Networked Creators
How users of social media have changed the ecology of information

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Abstract

The rise of bloggers, social networkers, Twitterers, and other social media participants has created an explosion of information and new forms of cultural contributions. As assessors and curators of media – old and new – librarians are especially confronted by the new challenges these changes march through their communities. This paper will document the changes, discuss the new kinds of communities that social media users create, and point out several fresh roles that librarians can play in serving people in the new information ecology

The online world is as varied as people are varied in their moral views, their economic circumstances, and their social structures. Still, there are certain classes of actors who have shaped the internet into something that is especially hospitable to an emerging class of citizens that sociologist Barry Wellman and I call "networked individuals."[i] They are modern citizens whose lives have moved away from the social patterns and behaviours of their ancestors that centred on tight-knit social groups such as families, villages, and workplaces that provided the vast amount of social and emotional support for people. We maintain that networked individuals operate in looser and bigger social networks where they act more independently to get social and emotional support and gather information to help make decisions. This paper argues that the internet and smart phones have enabled networked individuals to create information and media that help them influence others, navigate their options, and create new kinds of communities. Moreover, using new tools of social media such as blogs, social network sites, Twitter and a host of other social media applications, these content creators are reshaping the very environment of media and information itself.

Eminent internet analyst Manuel Castells has identified four cultures whose involvement and interactions on the internet have fashioned the essential character of the online world.[ii]

Techno-elites: They incorporated the ethic of open scientific and technological development into the internet's protocols and constantly affirmed a values system that rewarded improvements in the technology. "The culture of the internet is rooted in the scholarly tradition of the shared pursuit of science, of reputation by academic excellence, of peer review, and of openness in all research findings, with due credit to the authors of each discovery," Castells wrote.[iii]

Hackers: Castells maintains they are the programmers who contribute to upgrading the internet through work not tied to corporate or institutional assignments. He says hacker culture's central value was articulated by MIT programmer Richard Stallman as "free speech in the computer age" and later had its meaning expanded to become, "Freedom to create, freedom to appropriate whatever knowledge is available, and freedom to redistribute this knowledge under any form and channel chosen by the hacker." That could serve as the credo of networked individuals.

Virtual Communitarians: If hacker culture provided the technical and political foundation of the internet, Castells maintains it was the early builders of online communities. Early online communities shared a commitment to two values: First, they cherished "horizontal, free communication" often standing opposed to culture defined by corporate mass media and large government bureaucracies. Second, they upheld "self-directed networking. That is, the capacity for anyone to find his or her own destination on the Net, and, if not found, to create and post his or her own information, thus inducing a network."

Entrepreneurs: They were the ones who moved the diffusion of the internet into society at large. "The foundation of this entrepreneurial culture is the ability to transform technological know-how and business vision into financial value, then to cash some of this value to make the vision a reality somehow," said Castells.

Wellman's research and work done at the Pew Research Center's Internet & American Life Project suggest that another culture has arisen in recent years to stand with those early influential groups cited by Castells. We call it the *participatory class*. It is made up of the internet users who create and share material online. The most active in the participatory class are creating what William Dutton of the Oxford Internet Institute calls a Fifth Estate in civic life. Citing the concept of networked individualism, Dutton notes that the internet reconfigures users' access to information, people and other resources and that allows them to "move across, undermine and go beyond the boundaries of existing institutions" to seek and enforce new levels of institutional and personal transparency.[iv]

The contours of content creation

Roughly two-thirds of adult internet users who have created material for the web. At Pew Internet such things are measured as follows[v]:

- writing material on a social networking site such as Facebook: 57% of internet users do that
- sharing photos: 37% of internet users do that
- contributing rankings and reviews of products or services: 30% of internet users do that
- creating tags of content: 28% of internet users do that
- posting comments on third-party websites or blogs: 26% of internet users do that
- posting comments on other websites: 26% of internet users do that
- using Twitter or other status update features: 19% of internet users do that
- creating or working on a personal website: 15% of internet users do that
- creating or working on a blog: 15% of internet users do that
- taking online material and remixing it into a new creation: 15% of internet users do that with photos, video, audio or text

It has been difficult for Pew Internet to keep track of all the ways that people can create content for an audience bigger than another person and even more difficult to find general descriptions of content creation activities that people will accept in the kind of phone surveys that Pew Internet conducts. So there are no consistent readings over time in Pew Internet surveys that would give a clear picture of how the number of media creators has grown over time. It is safe to say, though, that the number of those who use the internet to "broadcast" or even "narrowcast" to an audience of several people or more has gone from less than a tenth of the population in the late 1990s to well over half the entire population in the early part of 2010.

