The Digital Wunderkammer: Flickr as a Platform for Amateur Cultural and Heritage Content

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Abstract

Many memory institutions are now digitizing their holdings to provide online access. Although recent developments in technology have allowed users to create high quality digital resources outside institutional boundaries, little consideration has been given to the potential contribution that the general public can make to digitizing cultural heritage. This article seeks to scope the growing trend of the creation of digital images of cultural and heritage materials beyond library, art gallery, or museum walls, particularly focusing on the use of the image-hosting site Flickr (www.flickr.com) as a forum for hosting, discussing, and collecting vintage ephemera. This article discusses how Flickr is currently being used and provides empirical data that demonstrates that the most successful examples of this approach can teach best practice to traditional memory institutions in how to make their collections useful, interesting, and used by online communities. The use of a common, centralized access point to image-based heritage allows a central point for discussing and accessing collections. Furthermore, the adoption of Flickr by libraries and archives can extend the use of collections and the interaction that this affords both the institution and the individual.

Introduction

Digitization, "the conversion of an analog signal or code into a digital signal or code" (Lee, 2002, p. 3), is now commonplace in most memory institutions, as digital representations of cultural and historical documents, artifacts, and images are created and delivered to users, generally online. The exponential growth in digitization projects toward the close of the

twentieth century, along with the establishment of guides to good practice and technical guidelines, has meant that "countless millions of pounds, dollars, francs and marks [have been] ploughed into digital projects that have involved the conversion of library, museum and archive collections" (Lee, 2002, p. 160). Much of the early academic debates regarding the purpose, merit, and scope of digitization are now resolved as institutions create high quality resources for the general user and academic researcher alike (Deegan & Tanner, 2002; Hughes, 2004). As a result digitization per se is not an academic research issue, but part of the wider information context related to cultural and heritage institutions (Minerva, 2003, p. xxiii).

One area seldom considered in academic literature is the creation of digital resources by amateurs. Recent developments in Web 2.0 technologies (those that facilitate and encourage creativity, information sharing, and collaboration [O'Reilly, 2005]) means that museums, libraries, and archives are now reconsidering their relationship with users and the general public, both in the use of digital collections and how users can contribute to an increasingly rich digital resource environment. This article assesses the scope of online resources created outside institutional boundaries by keen individuals who wish to participate in digitizing cultural heritage. In particular, it demonstrates that the image-hosting tool, Flickr, provides an easy and intuitive hosting platform for individuals to post, share, and discuss image-based historical material. As institutions become aware of Flickr as a hosting platform, many have begun cautiously to adopt an approach that allows for their closer integration with their potential audience and user community. I aim to provide an overview of the use of Flickr as a platform for the sharing of image-based cultural heritage, and attempt to conceptualize the potential contribution that can be made by amateur digitization.

Through integration with groups and individuals creating their own cultural and heritage content and using Flickr as a hosting platform, this article demonstrates that the uncharted territory of digital resources created outside traditional memory institution boundaries can provide a rich source of materials for both the general public and academic researchers. Additionally, those creating such online materials are generally more successful in interacting with their relevant online communities than memory institutions are. As a result, instead of being viewed as mere digital "cabinets of curiosities," the best digital resources created by enthusiasts and hosted on Flickr can inform the library, archive, and cultural heritage community about best practices in constructing online resources and communities, and reaching relevant audiences in the process.

BACKGROUND

The rise of online "museums" created by amateur enthusiasts, generally containing digital images of holdings and artifacts, is a seldom considered

but growing phenomenon. Amateur online collections have appropriated a variety of technologies, from static HTML to the hosting opportunities afforded by online, new media, social networking sites. Online cultural and heritage material resulting from amateur digitization projects can provide a rich source of primary resources for both scholars and the general public, and although this has been all but ignored until recently by the library, archive, cultural heritage, and arts and humanities communities (Terras, in press), its democratizing nature is worthy of further consideration:

> Libraries have always been far more selective than is generally acknowledged when it comes to their collections. I am not talking now of selection within formats (books, records, videos, etc.), but of ruling out, consciously or unconsciously, vast areas of recorded information. Much of the stuff that we used to ignore now shows up on the Internet and the Web. To demonstrate this, just do a search on any subject and review the few thousand "hits" with a view to imagining their tangible analogues. . . . On and on it goes—acres of the cyberworld full of ephemera. What else is out there? (Gorman, 2003, p. 11)

It is sometimes asserted that "cyberspace is littered with the productions of ignorant, semi-literate, and/or crazed individuals," (Gorman, 2003, p. 14), and in many cases, these online collections function as twenty-first-century cabinets of curiosities. They can be viewed as amusing, eccentric, or even worrying obsessions with online content (Blaszczynski, 2006), usually concerned with providing the world with a particular type of ephemera that the rest of the human race has chosen to leave undocumented. The *Guardian* newspaper described the Museum of Online Museums (http://coudal.com/moom/) thus: "The internet has brought advancements, but nowhere has it been more successful than in the field of meaningless rubbish. Here, vast swathes of tat are housed in one handy place for easy navigation" (Web watch, 2007, p. 31).

