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New Media Society 2009; 11; 155
DOI: 10.1177/1461444808099580

new media & society

Los Angeles, London, New Delhi, Singapore and Washington DC
Vol11(1&2): 155–178 [DOI: 10.1177/1461444808099580]

ARTICLE

Wielding new media in Web 2.0: exploring the history of engagement with the collaborative construction of media products

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Abstract

This article explores what is new about Web 2.0, the contemporary cutting-edge platform for web development, differentiating between what is celebrated in the discourse of Web 2.0 and what is genuinely novel about this phenomenon, which is users' propensity to construct content in the form of information and media products for the web environment. It argues that, from the perspective of theoretical treatments of the 'active audience', audiences or media users have created media content on a long-term and consistent historical basis for purposes related to radical and community movements. The article further considers expressive and aesthetic dimensions of Web 2.0 content construction through a discussion of three historical case studies of 'participatory public art' which, it is suggested, constitute a useful analogy for understanding similarly oriented Web 2.0 content construction. Finally, it proposes topics

and questions that should figure prominently in research agendas addressing Web 2.0 phenomena in the future.

Key words

active audience • AIDS Quilt • Clothesline Project • invitational rhetoric • produsage • public participatory art • radical media • Ribbon Project • user-generated content • Web 2.0

INTRODUCTION

To have studied communication for the past 25 years is to have witnessed an explosion of new communication phenomena, enabled by the rapid development of increasingly sophisticated information and communication technologies. The ARPANET of 1969 gave rise to subsequent assembly of the Internet in the 1980s, creating a new conduit for transmitting information and for communicating. The debut of the World Wide Web in 1990, later made more accessible by the Mosaic graphical web browser in 1993 and its successors, produced a hyperlinked system of documents through which to present visual and verbal information, as well as the opportunity to connect users to a powerful range of information retrieval and analytic capabilities. These technological innovations and their associated software and hardware embellishments have had the combined effect of transforming the computer into a revolutionary new medium for interpersonal, group and mass communication and introducing users to a dazzling array of new communicative capabilities.

However, what perhaps has been most surprising and consequential about this succession of new technologies has been not so much what such innovations were originally designed to do, as what users have chosen to use them to accomplish. Marvin (1988) has shown us that new media practices do not follow inexorably from the material features of new technologies; instead, they are improvised on the basis of old practices that work differently in new contexts. In the early 1970s, for example, designers of the ARPANET computer network supported their work by writing software that made it possible to transmit textual messages between colleagues working at distant computer systems. Email was incorporated as a convenience for systems operators and computer scientists to facilitate database and other resource sharing, but its use subsequently by managers, researchers and ultimately many other types of individuals 'eclipsed all other network applications in volume of traffic' (Abbate, 2000: 107–8). The history of email has taught us that users may appropriate computer-mediated technologies and fashion them for their own purposes, which sometimes supersede or are at odds with the original purposes of designers.

Now the latest wave of innovation in computer-mediated communication technology is the introduction of the Web 2.0 platform, which has emerged since 2004 as the standard for cutting-edge web development (O'Reilly, 2005). Web 2.0 services and applications make possible more dynamic interactions between clients and servers, more engaging webpage displays and applications and ultimately more direct, interactive and participative user-to-user interactions than heretofore experienced on the web. Such interactions are possible because Web 2.0 applications enable users with little technical knowledge to construct and share their own media and information products, as they do, for example, on social networking websites. These applications also make it possible to pool the collaborative efforts of potentially millions of users, as in sites such as Digg (http://digg.com), which ranks news stories on the basis of users' votes; Amazon (www.amazon.com), which invites users to rate the service provided by book distributors and provide reviews of books that they have bought; and Wikipedia (www.wikipedia.org), an encyclopedia written by volunteers. Users even construct virtual worlds such as Second Life (www.secondlife.com), with their own systems of governance, currency and culture.

The popularity of Web 2.0 applications demonstrates that, regardless of their levels of technical expertise, users can wield technologies in more active ways than had been apparent previously to traditional media producers and technology innovators. Users build and maintain social networks, they tag and rank information in 'folksonomies' and become deeply involved in immersive virtual web experiences. They do all these things in collaboration, pooling knowledge and constructing content that they share with each other, which is subsequently remixed, redistributed and reconsumed. This burgeoning phenomenon suggests that users are gratified in significant ways by the ability to play an active role in generating content, rather than only passively consuming that which is created for them by others. What is not well understood, as sociologists Beer and Burrows (2007) have commented, are the motivations that drive this explosion of creative and collaborative activity.

Yet, as communication scholars have shown, the urge to create content for media is neither historically new nor confined to the development of new information and communication technologies (ICTs). Indeed, concurrent with the introduction of each new major media technology of the 20th and 21st centuries has been the rise of corresponding movements aimed at using the new medium in the service of personal, artistic, political or community objectives. Such has been the case with both radio and television and has been evident in the early history of computerized ICTs. Common to, and perhaps most visible in, cases of radical media as well as community radio, television and more recently community computer networking, is the idea that engagement with new media can be used to enhance the processes and

practices of democracy. However, there is also a persistent expressive and aesthetic dimension to the content construction of Web 2.0 beyond its purely instrumental force, which invites attention. On the one hand, while the history of oppositional and community media certainly embraces such dimensions, they have not been highlighted. On the other hand, collaborative creativity in the form of women's participatory public art projects might be seen as an interesting and analogous precursor to this dimension of Web 2.0 content construction.

This article considers what is new about Web 2.0, differentiating between what is celebrated in the discourse of Web 2.0 and what is genuinely novel about this phenomenon, with the ultimate purpose of drawing attention to questions that might constitute an agenda for communication research focused on phenomena related to Web 2.0. It begins by considering Web 2.0 from a technical and a social perspective in an effort to discern more precisely what is innovative about this particular phase of web development, which turns out to have more to do with users' propensity to create content for the web environment than advances in web technology. It goes on to explore the nature of 'content construction' and examines what this term means within the context of theoretical treatments of the 'active audience' and what such audiences do. The notion of the active audience has been central to understanding the nature of oppositional and community uses of media, and particularly the relationship between media activists within either movement and the audiences that they serve. It becomes clear in this analysis that 'audiences' have created media content on a long-term and consistent historical basis for purposes related largely to political and community communication.

The remainder of the article considers the expressive and aesthetic dimensions of Web 2.0 content construction and inquires about the nature of gratifications that might motivate users along these lines. It discusses the phenomenon of 'participatory public art', considering three brief case studies, in an effort to understand how individuals collaboratively engaged in content construction with aesthetic and expressive appeal might serve as a useful analogy for understanding similarly oriented Web 2.0 content construction. Finally, it proposes questions that we believe should figure prominently in a research agenda addressing Web 2.0 phenomena in the future.