It is also safe to say that these tools have added vast new social reach for networked individuals. They have helped networked individuals reconfigure the structure of their social networks and they way they can act in those networks. In doing so, these "social media" activities have also reshaped patterns of influence in the world. Non-credentialed amateurs can now participate in many of the arenas that used to be limited to recognised and sanctioned experts.

The size of the mediasphere where people are telling stories, giving personal testimonies, contributing their ideas, and interacting with others has vastly expanded. Moreover, participation itself in the online world creates a distinct sense of belonging and empowerment in users. Pew Internet consistently finds that online participators – those who contribute their thoughts, rank and review material, tag content, upload pictures and videos – are at least a fifth of internet users on a range of subjects. For instance, 37% of internet users have made their own contributions to news coverage. Some 18% of online Americans have used social media tools to participate in politics. Some 20% of e-patients have contributed health-related content. Finally, 19% of internet users have posted civic and political material. They are the most active and engaged with their subjects and those are the most important precursors of personal influence.

One of the main impacts of these new social media tools is that they allow all kinds of individuals and groups to expand their voice and extend their reach. At the same time, there are also qualitatively new kinds of social arrangements that are arising in a media environment in which it is so easy to create and share thoughts and pictures. Through content creation, networked individuals can expand the strategies they use to be socially engaged and have their needs met. The creation of personal media, in other words, is a networking activity. As a consequence, there are several new kinds of activities that have become popular thanks to the growth of social media: 1) networked individuals can produce content online that helps them expand their social network and increase their social standing by building an audience; 2) they can use social media to create social posses to solve problems; and 3) they can construct just-in-time-just-like-me support groups through telling their stories and building archives or links to others' content.

A new social network layer – the audience

The act of creating media – text, photos, audio, artwork, or video – can be construed in many ways. For some digital creators, content creation is a simple act of memory making much the way traditional photo albums were constructed. For others, making and sharing media is a signpost of friendship and communication. Then, there are those who create material so that they can learn and explore. Finally, there are content creators who want to advertise themselves, reach out to strangers, show their technical prowess or create material for a wider audience than their immediate social circle. It is this latter group that is using the internet and smart phones to blaze a new course in social networking because they are adding another layer to their networks: spectators. The social currency this new network layer provides to content creators is pretty valuable: The currency is validation, reputation enhancement, feedback, and, perhaps at times, crowd-sourced social support. Of course, audience members can be crude and obnoxious, too, and that is a deterrent for at least some to being media makers.

To see what this means to content creators, look at the case of a mother named Janet and her daughter Maddie who made a "channel" in YouTube they call "Beyond Reality."[vi] Maddie is a now 19-year-old girl who characterises herself as a "future filmmaker" on her YouTube page. Her mother clearly went along for the ride in order to encourage her daughter and share some time together.[vii] From New York, starting

in 2006, the mother-daughter team created videos in which they summarised and chatted about current reality-TV shows such as *Survivor*, *Big Brother*, *Beauty and the Geek,* and *Top Chef*. By the start of 2010, they had created over 300 videos that they uploaded to YouTube. Collectively, those videos had been viewed more than 3.8 million times, their channel had been accessed more than 450,000 times, and they collected more than 3,900 subscribers who were alerted when new videos were posted.