The creation of most of the successful amateur online resources reflects the shift toward user-generated content, where users are generating, creating, browsing, tagging, commenting, and reviewing online material (Beer & Burrows, 2007). These Web 2.0 activities are aided by the availability of easy-to-use platforms for hosting Web content. Although, in the early days of the Web, much was made of the potential democratization of information through the creation of HTML-based, hand-coded websites, viewable online by anyone, putting a website online involved significant investment in time and energy in learning rudimentary aspects of Web design, programming, site hosting, etc. It also depended on having access to a personal computer, Internet connection, and a scanner or other digitization device. Web 2.0 technologies, with their easy-to-use platforms (such as blogs, wikis, and photo hosting and sharing) enable users to create professional-looking resources without much technological or temporal

investment, which has led to changed relationships between producer and consumer, encouraging a new collaborative, participatory, open culture (Beer & Burrows, 2007).

As a result, "users with a personal interest in a technology can collectively and collaboratively, in a distributed and largely undirected environment, provide useful public resources" (Brady, 2005, p. 225). Technologies such as blogs, photo-sharing websites, and wikis provide the tools to allow people to accumulate, share, and manage knowledge, encouraging a cultural shift and fostering collaboration (Brady, 2005, p. 226). The content of these online sources ranges from the amusing to serious attempts at providing information resources to both scholarly and amateur researchers. These resources are not available anywhere else but are useful even if they lack the institutional backing and guidance of their official online counterparts. With memory institutions now appropriating Web 2.0 technologies and approaches themselves—such as tagging, and encouraging user feedback and involvement—amateur enthusiasts are now being encouraged to contribute to the online presence of established institutions.

There are many virtual online museums that function as stand-alone websites (Terras, in press). The adoption of Internet technologies by hobbyists and enthusiasts has provided a public platform for the sharing of private collections. A recent development in online amateur collections is the creation of "pools" of digitized objects utilizing image-hosting sites such as Flickr as a platform. These create exhaustive documentation of, say, vintage dressmaking patterns (Flickr, n.d., *Vintage patterns*) or book cover artwork of cheap paperbacks from the mid-twentieth century (Flickr, n.d., *Old-Timey*). This article surveys the hitherto ignored phenomenon of digitized ephemera created by individual enthusiasts hosted on Flickr. The use of such a readymade, low cost, easy to access image-hosting site provides "an individual, a 'netizen' . . . [with the] means of expression for anyone with minimal technical skills but abundant passion and dedication" (Harden, 1998). I contend that Flickr is a successful hosting platform for the creation of amateur content, encouraging interaction and building group dynamics around individual collections. Harnessing the energy, passion, and interest of amateur digitization is of clear interest to the cultural heritage sector. Memory institutions can learn from the techniques employed in creating the most successful of these online resources, to improve their own online presence, and to interact with their user communities.

The Growth of Flickr
The concept of image collecting reaches back to the dawn of human society, with the collection of images on cave walls (Greisdorf & O'Connor, 2008). The image hosting site www.flickr.com is a twenty-first-century

equivalent, providing a means for people to collect and share their images cheaply and efficiently online. Flickr is one of the success stories of the second phase of website development, commonly referred to as Web 2.0, which allows for increased interaction with websites. Developed as part of a computer game by a company called Ludicorp in 2004, Flickr rapidly evolved into the most popular place online for users to host, share, discuss, and find digital images (and later, videos). Flickr is often the hosting platform for digital images that feature in blog posts and other social media. It provides a rich, structured interface where those posting and viewing photos can leave comments, provide short metadata tags, organize their photos into groups, and share and disseminate photos according to a range of privacy measures. It offers a variety of options such as image geo-tagging, the application of copyright licenses for particular images, and forums supporting community interaction. By October 2009, Flickr hosted over 4,000,000,000 images uploaded by users (Champ, 2009) and filed and organized into over 500,000 groups (Flickr Help Forum, 2009).