WEB 2.0, CONTENT CONSTRUCTION AND THE 'AUDIENCE'

Tim Berners-Lee, inventor of the World Wide Web, has observed that from the perspective of innovative technology, Web 2.0 offers nothing radically new; the potential for a high level of participation and mass collaboration has been inherent in the web from its outset (Clarke, 2006; Laningham, 2006). However, certain technical refinements have made it possible recently for

users who are relatively unskilled from a technical perspective to interact with the web in ways that had been previously difficult. What Gillmor (2004) has called the 'read-write' web, for example, appeared toward the end of the 1990s, making it possible for users to create and edit webpages with no knowledge of HTML or web design programs such as Dreamweaver. This capability gave rise to the appearance of weblogs (blogs), a kind of online diary which has now replaced personal homepages as the web's basic vehicle for personal expression, and wikis, which enable numerous individuals to edit the same webpages while maintaining a record of changes and numerous other applications that incorporate web editing capabilities.

A further technical refinement, the 'Ajax' approach, combines the use of several well-known programming technologies, such as Javascript along with Cascading Style Sheets (CSS), Extended Mark-Up Language (XML) and the Domain Object Model, which together enable webpages to function as dynamically and fluidly as desktop software applications (Garrett, 2005). Ajax web applications, such as Google Maps, provide users with near-instantaneous abilities to interact with webpages without waiting for calls to servers for data or operations. The result is an experience that seems to occur in real time with 'the user … never staring at a blank browser window and an hourglass icon, waiting around for the server to do something' (Garrett, 2005).

Defining Web 2.0

However, while frequently associated with Web 2.0, these technical developments are not its essence (O'Reilly, 2006). Instead, Web 2.0 is a label coined by Tim O'Reilly and associates in 2004 (see Graham, 2005) to reference the transition of the World Wide Web to a new phase of use and service development. What O'Reilly (2005) identifies as 'just what we mean by Web 2.0' is the 'architecture of participation' created by web enterprises whose applications invite, facilitate, encourage or make it possible for users to interact, share knowledge and information with each other and construct content. O'Reilly (2005) distinguishes between Web 1.0 and Web 2.0 companies on the basis of whether they have 'embraced the power of the web to harness collective intelligence' by facilitating user-generated content and capitalizing on users' products for their own survival and profit. Applications such as Flickr (www.flickr.com), Craigslist (www.craigslist.com) and BitTorrent (www.bittorrent.com) improve as more users contribute images, information about themselves, information about their interpersonal or professional relationship and even the more casual act of inputting search terms (O'Reilly, 2006). Thus, Web 2.0 is not a particular technology or product licensed or for sale, but rather a business model – a 'way of architecting software and businesses' (Hinchcliffe, 2006) into companies that seek to prosper on the basis of user-created content. For example, some

applications, such as MySpace (www.myspace.com) and Facebook (www.facebook.com), exploit user-created communities of networked relationships through targeted marketing and advanced viral marketing techniques. Other applications, such as Amazon, offer user-generated reviews of the products for sale as well as buyer preference data to supplement their own marketing efforts.

Thus, Web 2.0 is founded on a radical reconceptualization of the user, from consumer of online products and information produced by companies to producer of online products and information that they share with others, including companies. The hallmark of Web 2.0 is that users are recognized now as practising

> a new degree of agency in constructing their engagement with resources and other users so that it is easy to form and interact with social and technological networks. Web 2.0 is *inherently* social so that users are central to both the content and form of all material and resources. (Hardey, 2007: 870; emphasis in original)

As Tapscott and Williams suggest: 'Whether people are creating, sharing or socializing, the new Web is principally about participating rather than about passively receiving information' (2006: 37).

Further, while social networking applications typically foreground the connectivity and relationships enabled between users, this obscures what is seen as more fundamental processes of collaborative content construction. Indeed, according to Hardey, 'it is the content provided by other users' (2007: 870) that is responsible for the popularity of the quintessential Web 2.0 applications Facebook and MySpace and other social networking sites. The user profile is the 'fundamental commodity of Web 2.0', according to Beer and Burrows (2007), as users simultaneously produce self-presentations for fellow users and consume profiles of fellow users.

Who constructs content and for what purposes?

Discussions of Web 2.0 center on the collaborative content construction activities of users, highlighting their willingness to manipulate information, manage social networks, create and share artistic products and engage in self-presentation and expression. Recently we have learned a bit more about who these users are and in what kinds of content construction they are most likely to engage. While a certain percentage of skilled users have always programmed or designed content and shared it with others, the genuine news about Web 2.0 may be the sheer magnitude of this avocation. As one might expect, teenagers constitute the largest demographic category of content creators and sharers, according to data compiled by the Pew Internet & American Life Project. Of all online teenagers, 69 percent, which translates to 59 percent of all teenagers, are content creators (Lenhart et al., 2007).

Teenagers blog, create their own webpages, share their original creative content and remix content found online into new products. Among the most popular categories of content creation are sharing personal artistic content such as artwork, stories, photos or videos and creating webpages for others. Further, content creators are distributed liberally across both genders. Of online teenage girls, 35 percent are bloggers compared with 20 percent of online boys. However, as one also might expect, not all teenagers enjoy the same opportunities to create content. The Pew data indicate substantially higher levels of content creation for online teenagers in families with higher ($75,000 annually) versus lower levels of income (Lenhart et al. 2007), suggesting that digital divide factors need to be taken into consideration.

Adults do not engage in all the same categories of content creation, still they are substantial content producers. Horrigan (2006) reports further data compiled by Pew indicating that 35 percent of online adults (48 million) have engaged in blogging, online journals, website creation for themselves or others or shared with online others their own artwork, stories, photos or videos. Much of the content created consists of artistic and expressive products such as artwork, photos, videos, stories, custom wallpaper and icons that are distributed within the context of social networking sites. As social networkers manage their friendship networks, they also share themselves through their profiles and the content that furnishes them (Lenhart et al., 2007).

User-generated content and Web 2.0

Thus what is novel about Web 2.0 is the now-widespread recognition and acknowledgement that users actively apply the affordances of new technologies in the service of their own creative and instrumental objectives, and that the desire to do so seems to be liberally distributed among those who are online. In response, media researchers are beginning to identify the features of Web 2.0 software and services that differentiate them from traditional predecessors, each foregrounding particular applications and corresponding user capabilities (Beer, 2008). On the one hand, Schiltz et al. (2007) suggest that 'social' software, as opposed to conventional software, integrates group interaction, enables groups to self-organize without imposing structure or organization, while at the same time presenting functionalities that are easy to learn and use. boyd and Ellison (2007), on the other hand, focus strictly on social network sites, where software enables the textual, visual and auditory customization of the user's profile, along with the articulation of a list of other users with whom connections are shared.