Scholar Patricia G. Lange profiled the mother-daughter team in a report compiled by those working with the John D. and Katherine T. MacArthur Foundation. She noted that they had relatively sophisticated "branding" hallmarks in the programs. For instance, they always sit in front of a graphic with the name of the show they are discussing in their video. Janet sits on the viewer's left-hand side and Maddie on the right. They banter in the style of Hollywood-show anchors might use in a network broadcast. One of their fans has even done compilations of their reviews and commentary. As Lange described it, the mother-daughter team watches a reality show together, each taking notes, and they then discuss how they will describe and critique the TV show. After the video is posted, Maddie acts like a networked individual by alerting others on YouTube, posting bulletins on MySpace, and alerting friends via instant messaging. The teenager often subscribes to popular YouTubers so that other people will see her channel icon and potentially check out her work. Many of the subscribers to her channel apparently connect to her in hopes of getting a link and a shout-out because they are YouTube channel creators themselves. "As a rule [Maddie] agrees to automatically accept friend requests because her major purpose on YouTube is to network to promote her work," Lange reported.

What advantages confer on content creators because they can easily participate in online spaces like YouTube? The MacArthur Foundation team led by Mizuko Ito concluded several things about the value of media-making and online participation after a massive multi-year research study of teenagers and young adults[viii]: First, content creation was a method by which people negotiated friendship, status and identity issues. Second, the act of media making produced spaces where people built their social networks among local friends and among those who shared their interests, even if at first those people were strangers who did not live nearby. Third, content creation activities were informal and powerful learning occasions where people could acquire and share knowledge. Fourth, social media creations are a prelude to greater glory as some users see their creations become popular, even relatively famous. Maddie's YouTube portfolio helped her realise her wish to get into a topflight film program at New York University. The MacArthur scholars spotlighted scores of other stories of social media participants who gained the respect of experts and built a following that validates especially good creations.

To catch a thief: a social posse in action

A second new kind of social activity afforded by social media is illustrated by what Toronto-based internet strategist and columnist Jesse Hirsh has called a "meta-mob." He has written occasionally about a meta-mob of car enthusiasts who tried over many months to stop a car-parts thief.[ix] In April 2009 the thief struck in a parking lot of Toronto's Yorkdale Mall. While the victim was at work, someone stole a

specialised front bumper-lip from his car, an Acura TSX. Cleverly, the thief used his own car to block what he was doing. The victim went to mall security, got video of the crime, but because the thief took the plates off his car, and there were no witnesses, the police said there was nothing they could do. So, the victim turned to the TSXClub.com site, a forum for Acura TSX owners. He started the thread in the early hours of May 21, 2009.

Almost immediately, Hirsh continued, the group settled on a suspect. One of the discussion group's members recognised the car in the security video as being almost identical to photos of a car posted by another user of the site. "At first people were hesitant to point fingers, but when the user tried to defend himself with a poorly written reaction, intense scrutiny started to fall on the suspect," Hirsh wrote. The meta-mob began to examine the user's history and found a connection between the suspect and the victim. A few weeks before the theft of the bumper lip, the victim had posted a "help wanted" ad for his workplace and the suspect had asked what hours the store was open. The group began to think that by asking about the store's hours, the suspect felt he could safely strip the car when the victim was working. Hirsh noted: "Once this connection was identified, a frenzy ensued.[x] Many of the users on the site were also users on other forums and recognised a pattern. Within hours, multiple accounts on multiple sites were linked to the same suspect who had been accused of stealing cars and car parts and reselling them via these forums and all these various aliases…. Ironically, one of the real tell-tale signs of the connection between all these accounts and identities was the language and writing style used by the suspect, which included poor grammar and spelling."

Hirsh wrote that the meta-mob believed that the suspect's case fell apart when they accessed a photobucket.com account he used to post images to all kinds of auto enthusiast forums. "The suspect was using the photobucket account to host images of the allegedly stolen parts he was selling on the various sites", noted Hirsh. "By looking at the web address URL and then details of the photos, people were able to identify his license plate, house number, and even photos of him." Rather than giving up or confessing, the person then created a new account under a new name, and via that new account confessed to the crime, as an attempt to divert scrutiny from photo accounts that were under suspicion, Hirsh continued. "However, [the suspect] used his same computer to create the new account, thereby having the same internet address and browser information, linking this posted confession to all [his] other accounts. A day later, after realising how totally stupid that was, he removed those posts. But by then it was too late. The group had their guy."