There has been much academic interest in Flickr, particularly from the computer science community interested in determining how the growing corpus of images can be automatically searched for reuse (Kennedy, Naaman, Ahern, Nair, & Rattenbury, 2007). There is also interest in how to study and quantify how people are using Flickr and its digital images to interact socially, to document their lives, and to build communities (Maia, Almeida, & Almeida, 2008). Flickr is a source of wonderment for those wishing to study user-generated content and large-scale online communities (Negoescu & Gatica-Perez, 2008); how and why individuals build up their own image-based collections (Stvilia & Jörgensen, 2007; Stvilia & Jörgensen, 2009); how users are interacting with media in the changing information environment; and how digital media and online content is changing society (Van House, 2007). Within the computing science, library, and archive communities, there has been much interest in the use of tags—user generated descriptions of images that can be used as a crude form of metadata, to enable labelling, searching, and retrieving—and how these can be used to generate automated systems or to understand users further (Angus, Thelwall, & Stuart 2008; Beaudoin, 2007; Marlow, Naaman, Boyd, & David, 2006; Morrison, 2007; Nov, Narman, & Ye, 2008; Rafferty & Hidderly, 2007; Trant, 2009). There have been few qualitative studies, however, on the motivations of specific user communities in providing their own digitized content rather than tagging existing materials.

In January 2008, Flickr launched "The Commons," a subset of the site that aimed "to firstly show you hidden treasures in the world's public photography archives, and secondly to show how your input and knowledge can help make these collections even richer" (Flickr, 2008). Memory institutions are becoming aware of the power of a centralized image bank and how users may contribute to existing collections through the kind of

features Flickr introduced and supported, such as tagging. There has been little consideration, however, from the digitization community about the contribution amateur digitizers can make to providing access to images of cultural heritage itself. This is the first known study that has considered groups and pools of image-based content on Flickr as an alternative information source lying beyond institutional walls. Self-organizing groups creating their own content around a specific topic are extending the reach and scope of available cultural heritage, and historical materials and further integration with communities of interest is an untapped area for increasing access to image-based heritage.

METHODOLOGY

First, the literature on digitization was reviewed to ascertain whether amateur contributions and, in particular, the role of Flickr, had been studied. Although digitization is a well-documented and well-considered enterprise, there is a paucity of information within traditional library, archive, and information resources about the contribution that amateurs can make to our digitized cultural heritage. Most digitization guidelines and guides to good practice are focused squarely on memory institutions such as libraries, archives, and museums (Hughes, 2004; Lee, 2002). Additionally, because of the time it takes to publish academic material, research regarding Web 2.0 technologies and how they can contribute to the dissemination and sharing of cultural heritage is only starting to become available. Many papers about Flickr and libraries (see above) focus on the use of "tags," the self-generated descriptions of images that users can create, rather than the provision of images themselves. Questions about the digitization of private collections also touch on issues of archiving and collecting and, from the long-term viewpoint, the contribution that amateurs can make to society. Any literature discovered is referred to in the relevant discussion section.

Second, a hundred groups on Flickr featuring image collections of cultural or historical material were reviewed to indicate the coverage, scope, and purpose of their collections. Although this was a fairly large sample, one hundred groups cannot be taken to provide a statically reliable basis for generalizing about Flickr as a whole, which has over 500,000 groups (Flickr Help Forum, 2009). The results presented here are thus intended to be suggestive rather than conclusive. The groups were chosen by following user names that contributed to many pools and by searching for topics such as "Vintage," "Retro," "Victorian," "History," etc. A span of quality was represented in the sample, from groups with a few members that had not had any contributions for two or three years, to pools of photographs added to daily and looked at by hundreds of active group members. It became obvious that the usual criteria for judging the quality of websites applied to this selection of groups on Flickr. There were many poor qual-

ity resources, with some being abandoned online with little recent activity, or without clear purpose or remit. The best resources, those that can be described as high quality, were accurate, authoritative, objective, current, and gave such coverage of a collection that it became a unique information source (Tate, 2009).

Finally, five well-used, well-populated "pools" on Flickr were identified. They provide current, high quality resources and seemed appropriate for analysis to gain insight into how Flickr is now being used as a host for digitized content. Users posting items to these pools were contacted to ask about their motivations and use of Flickr. Questions were also posted to the group's discussion forums. In addition ten frequent users of Flickr were contacted and interviewed via e-mail. The following groups were studied:

- Pulp Fiction: http://www.flickr.com/groups/pulpfiction/pool/
- Old-Timey Paperback Book Covers: http://www.flickr.com/groups/paperbacks/
- Vintage Patterns: http://www.flickr.com/groups/vintagepatterns/
- Smooth Smoke Slogans that "Satisfy" [VINTAGE Advertising]: http://www.flickr.com/groups/smokeslogans/
- The Great War Archive Flickr Group: http://www.flickr.com/groups/greatwararchive/pool/

Several memory institutions currently encouraging user interaction via Web 2.0 technologies were also surveyed to ascertain the extent of user involvement. These are detailed below.

