yan gives the figure of 0.26 (2007, p. 37)). In the case of only 17 photos was there interactivity in the Rafaeli and Sudweeks (1998) sense that there are responses to the responses. Thus the level of responsiveness and interaction is relatively low on Flickr. Phone interviewees still mostly took photos as an individualistic activity. Compared to a camera club, relationships are weak even if they are more immediate or global. This makes it less plausible to claim that it is "learning at its best".

Perhaps more damagingly for Davies' (2006) argument that such an affinity space is "learning at its best" is its uncritical character. Only two of all the comments in the sample made specific suggestions about how the photo could be improved. These comments seemed to come through the photo having been linked to groups which are specifically set up to generate evaluations such as "Hit or Miss". Even these comments were couched in basically favourable terms. They also showed little

awareness of technical terminology. Most comments were either banter between friends or expressed that the commenter liked the photograph. Thus there is little interactivity and little criticality in Flickr. Whereas the camera club, by virtue of its close knit character and agreed code, can provide specific and critical commentary on work, Flickr primarily contains pathic “encouraging” responses. As one commenter in the Soth blog text (2007) suggests:

[...] the comment-based economy of the site is tilted towards mutual flattery rather than totally frank and honest criticism.

Tik (2005) writes:

61. The members are friendly and non critical. Most comments are positive. This makes Flickrtown a pleasant and inviting place, and it encourages participation.

Flickr offers a warmly “supportive” environment in which activity is stimulated. Perhaps this is what the current logo “Flickr loves you” expresses. The positive character of the space may be partly linked to continuing influence of pictorialist values in hobby photography identified by Griffin - its emphasis on the “beautiful” and “romantic, cheerful and reassuring imagery” (1986, p. 618). One could see Flickr as encouraging users to make their first steps up the ladder to the serious hobby (Cox *et al.*, forthcoming). Yet the lack of structure, hierarchy, and use of technical terminology prevents this being a satisfactory learning environment or the structured career of the serious amateur (Stebbins, 1982, p. 6). These are better supported in institutionalised learning.

Other contributors to the Soth (2007) thread argued, however:

Granted, the extent of the critiques tend to be “nice composition” and “great colors” but it at least opens a conversation that wouldn’t otherwise be available.

Lots of people getting together to talk about photography is a good thing even if they talk about crap.

It is not quite clear why the latter claim might be true, perhaps it hints at the benefit lying in the sheer increase in social capital (an argument used by Leadbetter and Miller (2004) for amateurism in general). It could also be argued that the use here of content analysis of random users in an effort to capture typical experience may commit the fallacy of ignoring that the one in a hundred or thousand experience is as important even if it is not typical. Davies makes no claim that the episodes she recounts describe the site fully (2006, p. 219). There certainly are spaces where some critical discussion takes place, for example, in commenting in certain groups. This is more than is possible for the readers of a camera magazine, for example, and so the potential for new behaviour exists by virtue of the connections made across the audience. Further, if one withdraws from the claim that Flickr is somehow an ideal learning space, and simply acknowledges it as an addition to the existing institutions for learning about photography, there is no problem recognising its value in stimulating interest in the hobby which often leads to people taking a course or joining a club.

Conclusion

While one does not question the occurrence of the happy learning experiences described by Burgess *et al.* (2006) and Davies (2006) there are problems in seeing these as representative. The vast majority of photos on Flickr are not looked at much, interactivity is low. This does not deny the importance of the few cases where it does occur. However, the commercial motives and speeded up character of Flickr and its increasing scale are surely likely to increasingly undermine the frequency of such experiences. Flickr encourage users to commodify their own activities. Davies idealises Flickr, choosing to ignore or postpone discussion (2006, p. 232) of the limits that commercial motives place on it and the ways that it is not by itself any sort of ideal learning environment. However, Flickr lacks the structures and culture to support a critical learning career, though there is more possibility for creative interaction than for the camera magazine reader. The continuing digital divide in access deriving from the cost of photography and the need for skills in Internet use are key limits on Flickr's value as a forum for citizenship, as Burgess (2006) recognises. The pictorialist code is a powerful influence in defining photography as a serious hobby as primarily an aesthetic pursuit.