After the internet forensics were complete, and group members were convinced they had their man, the first thing that emerged were image mashups of the alleged thief, mostly making fun of him. Soon thereafter, users combed over Google Maps using the pictures of his car in front of his house and information that it was in Richmond Hill neighborhood and eventually they were able to identify his address by recognising it in the satellite view, Hirsh wrote. And then more information was unearthed: "They were able to identify his mom and where she lives, his grandmother and where she lives, his sister, her employment, and some of his past crimes, including the fact that he is currently driving even though his license is suspended." This was then followed by suggestions that all members of all auto clubs in the Toronto area show up at the purported thief's house. Some started

talking about the violence they would like to inflict upon him. On his end, the targeted suspect continued to post on the site and reply, escalating the violent rhetoric.

Hirsh ended this telling of the story by noting that on May 27, six days after the first postings, the thread on the Acura TSX fan site was closed by site administrators. The suspect's account was closed and his computer's internet address was barred from accessing the site. That did not end the matter, though. Other members of the site launched a petition seeking a police investigation – and rounded up several dozen signatories.[xi] For weeks afterwards, people continued to post items about sightings of the suspect, his new license plate numbers, and pictures of him.

It was not just the style of the mobilisation that was fascinating. It was also the way this group did research and posted material using "old" content-creation technologies tools such as discussion boards and new tools like Google maps and picture-uploading. Networked individuals in these situations are creators and sharers as well as investigators. They network by creating content or finding it elsewhere and passing it along to the tribe that has gathered around their work. One way they stand out from community-builders in the past is that they do not have to depend on their direct access to friends or even friends of friends to get out the word about a project that galvanises them. They simply convene with those who are connected even if they are complete strangers to each other. The posts on the Acura discussion board make clear that few of them actually knew each other. Yet they still felt a sense of common purpose in the hunt. They performed networking activity merely by the act of searching for content and posting what they found and staying at least moderately vigilant and a person they felt was a threat to their community.

Building a community resource: The just-in-time-just-like-me world of online support groups

A different kind of grouping that also depends on user-generated material is illustrated by online patient support groups and there is no better illustration of a patient's initiative to build a powerful resource online for others than Karen Parles. Her story was documented by my colleague, Dr. Tom Ferguson, and Ferguson's friends after his untimely death in 2006.[xii]

Parles was a research librarian at a New York art museum until January 1998, when she learned she had advanced lung cancer. "My doctors told me my cancer was incurable, that even with chemotherapy I had only a year or so to live," she recalled. "I'd never smoked, I have two great kids, and I was only 38. So the whole thing came as quite a shock. I was pretty overwhelmed at first. But as soon as I could, I went onto the internet, looking for information. I'm pretty good at finding things online. But even so, I had a hard time locating all the information and people I needed. There was great stuff out there, but it was scattered across dozens of different sites. There was no comprehensive site that provided links to all the best online information for this disease…. I found a great support group, the Lung-Onc mailing list. The patients on the list answered my questions, suggested useful sites, and gave me a lot of invaluable support. I cannot overemphasise the importance of their help in coping with my disease and its treatments. My membership in the group provided instant access to the wisdom and experience of hundreds of other lung cancer patients."

A friend told Parles about a surgical team at Boston's Massachusetts General Hospital that was developing a new treatment for her type of cancer. "I went to Boston to see them and I was pretty impressed," she told Ferguson. "But having a lung removed by an unproven procedure still seemed pretty frightening, so I shared my fears with my Lung-Onc friends. I heard right back from eight or ten others who'd had a pneumonectomy. They assured me that I could do it and encouraged me to give it a shot." Parles's story is an example of how use of the internet allows individuals to assemble their own networks as needed. Pew Internet research has found that people gain a special sense of personal efficacy and enhanced social connectedness when they contribute material online, especially when it comes to health-related searches and exchanges online and when users are politically active.[xiii]