Findings

Coverage and Topics

As the survey of the Flickr groups progressed, it became obvious that most presented novel, detailed, and niche content with a very specific scope. Ephemera that had not been collected—or even noticed—elsewhere was photographed, documented, stored, presented, and cataloged. The purview, or obsession, of each individual Flickr group is always narrow and mostly beyond the scope of traditional memory institutions. Additionally, the collections tend to be completionist: reflecting a passion to make sure every single variant is collected and documented (as opposed to collections management policies in many memory institutions where often a representative sample is viewed as being sufficient): "It's a bit of a digital collector's fever, I guess, as I really enjoy pushing up the number of images available on the site" (Flickr User A). However, that is not to say that those posting to Flickr do not take their job as "archivists" seriously:

> I've decided to try and curate this group a bit more seriously with the intent of having its contents reflect a certain aesthetic, which is how I originally planned it to be. From now on, all images added to the pool

will be screened first and accepted only if I feel they fit in with what I'm trying to do here. I will also be going through the current collection and deleting images that I let slip through. (Flickr User F)

Various themes emerged. By far the most popular topic for collection was ephemera dealing with graphic design, particularly in advertising, packaging, and nostalgia. These range from the obvious and popularist:

• Vintage Camera Adverts: http://www.flickr.com/groups/682685@N22/
• Vintage Motorcycle Adverts: http://www.flickr.com/groups/1298641@N24/

to groups with a very specific interest:

• Vintage Weight Loss Products and Methods: http://www.flickr.com/groups/805618@N24/
• Vintage Soap, Shampoo and Detergent: http://www.flickr.com/groups/993589@N21/

Understandably for an image-based site, there is a huge interest in graphic design on Flickr, such as documenting the changing covers of paperback books:

• Penguin Paperback Spotter's Guild: http://www.flickr.com/groups/penguinpaperbackspotters/
• Vintage Paperbacks (non-Penguin): http://www.flickr.com/groups/vintage_non-penguin/

Often particular illustrative artists are followed, with a view to documenting their entire output:

• Paperback Covers and Other Art by Robert McGinnis: http://www.flickr.com/groups/544453@N25/
• Cover Art by Chris Foss: http://www.flickr.com/groups/394945@N24/

The crossover between vintage ephemera and graphic design is reflected in interest in retro fashion patterns, design, and photography:

• Vintage Fashion Photography and Illustration: http://www.flickr.com/groups/1282632@N21/
• Vintage Bride: http://www.flickr.com/groups/vintagebride/
• Men's Vintage Sewing Patterns: http://www.flickr.com/groups/907853@N20/)

There is also interest in toys and nostalgia:

• Barbie, the Vintage Years 1959–1966: http://www.flickr.com/groups/vintagebarbie/
• Vintage Fisher Price Toys: http://www.flickr.com/groups/fisherprice/

Making collections of old photographs available represented a large area of activity on the site:

- Victorian Photographic Portraits of People: http://www.flickr.com/ groups/889472@N20/

In particular, there was interest in documenting the history of photography itself:

- Tintypes, ambrotypes, Wet-plate Collodion photographs: http://www .flickr.com/groups/wetplate/
- Cabinet Cards: http://www.flickr.com/groups/53056177@N00/
- Pioneers of Photography: http://www.flickr.com/groups/pioneersof photography/

There is no physical manifestation of the archive to complement the online collection because these collections are products of many anonymous contributors. Images can also be posted to more than one group at a time. Additionally, sometimes the people adding the image to Flickr do not own the actual item that is being depicted. An image of a book cover, comic, or bottle top is often enough for it to be added to the collection:

> The images were not all scanned by me, far from it: most images come from a variety of other digital sources, like CDs, websites, search results, eBay auctions, Amazon product listings, or big collections people have sent to me. As for the (images) I scanned, I mostly ordered books, and then had a scanning company rip apart the pages and scan the images. The main aim . . . is to be a bit of a "meta" collector, collecting . . . from all across the web and the real world and putting them into one single place for easy reference and for the joy of looking at. (Flickr User A)

Many of the collectors interviewed commented on their reasons for focusing on their collections and often the period they were interested in related very closely to when they were children:

> Being born in 1966, my sense of nostalgia for this era (mid 40's to early 60's) is likely due to several factors. As a child I fondly remember many of these signs, building, ads, etc. firsthand as they were still around and in good shape when I was very young. I also remember reading the magazines at my grandparents' house as they had decades worth of old Life and Saturday Evening Post's they saved. (Unfortunately those are long gone). (Flickr User B)

Various themes emerge as to why creators wished to make their image collections public: "I thought it would be nice to share my small collection. The graphics are amazing, showing what designers can do with limited funds, format and a lot of imagination" (Flickr User C).