Since the original publication of Slater's (1999) work on mass market photography in the 1980s the most publicised changes have been in technologies: the convergence of camera, phone and computer; greater ubiquity of devices; the decline of development/printing as the most profitable part of the industry; greater user freedom through cheap, simple devices, digital editing and without the cost and delay of printing; and most recently "photo sharing" via the Internet, the most well publicised example of which is Flickr. Flickr is the odd man out in this continuation of the photography's "permanent technical revolution" (Slater, 1999, p. 298) in being about the distribution of photographs not the camera itself. Slater tended to see technical changes as driven by simplification, deskilling the user (Slater, 1999, p. 294; Griffin, 1986, p. 556). Similarly, the democratisation of the medium is driven by commercialism and could be seen to occur at the cost of loss of critical language and craft skills of the clubs. Yet it is doubtful that it substitutes for clubs/courses, rather it is complimentary to these institutions, stimulating interest in the medium.

In the 1980s Slater articulated the unfulfilled potential that the camera:

As an *active* mass tool of representation is a vehicle for documenting one's conditions (of living, working and sociality); for creating alternative representations of oneself and one's sex, class age-group, race, etc; of gaining power (and the power of analysis and visual literacy) over one's image; of presenting arguments and demands; of stimulating action; of experiencing visual pleasure as a producer, not consumer, of images; of relating to, by objectifying, one's personal and political environment. (Slater, 1999, p. 290, original emphasis)

This is still quite a convincing programme, even if the analysis is premised on an unqualified suspicion of consumption. Some of Slater's ideal uses have not been very apparent, for example, "presenting arguments and demands", continuing to see it as purely aesthetic, making of things beautiful. But the optimists identify many episodes on Flickr that fit Slater's manifesto: episodes of self documentation, experience as a producer, etc. The realisation of the programme is part of a long term process in which photography has escaped from the camera club with its stuffy and elitist image,

narrow code derived by art photography and linked to the needs of industry. Flickr makes a small contribution in a long term process of change.

Notes

1. It is interesting the way that in the early interviews this is presented as a simple choice that was made gradually; as Flickr itself is more successful it gets turned into a more elaborate anecdote that emphasises the serendipitous character of the choice (Fitzgerald, 2006).
2. In fact, Prescott (2006) suggests that much UK traffic on Flickr is generated by pornographic searches.

References

- Anderson, P. (2007), *What is Web2.0? Ideas, Technologies and Implications for Education*, available at: http://www.jisc.ac.uk/whatwedo/services/services_techwatch/techwatch/techwatch_ic_reports2005_published.aspx (accessed 10 January 2008).
- Bausch, P. and Bumgardner, J. (2006), *Flickr Hacks: Tips and Tools for Sharing Photos Online*, O'Reilly, Cambridge.
- Brown, A. (2007), "We all helped to speed the demise of professional photographers", *The Guardian*, available at: <http://www.guardian.co.uk/technology/2007/may/03/media.newmedia/print> (accessed 10 January 2008).
- Burgess, J. (2006), "Vernacular creativity, cultural participation and new media literacy: photography and the Flickr network", paper presented at *AOIR7.0 Internet Convergences*, Brisbane, Australia, 27-30 September 2006, available at: <http://eprints.qut.edu.au/archive/00007828/> (accessed 10 January 2008).
- Burgess, J., Foth, M. and Klaebe, H. (2006), "Everyday creativity as civic engagement: a cultural citizenship view of new media", paper presented at the *Communications Policy and Research Forum*, Sydney, 25-26 September, available at: <http://eprints.qut.edu.au/archive/00005056/> (accessed 10 January 2008).
- Butterfield, S. (2005), "Web services as a strategy for start ups", *O'Reilly IT Conversations*, available at: <http://www.itconversations.com/shows/detail447.html> (accessed 10 January 2008).
- Cohen, K.R. (2005a), "What does the photoblog want?" *Media, Culture and Society*, Vol. 27 No. 6, pp. 883-901.
- Cohen, K.R. (2005b), "Some generalisations, Part 1", *Photos Leave Home*, entry for 11 June 2005, available at: http://photosleavehome.blogspot.com/2005_06_01_photosleavehome_archive.html (accessed 10 January 2008).
- Coweb (2000), *A Catalog of CoWeb Uses*, available at: <ftp://ftp.cc.gatech.edu/pub/gvu/tr/2000/00-19.pdf> (accessed 10 January 2008).
- Cox, A.M., Clough, P. and Marlow, J. (forthcoming), "Flickr: a first look at user behaviour in the context of photography as serious leisure", *Information Research*.
- Davies, J. (2006), "Affinities and beyond! Developing ways of seeing in online spaces", *E-learning*, Vol. 3 No. 2, available at:

- http://www.wwwwords.co.uk/elea/content/pdfs/3/issue3_2.asp#8 (accessed 10 January 2008).
- Dutton, W. and Helsper, E. (2007), *The Internet in Britain: 2007*, Oxford Internet Institute, Oxford, available at: <http://www.oii.ox.ac.uk/microsites/oxis/> (accessed 29 August 2007).
- Fastcompany.com (2005), *Reinventing a Category Whose Flashbulb Burnt Out*, available at: http://www.fastcompany.com/fast50_05/profile/index.html?stewart_butterfield718 (accessed 10 January 2008).
- Fitzgerald, M. (2006), "How we did it: Stewart Butterfield and Caterian Fake, Co-founders, Flickr", *Inc.com: The Daily Resource for Entrepreneurs*, available at: <http://www.inc.com/magazine/20061201/hidi-butterfield-fake.html> (accessed 10 January 2008).
- Flickr (2005-7) *What is Your ONE Most Wanted Functionality Upgrade?*, available at: <http://www.flickr.com/groups/flickrideas/discuss/72157600044204808/> (accessed 28 August 2007).
- Garrett, J. (2005), An interview with Flickr's Eric Costello, available at: <http://www.adaptivepath.com/publications/essays/archives/000519print.php> (accessed 10 January 2008).
- Goad, L. (2005), "Flickr pics capture London Terror", *PC Magazine*, July 2005, available at: <http://www.pcmag.com/article2/0,1895,1834859,00.asp> (accessed 10 January 2008).
- Golan, M. (2007), Discussion with Mary Anne Golan, available at: <http://allphotographers.wordpress.com/2007/03/25/discussion-with-maryanne-golan/> (accessed 10 January 2008).
- Griffin, M. (1986), "Amateur photography and pictorial aesthetics: influences of organization and industry on cultural production", unpublished Ph.D. dissertation, University of Pennsylvania.
- Herring, S. (2004), "Content analysis for new media: rethinking the paradigm", in: *New Research for New Media: Innovative Research Methodologies Symposium Working Papers and Readings*, University of Minnesota School of Journalism and Mass Communication, Minneapolis, MN, pp. 47-66.
- Katz, I. (2006) Flickr, "Caterina Fake and Stewart Butterfield", *The Guardian*, available at: <http://www.guardian.co.uk/weekend/story/0,,1939084,00.html> (accessed 10 January 2008).
- Keen, A. (2007), *The Cult of the Amateur*, Nicholas Brearley, London.
- Kilborn, R. (1994) "How real can you get? Recent developments in 'reality' television", *European Journal of Communication*, Vol. 9 No. 4, pp. 421-39.
- Koman, R. (2005), "Stewart Butterfield on Flickr", *O'Reilly Network*, available at: http://www.oreillynet.com/pub/a/network/2005/02/04/sb_flickr.html (accessed 10 January 2008).
- Leadbetter, C. and Miller, P. (2004), "The Pro-Am revolution: how enthusiasts are changing our economy and society", *Demos*, available at: <http://www.demos.co.uk/publications/proameconomy> (accessed 27 August 2007).
- Machin, D. (2004), "Building the world's visual language: the increasing global importance of image banks in corporate media", *Visual Communication*, Vol. 3 No. 3, pp. 316-336.
- Marlow, C., Naaman, M., Boyd, D. & Davis, M. (2006), HT06, Tagging Paper, Taxonomy, Flickr, Academic Article, ToRead, paper presented at Hypertext