Although it is easy to see the value of these classifications, neither of them are completely adequate because content construction on the web takes place in so many different ways and in diverse contexts. Some content-construction

activities produce highly sophisticated software and information products, such as the community of software developers who create and maintain the open source Linux operating system, but do not use a specialized software environment to do so. Other forms of content construction draw directly on capabilities enabled by the software that users find on services such as Flickr or through wikis; some of these collaborations, such as Wikipedia, have produced enduring and cumulative products while other collaborations yield ad hoc and ephemeral outcomes. Still other content is created in offline venues and distributed by software that is seen as very much at the heart of Web 2.0, such as YouTube (www.youtube.com).

Despite these variations in the types of content constructed and purposes served, Web 2.0 advocates seem most energized by the potential to create novel and compelling business models. Tapscott and Williams celebrate the new 'weapons of mass collaboration' that inhere in Web 2.0 and

> allow thousands upon thousands of individuals and small producers to cocreate products, access markets and delight customers in ways that only large corporations could manage in the past. This is giving rise to new collaborative capabilities and business models that will empower the prepared firm and destroy those that fail to adjust. (2006: 11)

While they acknowledge that these collaboratively constructive capabilities may enable people to do some 'public spirited things' (2006: 12), clearly their interest is in how new product creation enables Web 2.0-based product development: hence the term 'wikinomics'. The challenge, according to Boutin (2006) writing in *Slate*, is to find a 'Web 2.0 play', which is 'a bid to make money by funding a bring-your-own-content site'. Of course, even that may not be necessary since the term itself has developed its own cachet, as Boutin suggests, when he notes that salesmanship

> is the key to understanding what the phrase *really* means. The new generation of dot-com entrepreneurs confer 2.0 status upon everything because they missed out on the boom times of Web 1.0. (Boutin, 2006; emphasis in original)

However, there is more to users' construction of content than opportunism and salesmanship. Similarly focused on economic considerations but without an apparent interest in business models, Bruns (2006, 2008) has coined the term 'produsage' to describe what he believes is a new form of production arising in the transition of media users from audience and consumers, under the regime of traditional media industry models, to 'produsers' enabled by new technologies, who now have the tools to share what they know, collaborate in communities of production and create entirely new information and knowledge. 'Produsers tend to collaborate' (Bruns, 2006: 3) because they are simultaneously consumers of content produced by others, which they then

use as raw material for their own content construction to be consumed and subsequently acted upon by others.

In contrast to Tapscott and Williams and others, Bruns' (2008) interest is not in how businesses can capitalize on the labor of produsers. Instead, his goal is to understand how produsers are able to engage in the creative and organized activity of 'collaborative and continuous building and extending on existing content in pursuit of further improvement' (2008: 2), exemplified by projects such as Wikipedia, the open-source software movement and *The Sims* (www.thesims.ea.com), in which content is produced by game players. While these examples of produsage are identified by Web 2.0 advocates as key exemplars, Bruns attempts to model the process of constructing content by proposing principles that explain how these activities are undertaken and what kinds of behaviors and conditions appear to be intrinsic to them. Bruns' work begins with the assumption that media users are active and have always been so; it is the structure of the media industry and related technology affordances that either constrains or enables users' propensity to create media products.

THE ACTIVE AUDIENCE AND CONSTRUCTION OF CONTENT IN RADICAL AND COMMUNITY MEDIA

Whether the basis for wikinomics or produsage, collaborative content creation is the *sine qua non* of Web 2.0 applications. However, although 'content creation' might appear to be a new term, it has deep industrial roots. The term 'content' itself, as Fortunato makes it clear, is derived from the mass-media industry, where 'the primary business of the mass media is to produce content – fill the broadcast hours, the print pages, the internet site'. (2005: xi). The business objective of mass-media organizations is to produce programming that will draw an audience and, on that basis, advertiser support; historically, this has been the formula for creating profitable mass-media organizations. Thus, when 'media users', previously viewed as 'the audience', seize the opportunity to create content for themselves, it is a genuine occasion for surprise, as well as high anxiety for some who wish (and need) to control content, and something to rejoice for others whose economic interests are advanced when content is created for them.

The active audience

In contrast, the idea of an 'active' audience is, of course, familiar to media theorists across the disciplines who have critiqued the media effects model, which casts the audience as passive recipients of messages transmitted by media and their subsequent consequences, intended or otherwise. The active audience has been central to reader-response literary criticism, which became popular in the 1970s and privileged the active participation of the reader in

shaping the meaning of a text through readers' interpretive acts. Indeed, debunking the objective meaning of the text, along with the author's primacy in creating and conveying that meaning, has been a central preoccupation of fields which have participated in the 'interpretive turn' of late 20th-century humanities scholarship. Fueled by the populist political movements of the 1960s and 1970s, as Harkin notes, 'the question "what happens when human beings encounter written texts?" was on nearly everyone's mind' (2005: 411). Since then, the concept of 'transactional reading', in which the readers and authors co-construct the meaning of a text, has become a standard assumption in cultural studies, queer theory, reception studies and media studies.

Cultural studies theory builds on reader-response theory's assumption of a direct involvement between audience and text by explicitly placing the act of reading in cultural and political contexts. Radway's (1991) classic analysis of women reading romance novels, for example, explores how the act of reading engaged women in escape, identification, interpretation, resistance and construction of personal environments. Thus the audience is actively engaged with the text on physical and psychological levels. Yet Radway at one point describes the romance community as a 'huge, ill-defined network composed of readers on the one hand and authors on the other' (1991: 97). Readers may develop alternate preferred story endings, for example, but prior to the Internet, those visions tended to remain their own. The interactive nature of participatory forums on television programme and fanzine websites, on the other hand, further blurs the division between reader/viewer and author, as participants share responses to the televised programmes, discuss each other's postings and suggest plotlines for future shows in addition to spinning out their own stories. These forums are reminiscent of Jenkins' (1992) early studies of the collaborative production of culture by fan communities, fanzines and fan videos. More recently, Jenkins (2006) has documented the increasingly pervasive tendency to construct media products in many domains, creating what he describes as a 'participatory culture' of 'consumption communities' that are networked, collaborative, mobilized in pursuit of common interests in popular culture and produce their own media products in a kind of 'grass roots creativity' enabled by the convergence of old and new media, which pre-dated the appearance of Web 2.0 applications, but is clearly supplemented by it.