All of the enthusiasts enjoyed finding an audience for their collections, sharing values with likeminded individuals in the online community, and

gaining a sense of recognition and pride through creating their resources. The digitization that is carried out is as a not-for-profit hobby. The interaction with other enthusiasts and viewers afforded by Flickr provides a sense of camaraderie. It often encourages rigorous debate between enthusiasts keen on properly documenting their chosen topic and stimulates interest from individuals willing to contribute to the collection. This brings with it a sense of pride and accomplishment:

> I'm proud to have connected many artists of the last "golden age" of illustration (or in the case where the artists have passed away, their surviving families) with a new appreciative audience that wants as much as I do to keep the memory of their work alive. This is something I'm passionate about and gladly make time for every day. (Flickr User B)

The range of comments suggest that it would be interesting to more fully study the psychology of collecting represented in these Flickr groups.

Benefits and Problems of Flickr as a Hosting Platform
Although there are many blogs that use Flickr for image storage but post content elsewhere, most collections have no other site than the Flickr group. Flickr has rapidly become the dominant source for all aspects of image-based culture, including pictures of specific items (e.g., book cover design, or graphic design in general) and pictures pertaining to specific topics (such as ephemera connected to the Second World War). Using Flickr has many advantages: first, it is a low cost way of hosting image-based material. Secondly, it is an easy, free, and intuitive place to post images online: "Flickr is a service/softwar (*sic*) that sits on the shoulders of many others. I've been online since 1998 and blogging regularly since 1999. Flickr is easy, that is all. Though I WILL NOT pay anything for the privilege of loading images to this advertising infested homepage" (Flickr User H). Thirdly, by engaging with the existing Flickr community, the collections can be presented to an already active online audience: "I use Flickr for image storage and as part of an online community of archivists of vintage imagery and my blog as a means of documenting my ongoing research/self-education, as well as a way of connecting with kindred spirits and to 'fish' for new information" (Flickr User B). And "I like looking at what other folks are posting, and the fact that the group already had a built-in audience are reasons for me joining versus creating a new group" (Flickr User E).

None of the creators interviewed were aware of any guidelines or procedures in creating traditional archival metadata for their collections, or indeed any guidelines for image quality and veracity:

> This is not a formal venue either. If it weren't being done as a hobby, but as a real exhibit then I would fully disclose any modifications. But Flickr is a dumping ground with few rules or guidelines and certainly no regulation or quality control for most groups. (Flickr User D)

Figure 1. Example of an image of a paperback book cover in Flickr, as part of the Pulp Fiction Pool (http://www.flickr.com/photos/24635180@N07/3245524517/). Note the basic metadata provided by the image creator ("By Martin Yoseloff…"), the notes integrated into the cover where users discuss the design, the tags ("vintage paperback book," etc.) and integration of the photo into other sets and pools ("This photo also belong to. . . ."), the user statistics (Viewed 294 times), and interaction with the community through comments.

Flickr's intuitive interface allows users to collect all available information regarding the object, book, item, etc. in a form that users can see and usually search. This is done by means of comments, notes, groups, sets, and tags and suggests what is an important additional benefit for using Flickr: the inbuilt functions provide basic "collections management" tools, allowing related information about the resources, a kind of "intuitive metadata" to be stored alongside the images and found and searched by users. Although this use of Flickr as a rudimentary "Image Management Database System" supplies the enthusiastic creators of noninstitutional digitization projects with a robust, connected platform, their lack of formal knowledge of technical and management standards will always work

against these resources becoming eligible for any formal funding for further digitization: "digitization is happening in communities that do not explicitly adhere to principles increasingly acknowledged as central to the success of publicly funded efforts" (Heath, in press). There is also often a hanging question of who owns the copyright to various images, adverts, and objects digitized and hosted by these amateur sites.

> Standard are irrelevant as the pictures I post I expect to be only of a quality to observe online, not download for print publication or posters. Copyright isn't an issue yet as my sharing these images is part of singing this song. I would take issue with anyone claiming copyright to a picture they didn't own. I have wallets and packets of photographs that I have been given . . . that have been handed down. (Flickr User H)

The robustness of the information provided by users is sometimes questionable. Often, not all possible available information is actually captured and provided as notes by the user. For example, pictures of book covers often neglect to provide author, publisher, date, and edition—essential information for any serious researcher on this topic. Tags assigned by users are free text and do not depend on any structured vocabulary. This can reduce their general usefulness. Nevertheless they are a best-case provision of basic metadata for resource discovery. In the example above, the tags would allow others searching for vintage books or paperbacks to find this particular cover through a basic search (although how helpful the tag "dangerous dames" would be is debateable). The type of information stored about images in Flickr is determined by its interface, and that interface does not match any existing metadata standards.