- 2006 (Online) <http://www.danah.org/papers/Hypertext2006.pdf> (Accessed 19 March 2008)
- Meyer, E.T., Hara, N. and Rosenbaum, H. (2005), "How photobloggers are framing a new computerization movement", paper presented at *Annual Conference of the Association of Internet Researchers*, Chicago.
- Misztal, B.A. (2002). "Trusting the professional: a managerial discourse for uncertain times", in: Dent, M. and Whitehead, S. (Eds), *Managing Professional Identities: Knowledge, Performativity and the "New" Professional*, pp. 19-37.
- Murdock, G. (1999), "Corporate dynamics and broadcasting futures", in Mackay, H. and O'Sullivan, T. (Eds), *The Media Reader: Continuity and Transformation*, London, Sage, pp. 28-42.
- Myerson, G. (2001), *Heidegger, Habermas and the Mobile Phone*, Icon, Cambridge.
- Nightingale, V. (2006), "Photoblogging: an exploration in agency online", paper presented at the *International Association for Mass Communication Research*, Cairo, July 23-29, available at: http://www.aucegypt.edu/conferences/iamcr/uploaded/3Finished%20.pdf/CD_Virginia%20Nightingale.pdf (accessed 10 January 2008).
- O'Reilly, T. (2005), *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*, available at: <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html> (accessed 10 January 2008).
- Parr, M. (2007), A conversation with Martin Parr, available at: <http://allphotographers.wordpress.com/> (accessed 28 August 2007).
- Perez, J.C. (2007), Flickr Co-founder talks about growth plans, available at: <http://www.computerworld.com.au/index.php/id;585023819;fp;4;fpid;1398720840> (accessed 10 January 2008).
- Porter, G. (1989/90), "Trade and industry", *Ten8*, Vol. 34, pp. 45-48.
- Prescott, L. (2006), "PhotoBucket leads photo sharing sites", *Flickr at #6*, available at: http://weblogs.hitwise.com/leeann-prescott/2006/06/photobucket_leads_photo_sharin.html (accessed 10 January 2008).
- Quittner, J. (2006), "The Flickr Founders", *Time.com*, available at: <http://www.time.com/time/magazine/article/0,9171,1186931,00.html> (accessed 10 January 2008).
- Rafaeli, S. and Sudweeks, F. (1998), "Interactivity on the Nets", in: Sudweeks, F., McLaughlin, M. and Rafaeli, S. (Eds), *Network and Netplay: Virtual Groups on the Internet*, pp.173-190.
- Romero, S. (2006), "Caterina Fake, founder of Flickr", *LaFlecha*, available at: http://www.laflecha.net/entrevistas/en/caterina-fake_fundadora-de-flickr (accessed 10 January 2008).
- Schofield, J. (2005), "Flickr stands firm for the future", *The Guardian*, available at: <http://technology.guardian.co.uk/online/story/0,3605,1448114,00.html> (accessed 10 January 2008).
- Schwartz, D. (1986), "Camera clubs and fine art photography: the social construction of an elite code", *Urban life*, Vol. 15 No. 2, pp. 165-195.
- Schwartz, D. (1987), "Camera club photo-competitions: an ethnographic approach to the analysis of a visual event", *Research on Language and Social Interaction*, Vol. 21, pp. 251-281.

- Sieberg, D. (2007), "Flickr on the fly", *Torch: The University of Victoria Alumni Magazine*, Vol. 28 No. 1, available at: http://web.uvic.ca/torch/torch2007s/feature_5.htm (accessed 10 January 2008).
- Slater, D. (1999), "Marketing mass photography", in Evans, J. and Hall, S. (Eds), *Visual culture: the reader*, Sage, London.
- Sontag, S. (1977), *On Photography*, Penguin, London.
- Soth, A. (2007), *Where Are the Great Pictures on Flickr?*, available at: <http://alecsoth.com/blog/2007/08/08/where-are-the-great-pictures-on-flickr/> (accessed 10 January 2008).
- Stebbins, R.A. (1992), *Amateurs, Professionals, and Serious Leisure*, McGill-Queens University Press, London.
- Stebbins, R.A. (2004), *Between Work and Leisure*, Transaction, New Jersey.
- Strauss, D.L. (2007), "Click here to disappear: thoughts on images and democracy", *OpenDemocracy*, available at: http://www.opendemocracy.net/arts-photography/click_disappear_4524.jsp (accessed 10 January 2008).
- Sugarbaker, M. (2003), "Thinking outside the MUD: Ludicorp CEO Stewart Butterfield on the Game Neverending", *Mindjack*, available at: <http://www.mindjack.com/feature/gne.html> (accessed 10 January 2008).
- Terdiman, D. (2004), *Photo Site a Hit with Bloggers*, available at: <http://www.wired.com/news/culture/0,1284,65958,00.html> (accessed 10 January 2008).
- Tik, J. (2005), *Why is Flickr so Successful?*, available at: <http://flickr.com/groups/central/discuss/36512/> (accessed 10 January 2008).
- Torrone, P. (2004), "Interview with Caterina Fake from Flickr", *Engadget*, available at: <http://www.engadget.com/2004/12/03/interview-with-caterina-fake-from-flickr/> (accessed 10 January 2008).
- Walker, J. (2005), "Mirrors and shadows: the digital aestheticisation of oneself", *Proceedings Digital Arts and Culture 2005*, available at: <https://bora.uib.no/handle/1956/1136> (accessed 10 January 2008).
- Watney, S. (1994), "Photography-education-theory", *Screen*, Vol. 25 No. 1, pp. 67-72.
- Watney, S. (1999), "On the institutions of photography", in: Evans, J. and Hall, S., *Visual Culture: The Reader*, Sage, London, pp. 141-161.
- Wellman, B. and Gulia, M. (1999), "Virtual communities as communities: net surfers don't ride alone", in: Smith, M.A. and Kollock, P. (Eds), *Communities in Cyberspace*.
- Werry, C. (1999), "Imagined electronic community: representations of virtual community in contemporary business discourse", *First Monday*, Vol. 4 No. 9, available at: http://firstmonday.org/issues/issue4_9/werry/ (accessed 10 January 2008).
- Williamson, J. (1984), "Family, education and photography", *Ten*.8, pp. 19-22.
- Yan, Y. (2007), *A Study of Flickr Users and Groups*, unpublished MSc dissertation.