The continuation of her story after she recovered is an illustration of another consequence of content creation and aggregation. When she felt better, Parles pondered her good fortune: "I'd found my life-saving treatment by a combination of Net-smarts, luck, and personal contacts. Others might not be so lucky." So, she decided to create an online resource just for lung cancer, a single, centralised site where patients could find links to everything they needed to help them get the best possible medical care, a place where they could learn to manage their disease in the best possible way." The site, Lung Cancer Online (www.lungcanceronline.org), went live in 1999. Without any great fanfare or frill, the site lists and describes the best sites about lung cancer. Visitors find guidelines and databases to help them locate the top-rated lung cancer specialists and the best medical centres for each type of lung cancer. They will also discover practical advice and survivor's stories, up-to-date information on the latest clinical trials, and guides to the best bibliographic databases, medical libraries, conference proceedings, and medical journal articles. Further, the site refers visitors to a variety of online support groups.

For years, visitors to the site also got access to Karen herself. "Because I'm an experienced lung cancer survivor, I've found that many patients and family members want to interact with me personally, by phone or e-mail or in person," she told Ferguson. "So in addition to keeping my site up-to-date, I spend many hours each week helping other patients, sharing my story, and providing hope and encouragement." Many of the patients who have come to rely on her counsel and Web site refer to Karen as their mentor, their role model, or their hero.

Even in the earliest days of her site, a surprising number of physicians were sympathetic. "The work Karen does and the site she has created are extremely important contributions to the field," said lung cancer specialist Roman Perez-Soler, M.D., Associate Director of Clinical Oncology at New York University's Kaplan Cancer Center.[xiv] After he discovered Karen's site, he phoned to ask for a meeting to express his pleasure. "Karen's site has become an important resource for all of us concerned with lung cancer – patients and professionals alike," Perez-Solar reported. "She helps us all keep up-to-date on the best online links, the best medical centers, the best treatments, and the latest research. Because she's a patient herself, she knows how to emphasise certain topics that clinicians may consider secondary but are very important to the patients because they affect their quality of life."

Ferguson once asked her why she devoted 30 or more unpaid hours a week to maintaining her site and helping other patients? She replied: "I ask myself, 'Do you really have something to do that's more important than helping and comforting a terrified fellow-patient who's just learned they have the same deadly disease I do?' I treasure the e-mails I receive, thanking me and saying how much I've helped. When people say, 'If it weren't for you, I'd be dead—or severely depressed'—well, that's gratitude on a whole different level."

Parles eventually succumbed to lung cancer in early 2009, eleven years after she was given less than a year to live. Naturally, many of the thousands of people whom she helped found a way to create their own online tributes to her. On a CaringBridge site set up by the family to keep well-wishers informed about Parles, the guestbook is full of testimony about how she and the aggregation site she created made a difference in people's lives.[xv]

The theme of the patients who posted material on the site is how important it was that Parles's story or other stories on her site so closely paralleled their own. This is the special power of just-in-time-just-like-me connections. When people are suffering or searching, they strongly prefer connection with those whose circumstances are most similar to theirs, rather than those who have general empathy. People attach a singular authority and appeal to those who have gone through precisely the same circumstances or whose experiences match theirs.

When it comes to understanding the power that social media can have in people's lives, media scholar danah boyd has an incisive description. She says they are "writing themselves into being."[xvi] This process obviously has special meaning to the many people like Parles whose online creations help them create meaning out of distressing events in their lives and participate in specialised communities that tie to their concerns. People like these are a particular breed of networked individuals because they use social media to connect with others whom they find – and who find them – through online searches and other networking behaviour. Often, these communities are ad hoc and constructed around quite remote and lose ties. Yet these ties also can provide crucial social support sometimes because of their very particular circumstances.

Identity, privacy, and reputation management in the digital age

The explosion of social media have compelled people to think in new ways about their identities and the degree to which personal information disclosed through blogs, social networking sites, Twitter, photo-sharing sites and the like allow them and others can keep track of each other. Another word for this is "surveillance."