Active media users in radical and community media

The concept of an active audience is integral to Downing's (2001) historical work on radical media, for radical media products are those created by individuals that use media outside of traditional commercial media enterprises to produce and distribute oppositional messages. Wishing to free the term of its 'marketing baggage', Downing viewed the 'audience' as 'media users rather

than as consumers, as active rather than uncritical and as various [audiences] rather than as homogeneous' (2001: 8). From this perspective, everyone has the capacity to use media to express oppositional messages, even though not everyone will necessarily choose to be oppositional or even expressive. A blurred line exists between 'active media users' and 'radical alternative media producers', such that:

> It becomes more productive to envision a kind of ascending scale in terms of logical complexity, all the way from interpreting mainstream media texts in liberating ways … through writing graffiti on billboards and culture jamming, to occasional flyers and posters, up to systematically organized and autonomous media production over extended periods of time. (2001: 9)

In this view, radical media producers represent the most active form of the active audience. Downing's (2001) work on radical media forms certainly establishes that historically, social movement activists have produced and distributed media content with a consistent and powerful presence, even though these efforts generally have been unacknowledged by mainstream media industries.

Other media users constructing content for their own purposes are community media producers, who may or may not express oppositional messages but are committed to achieving local and specialized purposes. Community media refers to relatively smaller scale forms of public communication, such as local cable television stations, low-wattage radio stations and community newspapers, which historically have served publics that reside within a specific and somewhat restricted geographic area. Those who have produced content for such media and those who have received it are members of the same community, and presumably share interests in the same range of topics and issues by virtue of sharing a common background (Hollander et al., 2002).

Although in many cases those who produce content for community media have somewhat specialized expertise and thus may play somewhat specialized roles in the administration of such ventures, it is also the case that ownership and control, including content production, are locally oriented and undertaken with significant involvement by non-professionals and volunteers (Jankowski, 2002). The overriding purpose of community media is to provide information and news relevant to the specific and potentially idiosyncratic needs of community members, enabling discussion and voice on topics that would have little or no commercial value for larger media organizations.

Thus, one finds frequent references to collaborative involvement between those who are involved with community media as a job or hobby and those who might be said to constitute an audience for such media. Girard, for example, characterizes community radio as aiming 'not only to participate in the life of the community but also to allow the community to participate in

the life of the station' (1992: 13). Since radio production requires comparatively little skill for producing shows, it is not uncommon to find descriptions of community radio stations such as that provided by Mohr (1992), in which schools, police, fire halls, the women's baseball league and others all get their own hour on the radio, and Aw (1992), who discusses the importance of providing those who generally play the role of listeners to have opportunities to contribute stories, riddles, skits and other messages and dialogue characterized by their own customs and cultures and in their own languages. Similarly, Bregaglio and Tagle (1992) view community radio as presenting the opportunity to train volunteer community members to acquire skills for producing programming.

With these examples of radical and community media establishing historical precedent for media users who generate content, it seems a relatively small step to move into the realm of content production for the Internet. Indeed, Villarreal Ford and Gil (2001), writing well before the advent of Web 2.0, saw the potential to combine and recombine media formats and social actors, for the audience to control production and for a more complete removal of the dichotomy between radical media activists who 'have functioned as reporter or documentarians, mediating news and analysis of current events ad social movements' (2001: 205) and other members of social movements who, through internet use, increasingly are able to speak for themselves.

Although these are not the Web 2.0 phenomena that receive the most attention, it is clear that such potentials are being realized in a variety of ways. The brief but compelling history of Indymedia (www.indymedia.org), a global network of grass roots news websites staffed by activist citizen reporters, has evolved in the last decade, guided and exhorted by the celebrated slogan to 'be the media' because 'media production and telling of stories is something to which all people should have access' (Pickard, 2006: 19). Do social networking websites present the potential for cultivating civic engagement? Byrne (2007) has found that discussions on Black Planet (www.blackplanet.com), a black social networking site, have focused on black community issues, which indicates a discursive level of civic engagement that has not yet moved to collaborative planning for action. We can expect to see a considerable amount of future research addressing what kinds of collaborative content are produced in social networking sites and other applications of Web 2.0, and whether they are directed to oppositional or community-oriented objectives.

The history of radical and community media has been forged within the limitations imposed by the economics of, and expertise required for, media production. Motivated by political and civic objectives, radical and community media users produced content despite these economic

disincentives and acquired the skills and equipment required to build television and radio stations or publish newspapers. However, now the increasing affordability of the means for media production, such as cameras, recording equipment, editing capabilities, software to manipulate images and audio and the collaborative and distributional affordances of Web 2.0 have turned the tables on what has been seen traditionally as a disjuncture between the media content producer and the audience. New web applications and services are more than a conduit for delivering information created by a few; now they are media for the collaborative creation of media products in which potentially all may participate.

In this milieu, the interesting research questions do not center on why users create media products or what motivates us to do so; it is in our nature to do so as active beings, as creative beings, as beings for whom media are extensions of our senses (McLuhan, 1994[1964]). The more interesting questions center on understanding what users will choose to do ultimately with these capabilities (economic, oppositional, community-oriented or otherwise), in what terms to define the success of their efforts, and what impact the opportunity for individual and collaborative expression will have on the evolution of communicative forms and character. It is also possible, of course, that collaborative content creation could veer more heavily toward expressive and aesthetic goals. The next section of this article considers how historically, collaborative artistic expression has allowed for the expression of a deeper and more meaningful range of subjectivity, in an effort to lay a basis for speculation about another possible future path for user-generated content in Web 2.0 applications.

CONSTRUCTION OF CONTENT IN PARTICIPATORY PUBLIC ART

The use of 20th-century media technology by communities and oppositional social movements form a historical precedent for the content creation and interconnectedness that is the essence of Web 2.0. However, interactive collaboration for community and political purposes is not limited to electronic technology; it can be seen in projects drawing on an even earlier domestic medium of textiles. We explore the parallels between Web 2.0 and three 20th-century American-based artistic and political efforts:

- the AIDS Quilt, which commemorates people who have died of AIDS;
- the Ribbon Project, which encircled the Pentagon in 1985 with four miles of panels representing personal losses envisioned in a nuclear war; and
- the Clothesline Project, which uses altered clothing to represent violence against women.

In each instance, the participants – content creators – express concerns, hopes and often outrage about social issues on fabric panels or clothing. The phrase 'participatory public art' is used often to describe community projects such as murals or playgrounds designed by an artist, with community members perhaps collaborating in the design and helping to create the final piece. The three projects discussed here may be viewed also as historical precedents to Web 2.0 content construction because the participants collaborate in creative design: the individuals who shaped sections often later became the audience for the completed work; and ongoing participation during and after exhibits often provided an opportunity for creators to explore their own work in the context of other pieces while 'viewers' created their own materials to be added to the exhibit. The similarities and differences among these examples suggest considerations for exploring Web 2.0 creations. Foss and Griffin's (1995) concept of invitational rhetoric is presented as one way to view participation in both physical and virtual projects.