Appendix

Table I. Non-domestic Flickr users in sample (sorted by number of Contacts)

ID	Photos	Contacts	Groups	Group admin	Favourites	Gender	Age	"Pro"	Type of photography	Short description
5	2724	806	340	13	443	M	19	Y	pictorialist	pictures of landscapes
4	200	742	267	5	1252	F	26	N	commercial	craft works (for sale)
25	21,545	306	571	3	729	F	n/a	Y	self documentation	blogger: family, travel, food, jewelry/possessions & "artistic" shots of shapes
36	1624	122	167	1	1210	F	27	Y	self documentation	weather, self, cars, computer
1	1768	101	81	0	1859	F	n/a	Y	pictorialist	pictures of flowers
13	1076	90	28	0	397	F	n/a	Y	self documentation	servicewoman in iraq
7	1549	73	72	4	31	M	n/a	Y	street photographer	semi pornographic
6	1766	62	2	0	0	M	n/a	Y	commercial	team building events
39	167	52	31	0	820	F	n/a	N	art photographer	art / hobby
37	1479	42	59	0	139	F	21	Y	other hobby (doll collecting)	pictures of dolls on location
22	9987	34	10	4	1	M	41	Y	commercial	journalist/author
35	420	24	15	0	25	F	n/a	Y	other hobby (craft work)	photos of craft work
38	272	16	5	1	100	M	28	Y	self documentation	travel, work stuff - quite random
29	401	10	4	0	30	n/a	n/a	Y	computing related	linux geek
24	157	5	18	0	18	F	26	N	arty photographer	"arty" photos, blurred, enigmatic etc
12	30	2	0	0	0	M	n/a	N	other hobby (archaeology)	archaeology hobby
47	4110	1	2	?	0	n/a	n/a	Y	commercial	adventure holidays
33	9	1	0	0	0	n/a	n/a	N	jokes	joke photos
11	200	0	1	0	0	M	30	N	self documentation	self portraits
16	161	0	0	0	0	n/a	n/a	N	celebrity	musicians
32	4809	0	0	0	0	n/a	n/a	Y	commercial (workshops)	Childrens' art workshops

Table II. Non domestic users in sample: activity and interactivity levels

ID	Photos	Type of photography	Total photos sampled	Average comments	Interactive 2	Average views
5	2724	pictorialist	26	8.04	5%	150.00
4	200	commercial (sells craft work)	5	3.20	0%	37.80
25	21,545	self documentation	25	0.52	5%	24.56
36	1624	self documentation	29	1.07	53%	116.83
1	1768	pictorialist	19	2.53	21%	19.95
13	1076	self documentation	17	0.06	0%	36.65
7	1549	street photographer	11	0.09	0%	64.91
6	1766	commercial (team building events)	9	0.00	0%	3.33
39	167	art photographer	10	1.90	11%	58.30
37	1479	other hobby (doll collecting)	12	0.00	0%	15.92
22	9987	commercial (journalist)	19	0.00	0%	25.79
35	420	other hobby (craft work)	18	0.44	11%	58.83
38	272	self documentation	12	0.33	5%	101.33
29	401	computing related	16	0.00	0%	158.88
24	157	arty photographer	5	0.00	0%	16.40
12	30	other hobby (archaeology)	8	0.38	5%	39.88
47	4110	commercial (adventure holidays)	16	0.00	0%	6.88
33	9	jokes	1	1.00	0%	818.00
11	200	self documentation	2	0.00	0%	2.50
16	161	celebrity	5	0.00	0%	16.40
32	4809	commercial (art workshops)	7	0.00	0%	25.86