Those creating images for posting to Flickr are often active members of the relative online communities. They share and broadcast their groups and images with related individuals through forums, on blogs, and on other social media such as Twitter. This can be contrasted with the now traditional static "scan and dump" digitization approach undertaken by many projects within the cultural and heritage industries. Here once an institutional website is created, it is often left to its own devices, with little sustainability funding to allow for regular upkeep and maintenance. There is also a lack of the type of interaction with user communities necessary to attract and keep visitors, such as that described by the passionate individuals posting their collections to Flickr.

Usage Statistics

Cultural and heritage institutions are notoriously poor at reporting "evidence of use" of their digitized resources (Warwick, Terras, Huntington, & Pappa, 2008). It is suspected—and anecdotal evidence suggests—that many digital resources are seldom, if at all, used. In contrast, at the time the groups were studied on Flickr, they were community hubs for activity, featuring many users, regular updates, and active forum discussions.

Table 1: Contribution to Groups on Flickr

Name of Group	Members	Photographs	Discussions
Pulp Fiction	983	4192	16
Old Timey Paperback Book Covers	597	4238	15
Vintage Patterns	1599	12559	39
Smooth Smoke Slogans	464	981	16
The Great War Archive	277	2123	5

The statistics in table 1 reveal dedicated groups of individuals building up vast repositories of image-based material that can then be shared, discussed, and commented on (as well as tagged) by other interested users.

Many of the groups visited in this survey were proud of their usage statistics, hosting images on Flickr that had been viewed hundreds, if not thousands, of times. When queried, the creators interviewed were quick to produce evidence of the extent of the use of their digital resources, which many traditional memory institutions would envy: "I get a steady weekday visit average of 1,200 to 1,500 visitors per day to my blog. On weekends it drops to about 6–8 hundred per day. . . . I have had 3 and a half million views of my 'photos' on Flickr since I started by resource at the end of 2005" (Flickr User B). "Stats matter because they satisfy my ego . . . they are of interest" (Flickr User H).

All of the Flickr users provided examples where specific, detailed queries from interested researchers have been answered through use of their unique collections. The bulk of queries came from those interested in graphic design, ephemera, or who were working within advertising and illustration. But academic researchers also seem to be happy to turn to these amateur websites when they are the only—or best—source of information about the given topic: "I know it has been [used] on many occasions. I have been contacted regularly by students writing research papers, for instance" (Flickr User C). "Absolutely; in fact yours is the second academic project into the use of media that I've helped with this year. I have also been quoted in a government white paper, and contributed to quite a few academic papers and books" (Flickr User F). Private individuals who are engaging in providing high quality resources online are achieving high levels of online attention (Heath, in press). Many online resources created by cultural and heritage institutions do not foster the relationship between users and resource(s) in the same way that these Flickr groups do. Resource creators as we have seen are generally aware of usage statistics. They know who their specific audiences are and interact with them efficiently via social media, including Flickr but also via Twitter, blog comments, and e-mail. By being available to the readymade audiences provided by a platform such as Flickr, many of their resources are more visible and more used than stand-alone digital collections hosted in isolation on institutional servers: "While we may not have our collections

displayed in the virtual equivalent of the Smithsonian, we do have them in the virtual equivalent of Grand Central Station" (Flickr User B).

Pro-Amateur Creators

> I am a happy amateur, not a pro! (Flickr User G).

The contribution that amateurs can make to established culture is often derided. Information that amateurs contribute to the Internet is often perceived as containing "all the evils of the cultural world—plagiarism, lack of transparency, misleading or inaccurate information, even outright fraudulence" (Isaksen, 2009). The content provided by users of Web 2.0 platforms such as Flickr is often upheld as being inconsequential, or worse, reductive: "My joy in Flickr is in part contributing, and sharing and letting the world know that what I do exists or existed . . . however, Flickr is fast becoming some kind of landfil (*sic*) for crap pics." (Flickr User H). It seems obvious to use the term *amateur* to describe those who are creating their own digitized cultural and heritage content outside of institutional boundaries. This term, however, does not fully recognize the range of expertise and the amount of knowledge that the creators of these digital resources often have. Indeed, there may be academic scholars contributing to this activity as individuals. Nor does the term suggest respect for the community aspect of their enterprises and interests:

> Although lacking access to professional media networks, these amateur networks are viable subeconomies where . . . people gain a sense of expertise, deep knowledge and validation from knowledgable peers. In other words, these are expert communities, although not professionalized ones. (Ito 2006, p. 64)

Many of the creators producing these diverse Flickr groups were extremely self-motivated, enthusiastic, and dedicated, testing boundaries between definitions of amateur and professional, work and hobby, independent and institutional, and production and consumption.