The AIDS Quilt

Covered extensively at the time in mainstream media, the AIDS Quilt is the best-known of the three campaigns. The quilt originated in 1987 at San Francisco rallies organized to demand research on what was then known as 'the gay disease'. To challenge the invisibility of the problem, Cleve Jones and others spray-painted the names of dead friends on coffin-sized sheets that were hung on the sides of buildings along the routes of political marches. Jones later started the Names Project organization to coordinate collective displays of personal tributes. By selecting a quilt as the way to change the public' perceptions of AIDS and the people who had the disease, the project adopted a traditional woman's craft (Fitzrandolph, 1954; Orlofsky and Orlofsky, 1974) to establish and communicate warmth, gentleness and communal caring for people with AIDS. The quilt assembles 3ft x 6ft panels created by family and friends, working alone or in small groups, to commemorate someone they know who has died of AIDS. Many quilt panels, especially the early ones, are fairly plain, perhaps a name painted onto a single block of cloth, in keeping with its radical street origins. Later panels incorporate leather, sequins, paint and other media, in all imaginable colors and designs. Many include drawings, clothing, poetry and objects as diverse as human ashes, plastic flowers and 'Slurpie' cups.

The quilt is centrally organized: the Names Project owns submitted panels, constructs them into eight-panel 12ft x 12ft blocks, coordinates traveling exhibits and handles national and international publicity. The quilt has been shown in its entirety only four times, but sections circulate in the USA and internationally in continued outreach efforts. Beyond the visual and tactile

aspects of the quilt is an auditory piece, as each full exhibit included a ritual alphabetical reading of the names of people commemorated on it. Announcing rotates among volunteers who often add personal comments as they read the name of a friend or family member whose panel they have created. This reading of names often accompanies smaller exhibits of a few blocks. Each exhibit provides panels and pens for viewers to write their own messages, memories and commemorations. Thus 'viewers' at a display also may have been creators of panels and readers of names. The project's online quilt image database now holds pictures of more than 47,000 individual quilt panels representing more than 91,000 names, searchable by either quilt block number or by name as it appears on the panel (Names Project, 2007).

The Ribbon Project

In 1985, two years before the start of the AIDS Quilt, independently produced panels showing concerns about nuclear war were displayed collectively in a one-day 'ribbon' winding through Washington, DC. The Ribbon Project began in 1982 when Justine Merritt, a social activist and retired English teacher, coordinated a grass roots campaign asking people to create and send her 18" × 3" fabric panels showing what they 'could not bear to think of as lost forever in nuclear war' (Merritt, 1985: 11). Merritt hoped to gather enough panels to wrap a fabric ribbon around the Pentagon in 1985 on the 40th anniversary of the bombing of Hiroshima, as a 'gentle reminder' that people wanted peace. In a time when the phrase 'Nuclear Freeze' was on everyone's mind, the project's often-used label 'Nuclear Frieze' subtly acknowledged its relation to the history of public murals. Merritt's peace work became what may have been the first large-scale piecework, with the final ribbon joining more than 27,000 separate panels from around the country and the world. When unfurled by hundreds of volunteers, the 10 mile-long banner stretched from the Capitol, past the White House and the Lincoln Memorial to and around the Pentagon (Pershing, 1996). Although the Ribbon was shown in its entirety just once, panels were displayed in cities often prior to the event to stimulate interest in the project and awareness of its message. Unlike the AIDS Quilt, the panels are not stored centrally: after the 1985 enwrapment of Washington, a collection of panels was donated to Chicago's Peace Museum for exhibition and archival purposes; many others were distributed to organizations, churches and communities for local display. The website for Ribbon International (www.theribboninternational.org) indicates that the project continues its activism with a new theme of 'culture of peace' in honor of the United Nations' Declaration of 2001–10 as the 'International Decade for a Culture of Peace and Non-violence for the Children of the World'. While the site features information on public displays in Japan and elsewhere, a statement notes that to become a member, 'just

create and display a Ribbon, you have then symbolically joined with others world wide in creating and thinking in terms of care and protection of the earth and its inhabitants'. Thus the act of tying together one's panel with those of others is replaced by the act of envisioning one's work linked with those of others.

The Clothesline Project

The third example, the Clothesline Project, is probably less well known than the Quilt or Ribbon in part because it remains a loose network of community-based grass roots efforts. This project, started in 1990 by women on Cape Cod inspired by the AIDS Quilt, protests violence against women by encouraging abused women to portray their experiences on shirts which are then gathered and displayed on clotheslines temporarily hung in public areas such as shopping malls and office buildings. The shirt design is left up to each creator, with minimal requests: women are asked to use a shirt of durable fabric and if possible follow a color code to visually indicate the type of abuse: white for someone who died by violence; yellow or beige for battering or assault; red, pink or orange for rape or sexual assault; blue or green for incest or child sexual abuse; and purple or lavender for women attacked because of their sexual orientation. Some women whose experiences fit multiple categories make more than one shirt or use techniques such as tie-dying to incorporate two or more relevant colors in their designs (Ostrowski, 1994). The project is supported by a national office, but shirts created in chapters around the country remain in each chapter for regional display. Those displays often incorporate a background tape which sounds bells, whistles and alarms at intervals that match the frequency of different types of violence in America. Just as the clotheslines create a visual environment, the sounds create an audioscape for the exhibit and subtly underscore the Clothesline's message. While the Clothesline Project was inspired by and shares characteristics with the AIDS Quilt, it differs from the quilt in that most shirts are autobiographical rather than representations created of someone by others. thus the Project turns firsthand accounts of violence into collective representations of political disparity and physical abuse. When talking about autobiography, Sidonie Smith (1993: 396) notes that 'alternative histories … call for alternative forms of life writing'. In the Clothesline Project, that alternative writing involves not only words, but also visual elements such as drawings, embroidery and selection of shirt color.

Expressiveness and activism

These projects are similar to each other in obvious ways, but taken as a group also possess features analogous to more contemporary Web 2.0 features. As in social networking sites, for example, each project provides a participant with a

personal space (physical panel or shirt, virtual profile) for autonomous expressive design, often incorporating text, poetry, pictures, journal-like entries, artwork and other elements of personal meaning for the creator in ways reminiscent of the construction of personal space in MySpace described by boyd (2007). Individuals 'speak' in their own spaces, yet are the audience for the works of others and the collective exhibition. Designers become transformed by their actions; meanwhile, people who visit exhibits as 'audience' often participate as designers by creating their own works. The rhetoric of both creation and audience consumption, then, is one oriented to decentralized cooperative efforts rather than a centralized single vision.