When people share their thoughts, stories, daily activities, and media consumption habits in social media, they leave digital footprints that are easy to follow and amass in ever-growing, ever-more-revealing profiles. For many, the act of "narrowcasting" their lives has blurred or even obliterated the traditional boundaries between private and public space. The once "private" domain inside a person's home is now publicly visible if she blogs, or regularly updates her status on Facebook, or Tweets about what she is reading or listening to or eating or feeling about her work colleagues. Monitoring the semi-private lives of social media creators is often expected.

By the same token, actions that once felt like "private" events – e.g. sending an email to a friend or a small-scale "public" action such as allowing your picture to be taken at a party – can "go viral" and become public occurrences. One example: *New Yorker* writer Ben McGrath described the suffering of a law student who was a summer associate at a major New York law firm. One day, after a leisurely lunch, the student wrote an email to a buddy:

> I'm busy doing [nothing]. Went to a nice 2hr sushi lunch today at Sushi Zen. Nice place. Spent the rest of the day typing emails and bulls****** with people. Unfortunately, I actually have work to do – I'm on some corp finance deal, under the global head of corp finance, which means I should really peruse these materials and not be a [slacker] ….
> So yeah, Corporate Love hasn't worn off yet…. But just give me time.

At the bottom was his name and contact information. Several hours later he sent out another email.

> An apology
> I am writing you in regard to an email you received from me earlier today.
> As I am aware that you opened the message, you probably saw that it was a personal communication that was inadvertently forwarded to the underwriting mailing list. Before it was retracted, it was received by approximately 40 people inside the Firm, about half of whom are partners.
> I am thoroughly and utterly ashamed and embarrassed not only by my behavior, but by the implicit reflection such behavior could have on the Firm.[xvii]

In addition to making seemingly private activities publicly visible, social media have changed the atmosphere of many public places. The once "public" domains of parks, downtown shopping areas, and public transportation have been colonised by "private" chatter on sometimes quite intimate matters that takes place on cell phones. The Chicago-focused website "Gapers Block" asked users in early 2005 to report the best cell phone conversation they had overheard.[xviii] The list included a probable pimp riding the train to one of his prostitute's homes, telling her not to lie to him about how much money she had collected the previous evening and trying to sweet-talk her into having sex that evening. Another conversation overheard on the train was of a woman telling her friend about a recent visit to the gynecologist: "[H]e told me I had beautiful ovaries." Still another poster to the site reported that the worst phone calls to overhear involve romantic breakups: "I've only ever seen women getting dumped via cell phone on the train and they're crying but trying to hold it back and it's sad." Then there was the Chicago El rider who lied to a caller, "Sorry, I can't help you out, because I'm in New Orleans right now."

In a related phenomenon, there are those who have no wish to have private matters about themselves disclosed to a broad audience, yet still find themselves the subject of widespread public attention because of what others said about them online. That was certainly the case with Philip Smith, the president of the Broadway production firm, The Shubert Organisation, who in 2008 was the object of a number of videos posted online by the woman whom he was divorcing Tricia Walsh Smith. The first was called "One More Crazy Day in the Life of a Phoenix Rising from the Ashes." In

it she says the two of them never had sex because her older husband complained of high blood pressure, but she claims she found Viagra, condoms, and porn and called his office assistant while the video camera was rolling to ask what she should do with sex-related paraphernalia. Walsh-Smith also described the couple's prenuptial agreement and the $500,000-a-year "pension" she was supposedly guaranteed upon her husband's death.[xix] More than 3.7 million people saw the video and others in which she elaborated her charges that he was not treating her well. Alas, the tactic backfired in legal terms. She eventually got a tongue lashing from the judge hearing the case, who wrote in his final divorce judgment: "The posting of the defendant's first YouTube video was a watershed event in this marriage, elevating what was still primarily a private dispute into a public spectacle." The elder Smith, "has been publicly humiliated and embarrassed to an unprecedented extent."[xx] The case was settled in mid-2008, but in early 2010 was still under appeal from Ms. Walsh (who had reverted to her maiden name). In marketing terms, though, she revived her acting career to a degree because of the storm her videos created. Her first creative splash came with a music video she called "Bonkers."