The contribution and dedication of those shrugged off as "amateurs" has attracted comment. Leadbetter and Miller (2004), for example, have recommended the term "Pro-am" for them, meaning someone who "pursues an activity as an amateur, mainly for the love of it, but sets a professional standard." Robert Stebbins uses "serious leisure" (1992, 2001) in his seminal studies to describe committed amateurs working across various fields. He lists their perseverance, endurance over time, personal effort based on specially acquired knowledge, training or skills, personal experience, unique ethos, and strong identification with their chosen pursuit (1992, p. 6ff).

It is also worth considering the role that amateurs have played, and still play, in research. Many academic disciplines started as amateur pursuits. These include classics, math, black studies, astrophysics, oral history,

women's studies, and contemporary history. Many scientific developments that occurred in the nineteenth century, in areas such as meteorology, biology, and astronomy, were dependent on ranks of highly skilled amateurs prepared to carry out detailed observations and experiments (Finnegan, 2005, p. 10–11). Many museums and memory institutions themselves were founded by keen amateurs and collectors, gradually morphing over time into the institutional establishments of today. Indeed, the social history of knowledge can be seen as an interplay between establishments and outsiders, between official and unofficial research, study, and information (Burke, 2000, 51–52). Often, it is those outside established institutions that have taken the lead in exploiting new technologies. Metal detectors reinvigorated amateur archaeology, telescopes enabled astronomical research, binoculars transformed ornithological fieldwork, and cassette recorders encouraged language and dialect studies and the creation of oral and life histories (Finnegan, 2005). "Might the definitions and practices of knowledge be in any way reshaped in the technologies now deployed by many independent researchers—mutli-modal as well as verbal, electronic, broadcast, print?" (Finnegan 2005, p. 9).

Finnegan's question can be reframed in the context of this paper. Might the democratizing nature of Web 2.0 technologies allow a platform for us to reconsider collective and personal cultural histories? Given the groundswell of interest in creating online content, might we reconsider the potential quality and potential coverage of digital resources created by pro-amateurs (Keen, 2007; Shirky, 2008)? Might we reconsider how we make digitized cultural heritage accessible, in the light of the success of the pro-amateur, Flickr-based digitization movement? Can institutions adopt its successful tactics, to increase the use and usefulness of their collections?

Memory Institutions and Flickr
It would be wrong to suggest that memory institutions are not aware of Flickr. Many institutions are looking to websites such as Flickr and Twitter and setting up interactions that cross institutional boundaries. For example, the Smithsonian has joined the Library of Congress, the Powerhouse Museum, the Brooklyn Museum, and the New York Public Library in releasing hundreds of photos from their archives online—free of copyright restrictions—to The Commons on Flickr (See Kalfatovic, Kapsalis, Spiess, Van Camp, & Edson, 2008 for the Smithsonian contribution to Flickr; Dalton (2010) for the NYPL contribution; and Springer and Michel (2008) for the Library of Congress's approach).

Although users cannot actually add images to the Commons for this project, putting a subset of the collection on Flickr allowed the Library of Congress

> to identify how to manage the challenges of Web 2.0 participation; how
> to interact with users in ways that are less formal without diminishing

> the reputation of the institution; how to reconcile the inevitable loss of control over content with the recognition that we can significantly increase the reach of that content if people can access and interact with it in the communities in which they participate. (Springer et al., 2008)

The numbers of participating organizations in the Flickr Commons continues to increase (although there are issues with copyright for those outside the United States [Hampshire County Council, 2010]). Other institutions using Flickr (but not necessarily the Flickr Commons) include the Victoria and Albert Museum (n.d.), The Tate Galleries (n.d.), and the Alcuin Society (n.d.) (Saunders, 2008). Many of these institutions encourage users to tag images from institutional collections. Occasionally they invite users to upload their own content, such as pictures of the existing collections by participation in photography competitions on a given theme. A current (at time of writing) example of a museum asking for online interactions with its materials is a project run by the Science Museum to complement its forthcoming "Science of Attraction" exhibition. Members of the public are encouraged to upload images of themselves and their partner (Science Museum London, n.d.).