A model proposed by Brown (2005) for analyzing a community's participation in art may help with considering the opportunities that a project offers for reciprocation between audience consumption and artistic expression. Brown presents five modes of creative control as expanding rings of a target, with 'inventiveness' the creative bull's eye in the middle, ranging outward from 'interpretive' acts of self-expression, 'curatorial acts' of selecting organizing and collecting, 'observational' arts experience that one chooses and 'ambient' arts experiences that are encountered unconsciously. The model helps us to see that observational participation with virtual or physical artwork may inspire viewers to create their own work. The impact of viewing a network of creations is obvious in displays of the AIDS Quilt. David Scott Allen, who coordinated the 1994 display of 100 squares at the New York State Museum Institute in Albany, NY, noted that some people who had sewn panels saw their work as part of a larger quilt for the first time at the Museum's exhibit: 'While the experience started out as a cathartic activity, as their panel gets added to the quilt, they see their panel and grief as part of a much larger issue' (personal interview with David Scott Allen, 4 March 1991). He also commented that in Albany, as in every location the quilt is displayed, many people not only created panels but also began to volunteer at the local AIDS Council after seeing the exhibit. The inventive act of creating a panel is the beginning of further action from the observational act of viewing the whole display.

Our increasingly participatory culture now permeates traditional art museums, where involving people in taking and sharing photos, blogging, voting and other activities may be contributing to increased attendance (Hockenberry et al., 2008). The ZKM Media Museum in Karlsruhe, Germany takes interactivity to a new level by blending participatory art and Web 2.0 capabilities. Visitors to the museum or anyone with an Internet connection can upload images which are manipulated and published with other user-supplied images. As the ZKM website explains:

> [D]uring presentation … a high-quality picture is taken with automatic and synchronised cameras, new images are virtually created as participatory art images. The project goes further than Flickr: it does not only network the data

> of digital cameras as participatory images, but also the cameras itself and with them their physical and artistic context, place or space. (ZKM Media Museum, 2008)

A ZKM platform supports the creation of distributed 'mikrogalleri.es' in locations beyond the museum. The museum's website supplies directions for creating a display of Internet images that can be projected at remote locations and on the Internet. As ZKM proclaims, this

> network of participatory production is a further step from 'user generated content' to 'user created/shared media,' a preview to the new generation of the web: the Internet of Things. (ZKM Media Museum, 2008)

Thus the very nature of independent expressions shifts again, from the static forms of physical creations through the virtual spaces of social networking profiles with fluid, individually controlled changes in content and linkages, to individually produced artwork that leaves the individual's control to be manipulated and reimaged in the process of its distribution.

The rhetoric of broad 'audience' participation can be viewed as one oriented to decentralized cooperative efforts rather than centralized single vision, and empathy rather than persuasion. The three cases of participatory public art, for example, were created with explicitly political purposes, yet do not call for any specific desired action. Although the messages on many panels may be angry and explicitly political, the displays themselves are decidedly peaceful. Pershing (1996) notes that the non-confrontational nature of the Ribbon Project provided panel creators – often but not always women – with a safe way to express resistance in a form that valued their expression, honored traditional women's crafts and inspired self-esteem. Their approach of collecting, juxtaposing and valuing everyday items echoes an artistry labeled by Meyer and Shapiro (1977–8) as 'femmage' because of the historic involvement of women in creating materials such as scrapbooks, photo albums and quilts. By inviting individuals to design and submit art, the organizers suggested that individuals could speak of 'unspeakable' topics (whether fears of nuclear war, the emotional impact of AIDS or the battering done behind closed doors). In creating their designs, individuals valued and voiced their subjective realities. As with Web 2.0, people who otherwise might feel powerless are able to express their ideas in an easy, comfortable medium, encouraged by the thought of joining their pieces with those of others. Viewers in turn negotiate the collection of individual sections, shaping their own meaning from the chorus of various voices.

Invitational rhetoric

The concept of 'invitational rhetoric' may explain better the communicative aspects of participatory public art projects such as the Ribbon Project, AIDS

Quilt, Clothesline Project and perhaps even those to be found in the future in Web 2.0 projects. Introduced by Foss and Griffin (1995), invitational rhetoric offers an alternative to what they call the 'patriarchal bias' of defining rhetoric as persuasion. The proposed rhetoric is 'grounded in the feminist principles of equality, immanent [or intrinsic personal] value and self-determination' (1995: 2). Such rhetoric represents an invitation to understanding' by offering alternatives rather than solutions, exploration rather than confrontation, and consideration rather than control. As Foss and Griffin state, the goal of invitational rhetoric

> is the understanding and appreciation of another's perspective rather than the denigration of it simply because it is different from the rhetor's own. The result of the invitational rhetor's stance toward the audience is a relationship of equality, respect and appreciation. (1995: 6)

In short, rather than encouraging domination or persuasion, the approach enhances social interaction.

The central ideas of equality and valuing of subjective experience are evident throughout the participatory public art campaigns. For example, each component of these three projects, whether created by children or adults, celebrities or unknowns, receives equal space. Designers have complete artistic control over that space, with the results illustrating a wide range of personal experience, concerns and artistic skill. The core importance of multiple subjective and artistic expressions demonstrates the commitment to the uniqueness and intrinsic value of each person's thoughts and experiences. The refusal by the artworks and their organizers to advocate any specific action also values the viewers' perspectives. This is consistent with Foss and Griffin's vision that in invitational rhetoric,

> perspectives are articulated as a means to widen options – to generate more ideas than either rhetors or audiences had initially – in contrast to traditional rhetoric, where rhetors seek to limit the options of audiences and encourage them to accept the one [the rhetor] advocates. (1995: 12)

In creating conditions of safety, value and freedom for both communicator and audience, invitational rhetoric diminishes the need, and perhaps the opportunity, to distinguish between the two roles.

CONCLUSION

This article has considered the term Web 2.0, inquiring into its origin and meaning, and found that it is associated with a set of motivations for business advantage, pinned on what is seen as the novel idea of user-generated content. Just as users appropriated the technology of electronic mail for their own purposes in the early days of the Internet, Web 2.0 users have seized on

the opportunities presented by new media technologies to create media content for their own purposes, producing an array of evocative projects and new media forms. Web entrepreneurs are most excited by the economic potential; for media technology scholars, the payoff centers on gaining more knowledge and insight into the nature of media use, together with the kinds of messages that are created. From a disciplinary perspective, it is not the active media user that is new; historically, active media users have accomplished radical and community-oriented purposes through the construction of media products organized in support of social movements and community initiatives. However, new media technologies now enable vastly more users to experiment with a wider and seemingly more varied range of collaborative creative activities.