In short, this new world of content creation creates new contexts for communication often far different from those intended by the original participants. As media scholar danah boyd argues, contexts collapse. Intimate conversations between two people can now easily become public spectacles. This is all the more amplified because this content has a long shelf life. It can be found days, months, years after the fact by Google, especially if it is has been stored in the Internet Archive.[xxi]

For networked individuals all this online disclosure and deliberation have sharply increased the degree to which people are visible online. In a national survey in September 2009, Pew Internet found that 77% of internet users had used search engines or other search strategies to see if there was material about them online and 55% had found at least something about themselves. Among all internet users,

- 42% know a picture of them is available online
- 33% know their birth date is listed online
- 31% know their email address is listed online
- 26% know their home address is listed online
- 23% know that something they have written is listed online
- 22% know the groups or organisations they belong to are listed online
- 21% know their home phone number is listed online
- 12% know their political affiliation is listed online
- 10% know a video of them is available online
- 44% of employed internet users know the name of their employer is listed online
- 12% of the internet users who have cell phones know their cell number is listed online

Even more striking is the fact that growing numbers of internet users know they can check up on others online. The "sousveillance society" is growing as people monitoring and search for others online. Some 69% of internet users reported searching for someone online, up from 30% in 2001 and 53% in 2006:

- 46% had searched for someone from their past or someone they had lost touch with
- 44% had searched for someone whose services or advice they were seek in a professional capacity like a doctor, lawyer, or plumber
- 38% had searched for friends
- 30% had searched for family members
- 26% had searched for co-workers, professional colleagues, or business competitors
- 19% had searched for neighbours or people in their community
- 19% had searched about someone they just met or someone they were about to meet for the first time
- 16% had searched for people they were dating

What do they search for? Contact information (69%), social network site profile information (48%), photos (43%), information about professional or career accomplishments (36%), personal background information (27%), public records related to things like real estate transactions, divorce proceedings or bankruptcies (27%), whether someone is single or in a relationship (17%).

Overall, these users had mixed reactions about the meaning of all this searching: By a 49%-40% margin, Americans agreed with the statement that it bothered them that people "think it's normal to search for information about others online." Internet users (50%-40%) and even those with broadband at home (50%-41%) agreed that it bothered them. By even more lopsided margins, all those groups agreed with the statement that it is "not fair to judge people based on the information you find online." All Americans felt that way by a 74%-18% margin, while internet users went 81%-15% on that question and home broadband users agreed by an 82%-13% margin. Perhaps this is because the heaviest internet users know the limitations of the personal information that is available on line. In this survey 67% of internet users said they did not worry about the information that was available about them online. It is also likely that people are comfortable with this amount of disclosure about themselves because they enjoy the experience of it. Only 4% of internet users said they had bad experiences because embarrassing or inaccurate information was posted about them on the internet, compared to 95% of internet users who said that had never happened to them.

All this matters because digital media allow all those on the grid to track others. It increases their awareness of others – even their very weak ties – and that likely changes the way they behave in their networks. It gives them a better sense of the people who might help them address a problem because these disclosures and revelations point to the professional and personal competencies of those in their networks. Such enhanced awareness also gives networked individuals more information than they might otherwise have about such things as the political views, the cultural tastes, the friendship circles, the basic lifestyle preferences, and even the daily activities of those in their networks.

How all this user-generated content is changing the media landscape

In addition to serving the needs of networked individuals, the rise of social media has also changed the character of the overall media environment. The most dramatic evidence of this comes in the content analysis research of the Pew Research Center's Project for Excellence in Journalism.[xxii] In most of the weeks of 2009 starting on January 19, the Project produced an index of the major news stories covered by the traditional news media and the top topics that were discussed and linked in the social media universe. In the traditional News Coverage Index (NCI), the Project looked at the stories that got the most prominent coverage in 55 major news outlets in five industry sectors: network TV news, newspapers, cable news, radio news, and online news sites (including the sites of newspaper, cable, and TV and radio stations).[xxiii] In the New Media Index, which the Project calls the New Media Index (NMI), the Project uses the link analysis done by the tracking firms Icerocket and Technorati to look at the most linked-to topics in social media in a week.[xxiv]