While it is seldom that people's individual objects and collections are treated as an extension of institutional collections that are drawn together via Web 2.0 technologies, there are some projects that have sought to interact with the general public on a more serious level. For example, the University of Oxford's Great War Archive (n.d.) is a forward-thinking project that has successfully asked the general public to come forward with ephemera related to the First World War to be included in the archive. The archive contains over 6,500 items contributed by the general public between March and June 2008. Contributions were received via a special website and also through a series of open days at libraries and museums throughout the country where help was provided in scanning and submitting personal artifacts and recollections. A Flickr group (University of Oxford, n.d., Flickr) has extended the collection beyond that of the funded phase, and there are currently 2,123 items in the Flickr pool.

The National Library of Wales worked with groups to create Community Archives Wales (http://www.ourwales.org.uk/) and to build up accessible collections of digital material collated and interpreted by community groups in order to present their community's history, thus giving them their own voice online. The BBC's WW2 People's War project (n.d.) invited members of the public to submit their recollections and images of World War Two to BBC's digital archive. A national campaign was launched for the project. It depended on volunteer assistance and on many libraries, museums, and other institutions to act as "associate centres" where stories could be gathered. The project collected 47,000 stories and 15,000 images between June 2003 and January 2006. Both these ini-

tiatives (which did not use Flickr but hosted content on their own websites) have reached out to areas of society that may not have the IT literacy or expertise to create their own digital resources. If projects such as these were extended into Flickr, would participation and use rise?

Such interaction with the general public is still rare. Little has been done to bridge the gap between noninstitutional pro-amateurs, their private collections of ephemera, and institutional collections and their online presence. In the successful outreach projects listed above, the institution's buildings and resources were used to encourage visitors to interact with and create their own digital resources (such as hosting scanning days or advice drop-ins). Providing dedicated digital outreach personnel who interact with the online community in the same way that the pro-amateurs do would also be a step forward in encouraging engagement with online institutional collections. It takes time to build up an online community, monitor and comment on Flickr accounts, and maintain and interact with Twitter feeds, etc. Until digitization projects (and their funders) realize that ongoing contributions from a dedicated outreach manager should be part of the digitization process, institutional collections will never have the same conversation with their audience as dedicated pro-amateur digitizers.

This has been reinforced by a recently commissioned report for the UK government's Joint Information Systems Committee (JISC), on "Digitisation, Curation and Two-Way Engagement" (Chris Batt Consulting, 2009). The report concluded that there is "a very wide range of projects, organizations and communities involved in activity. . . . However much of this activity is uncoordinated" (p. 4). The use of sites such as Flickr "means that in some projects rapid progress can be made to build and enrich collections. This can support sustainability and also innovative flows of new knowledge" (p. 4). Small scale projects appear to be flourishing, although there is "no mechanism" for bringing together the "body or practice and experience that has developed within the H[igher] E[ducation]/ F[urther] E[ducation] sector and beyond. . . . to share experiences and to develop common approaches" between institutions and the general public (p. 4). The report calls for coordinated work between the JISC's Digitisation Programme (which funds the digitization of institutional collections) and its Business and Community Engagement Programme. It stresses the role that community-related institutions such as libraries and archives can have in acting as conduits and enablers for the general public, local communities and further, and higher education institutions. In response to this report, JISC has recently announced a funding stream called "Developing community content," which will "build new digital collections, or transform existing collections through genuine co-creation with specific external communities" (JISC, 2010).

Future Areas of Research

The study reported here suggests that there are many further areas of research that would be fruitful to pursue. Investigation of the psychology of collecting in relation to the collection policies of institutions may provide useful insights into the different approaches personal and institutional collections take. Further discussion with creators and users of Flickr groups may more clearly identify than now which features and characteristics could be adopted most successfully by larger institutional websites. It would be useful to carry out a controlled experiment with various institutions that have not yet made use of Web 2.0 technologies to study the use of dedicated digitization outreach officers to integrate institutional digitized collections with the resources and communities available on sites such as Flickr and to ascertain what effect this would have on the frequency of use and the types of users of these collections. Traffic statistics could be collated and analyzed to examine the extent to which adopting these popular technologies encourage use of digitized collections.

Conclusions

Enthusiastic digitization by amateurs, a phenomenon previously ignored by information professionals, is providing a rich source of online cultural heritage content that often documents areas not covered by traditional institutions. These amateur collections might, as a result, form useful complements to institutional collections. Linking stand-alone institutional websites into websites such as Flickr, which have an inbuilt audience and encouraging the general public to contribute relevant material to institutional digital collections may provide a way to increase the use of digitized heritage content. Institutions need to learn how online communities function, and change their approach to their digital identity accordingly (e.g., building the role of "digital outreach officer" into digitization projects, which, although costly, has been an ongoing role that is mostly missing from institutional digitization). By acknowledging the contribution that pro-amateurs can make to online content, and integrating more closely with their user communities in the way that pro-amateurs do, memory institutions may be able to invigorate their online presence.

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