What is the nature of the collaboration that takes place? How is the knowledge possessed by individuals pooled in collaborative efforts that appear to function without a central authority or coordinator? What are the forms and degrees of participation that bind individuals in these collaborative activities, and how do they learn these particular practices? Earlier, this article called attention to Bruns' (2008) efforts to understand the nature of what he calls 'produsage', the information and knowledge products that are its outcomes, the practices by which it is constituted and the conditions under which it flourishes. This work suggests that we should engage in more systematic efforts to identify, describe and interrogate a broader array of user-generated content, with the expectation of continued surprises in the configuration, formats and purposes reflected in these products, and seek to understand users' experiences as creators and as collaborators in their use of media. It is not too soon to glimpse the possibility of making qualitative comparisons of the processes of produsage with those that characterize 'consumption communities' and 'grassroots creativity' described by Jenkins (2006).

While waxing and waning over time, the idea of radical and community use of media technology seems to be reborn with each new media technology innovation. Across radio, television, earlier forms of computing technologies, members of community or oppositional movements – that is, lay people or hobbyists who adopt and use media technologies outside their normal employment – deploy these technologies to create their own media products, serving their own community goals and political objectives in spite of, or in opposition to, the objectives of corporate media. It is possible to see the widespread embrace of new socially enabled web applications as extensions, elaborations or perhaps exaggerations of these historic and persistent tendencies. Only time will tell whether Indymedia-type services and other lay journalistic efforts to 'be the media' for civic and political purposes will grow in popularity and access.

At the same time, Web 2.0 content construction has an especially personal expressive and aesthetic component, similar to that illustrated in the participatory public art projects presented here, which cannot be subsumed fully under either of the concepts of radical, oppositional or community media. Yet, as the Pew data on content construction indicate, these more artistic and personal purposes comprise a substantial component of Web 2.0 content construction activities. Indeed, as Web 2.0 unfolds, it is possible to expect to see even more examples of collaborative art projects, such as the recent '*Man with a Movie Camera*: The Global Remake' (http://dziga.perrybard.net/), in which viewers are invited to upload their own video clips to a website that archives, sequences and delivers submissions to a worldwide video montage that reinterprets the original 1929 film by Dziga Vertov, *Man with a Movie Camera*.

What new forms of messages will be expressed through Web 2.0 content construction? The invitational aspects of Web 2.0 may help to explain the rapid adoption of the technology by girls and young women who are, as the earlier reference to Pew data indicates, the most avid adopters of blogging. Thus, teenagers use Web 2.0 technology to speak, connect, communicate, and build a community of peers. Invitational rhetoric may be the most appropriate analytical tool for probing the development of participatory culture (Jenkins, 2006) and the skills that need to be imparted for creating

> a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations and some type of informal mentorship whereby what is known by the most experienced is passed along to novice[s]. (2006: 4)

The Ribbon, AIDS Quilt and Clothesline Project provide a precursor to this type of participatory culture. One challenge for us as communication teachers is to find ways to help students – especially young women – to value their familiar collaborative, artistic, non-confrontational communication while learning a range of other communication approaches. Another challenge for understanding Web 2.0 is to develop models that effectively address communication which has no single author or group of authors and no easily defined message. As with these examples of participatory public art, Web 2.0 content construction negotiates a philosophical and rhetorical space somewhere between the modernist view of the independent individual and the postmodern view of the 'death' or myth of the individual. Invitational rhetoric may offer one way to understand better that space and its virtual representation in the interconnectedness supported by Web 2.0.

While Web 2.0 is heralded often as a revolutionary technology, this article has described two types of historical precursors to its central focus on collaborative content construction: radical and oppositional uses of media and

participatory public art. The challenges ahead are to explore the economic, political, rhetorical, aesthetic and expressive implications of these newly-constructed media products, while simultaneously developing appropriate ways to educate its practitioners.

References

Abbate, J. (2000) *Inventing the Internet*. Cambridge, MA: MIT Press.

Aw, E. (1992) 'Lessons from A Little-known Experience: Radio Candip', in B. Girard (ed.) *A Passion for Radio*, pp. 39–43. Montreal: Black Rose Books.

Beer, D. (2008) 'Social Network(ing) Sites … Revisiting the Story So Far: A Response to danah boyd and Nicole Ellison', *Journal of Computer-Mediated Communication* 13(2): 516–29.

Beer, D. and R. Burrows (2007) 'Sociology and, of and in Web 2.0: Some Initial Considerations', *Sociological Research Online* 12(5), URL (consulted March 2008): http://wwww.socresonline.org.uk/12/5/17.html

Boutin, P. (2006) 'Web 2.0: The New Internet 'Boom' Doesn't Live Up to its Name', *Slate*, 29 March, URL (consulted September 2007): http://www.slate.com/id/2138951

boyd, d. (2007) 'Why Youth (Heart) Social Network Sites: the Role of Networked Publics in Teenage Social Life', in David Buckingham (ed.) *MacArthur Foundation Series on Digital Learning: Youth, Identity and Digital Media Volume*, pp. 119–42. Cambridge, MA: MIT Press.

boyd, d. and N.B. Ellison (2007) 'Social Network Sites: Definition, History and Scholarship', *Journal of Computer-Mediated Communication* 13(1): 210–30.

Bregaglio, A. and S. Tagle (1992) 'The New Wave', in B. Girard (ed.) *A Passion for Radio*, pp. 180–7. Montreal: Black Rose Books.

Brown, A. (2005, 14 June) 'Presentation of Neighborhood Survey Results for Philadelphia–Camden Cultural Participation Benchmarking Project' (PowerPoint presentation), URL (consulted August 2008): http://www.authorstream.com/Presentation/Churchill-29187-ASBpresentation-14jun05-copy-Methodology-Neighborhood-Map-talk-ask-framework-thinking-partici-as-Entertainment-ppt-powerpoint/

Bruns, A. (2006) 'Towards Produsage: Futures for User-led Content Production', in F. Sudweeks, H. Hrachovec and C. Ess (eds) *Proceedings: Cultural Attitudes towards Communication and Technology 2006*, pp. 275–84. Perth: Murdoch University.

Bruns, A. (2008) *Blogs, Wikipedia, Second Life and Beyond: From Production to Produsage (Digital Productions)*. New York: Peter Lang.

Byrne, D.N. (2007) 'Public Discourse, Community Concerns and Civic Engagement: Exploring Black Social Networking Traditions on BlackPlanet.com', *Journal of Computer-Mediated Communication* 13(1): 319–40.

Clarke, G. (2006) 'Berners-Lee Calls for Web 2.0 Calm', *The Register*, 30 August, URL (consulted July 2008):http://www.theregister.co.uk/2006/08/30/web_20_berners_lee/

Downing, J. (2001) *Radical Media: Rebellious Communication and Social Movements*. Thousand Oaks, CA: Sage.

Fitzrandolph, M. (1954) *Traditional Quilting: Its Story and its Practice*. London: Batsford.

Fortunato, J. (2005) *Making Media Content: The Influence of Constituency Groups on Mass Media*. Mahwah, NJ: Lawrence Erlbaum.

Foss, S. and C.L. Griffin (1995) 'Beyond Persuasion: A Proposal for an Invitational Rhetoric', *Communication Monographs* 62(1): 2–18.

Garrett, J.J. (2005) 'Ajax: a New Approach to Web Applications', *Adaptive Path*, 18 February, URL (consulted August 2008): http://www.adaptivepath.com/ideas/essays/archives/000385.php

Gillmor, D. (2004) 'We the Media: Grassroots Journalism by the People, for the People', *O'Reilly Media*, URL (consulted April 2008): http://oreilly.com/catalog/9780596007331/

Girard, B. (1992) *A Passion for Radio*. Montreal: Black Rose Books.

Graham, P. (2005) 'Web 2.0', November, URL (consulted September 2007): http://www.paulgraham.com/web20.html

Hardey, M. (2007) 'The City in the Age of Web 2.0: A New Synergistic Relationship between Place and People', *Information, Communication and Society* 10(6): 867–84.

Harkin, P. (2005) 'The Reception of Reader-response Theory', *College Composition and Communication* 56(3): 410–25.

Hinchcliffe, D. (2006) 'Dion Hinchcliffe's Web 2.0 Blog', *Social Computing Magazine*, URL (consulted September 2007): http://web2.socialcomputingmagazine.com/the_state_of_web_2.0.htm

Hockenberry, J., A. Udoji, L. Duran and M.E. Williams (2008). 'Art: Off the Walls, Onto the Streets', WNYC radio program, *The Takeaway*, 6 June, URL (consulted August 2008): http://www.thetakeaway.org/archives/2008/06/06/6

Hollander, E., J. Stappers and N. Jankowski (2002) 'Community Media and Community Communication', in N. Jankowski (ed.) *Community Media in the Information Age*, pp. 19–30. Cresskill, NJ: Hampton Press.

Horrigan, J.B. (2006) 'Home Broadband Adoption, 2006', *Pew Internet & American Life Project*, 28 May URL (consulted June 2008): http://www.pewInternet.org/pdfs/PIP_Broadband_trends2006.pdf

Jankowski, N. (2002) 'The Conceptual Contours of Community Media', in N. Jankowski (ed.) *Community Media in the Information Age*, pp. 3–16. Cresskill, NJ: Hampton Press.

Jenkins, H. (2006) 'Confronting the Challenges of Participatory Culture: Media Education for the 21st Century', *MacArthur Foundation*, URL (consulted April 2008): http://digitallearning.macfound.org/site/c.enJLKQNlFiG/b.2108773/apps/nl/content2.asp?content_id={CD911571–0240–4714-A93B-1D0C07C7B6C1}andnotoc=1

Jenkins, J. (1992) *Textual Poachers: Television Fans and Participatory Culture.* New York: Routledge.

Laningham, S. (2006) 'developerWorks Interviews: Tim Berners-Lee', *IBM*, 22 August, URL (consulted September 2007): http://www.ibm.com/developerworks/podcast/dwi/cm-int082206txt.html

Lenhart, A., M. Madden, A.R. Macgill and A. Smith (2007) 'Teens and Social Media', *Pew Internet & American Life Project*, URL (consulted April2008): http://www.pewInternet.org/pdfs/PIP_Teens_Social_Media_Final.pdf

McLuhan, M. (1994[1964]) *Understanding Media: The Extensions of Man*. Cambridge, MA: MIT Press.

Marvin, C. (1988) *When Old Technologies Were New*. New York: Oxford University Press.

Merritt, J. (1985) 'Introduction', in Lark Books Staff and M. Philbin (eds) *The Ribbon: A Celebration of Life*, pp. 11–13. Asheville, NC: Lark Books.

Meyer, M. and M. Shapiro (1977–8) 'Waste Not, Want Not: An Inquiry into What Women Saved and Assembled', *Heresies* 1(4): 66–9.

Mohr, L. (1992) 'To Tell the People', in B. Girard (ed.) *A Passion for Radio*, pp. 23–38. Montreal: Black Rose Books.

Names Project (2007) 'Quilt Facts', *The AIDS Memorial Quilt*, URL (consulted April 2008): http://www.aidsquilt.org/quiltfacts.htm

O'Reilly, T. (2005) 'What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software', *O'Reilly Media*, 30 September, URL (consulted October 2007): http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

O'Reilly, T. (2006) 'Levels of the Game: The Hierarchy of Web 2.0 Applications', *O'Reilly Radar*, URL (consulted September 2007): http://radar.oreilly.com/archives/2006/07/levels_of_the_game.html

Orlofsky, P. and M. Orlofsky (1974) *Quilts in America*. New York: McGraw-Hill.

Ostrowski, C.J. (1994) 'The Clothesline Project: the Construction of Self by Women Survivors of Violence', paper presented at the Northeastern MLA 25th Annual Convention, Pittsburgh, PA, April.

Pershing, L. (1996) *The Ribbon around the Pentagon: Peace by Piecemakers*. Knoxville, TN: University of Tennessee.

Pickard, V.W. (2006) 'Assessing the Radical Democracy of Indymedia: Discursive, Technical and Institutional Constructions', *Critical Studies in Media Communication* 23(1): 19–38.

Radway, J. (1991) *Reading the Romance: Women, Patriarchy and Popular Literature*. Chapel Hill, NC: University of North Carolina.

Schiltz, M., F. Truyen and H. Coppens (2007) 'Cutting the Trees of Knowledge: Social Software, Information Architecture and their Epistemic Consequences', *Thesis Eleven* 89(1): 94–114.

Smith, S. (1993) 'Who's Talking/Who's Talking Back? The Subject of Personal Narrative', *Signs* 18(2): 392–407.

Tapscott, D. and A.D. Williams (2006) *Wikinomics: How Mass Collaboration Changes Everything*. New York: Penguin.

Villarreal Ford, T. and G. Gil (2001) 'Radical Internet Use', in J. Downing (ed.) *Radical Media: Rebellious Communication and Social Movements*, pp. 201–34. Thousand Oaks, CA: Sage.

ZKM Media Museum (2008) 'What Is mikrogalleri.es?', URL (consulted August 2008): http://mikrogalleri.es/about

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