Side by side, these indexes show strikingly divergent universes of coverage and commentary. The things that gained the most attention among bloggers, Facebook profile users, news recommender sites such as Digg and Reddit were not often the same as the things that dominated the news agenda of the traditional news media. In the 44 weeks of overlapping coverage of both indexes, only 30% of the stories that were covered most extensively in any given week by the traditional media made it to the list of the top five stories that gained links from the blogosphere and other social media sites. In a majority of those weeks only one news topic was similar in each realm. Moreover, even when the topics aligned, the treatment of them was very different. News media organisations focused on new developments in their stories. In contrast, social media creators did several more personal and visceral things in their creations. Often, they proselytised about the meaning of those developments, as when President Obama's massive stimulus spending package was being debated. Other times, social media creators gave personal testimonies in reaction to the developments, especially events like the death of pop music star Michael Jackson.

Beyond those elements in framing and tone, the social media world had strikingly different news sensibilities from traditional news organisations. There were three weeks in 2009 when the social media and traditional news worlds did not significantly overlap at all. An examination of one of those weeks gives compelling examples of how the news tastes of each realm differ and the tone of the coverage and commentary diverge.

The week of March 30-April 5

Three major economic stories dominated traditional news media coverage of the week: an economic summit among developed nations in London that was aimed at coordinating global policies to recover from the financial meltdown; continued problems in U.S. banks that were highlighted when Federal Reserve Board Chairman Ben Bernanke spoke of his reluctant support for the 2008 bailout of investment house Bear Sterns and insurance conglomerate AIG, and the problems with the U.S. auto industry that were highlighted when the White House forced the dismissal of General Motors CEO Rick Wagoner.[xxv] The fourth major story for traditional media involved a shooting rampage at an immigration centre in

Binghamton, New York that left 13 innocent people dead and the killer dead, too. And the fifth story involved President Obama's attempts to gain support among America's NATO allies to provide more troops for the war in Afghanistan. Of course, the economic summit was a set-piece news event that drew the highest-ranking journalists among the broadcast networks – all of the anchors were on-scene to report events. The formality of the venue also drew news-coverage seekers to the event. Anti-globalisation protestors gained a fair amount of coverage. In addition, sidebar stories to the event, such as Michelle Obama's reputation in Europe, were part of the coverage of the news entourages who descended on London.

By contrast, the blogosphere and other social media outlets could not have much cared about the summit or any of the other stories on the mainstream media list. Bloggers and other social media creators are not "on scene" and obliged to cover topics. They are distributed and more distant observers of news. This gives them more room to range over subjects and choose where they want to link and comment. The most discussed and linked-to story of this same week on the New Media Index was not even a real story – or an American story. As an April Fool's prank, the *Guardian,* a British newspaper, said it would end its print edition and use the popular online communications site Twitter to draw attention to its stories.[xxvi] While bloggers got the joke, it gained attention because some felt the phony Twitter story offered genuine insight into the huge economic and technological changes transforming the news business. The attention given this story also highlighted a trait of social media creators. They love practical jokes. Earlier in the year, the New Media Index had registered high levels of linking to a report in Foxnews.com about hackers in Texas who broke into a traffic-control room and digitally altered road sign so that it warned of a "zombie attack." The index also had high scores for a small BBC report about a British lad who painted a 60-foot penis on the home of his parents' house that had gone unnoticed for a year. Writing about the penis stunt, Yasha had at *Heeb Magazine*, an online journal that permitted user contributions, explained: "It's these little things that make life's hiccups – a bleak economy, climate change and missing an episode of Gossip Girl – just a bit more bearable." Yasha said she had been sent a link to this story and that underlines one of the common traits of stories that take off among social media creators. They are passed around a lot and gain velocity after a critical mass of internet users find them funny or otherwise valuable.

That same week, the second-largest story in the New Media Index questioned the effectiveness of torture as a technique for gaining intelligence information. Bloggers, especially liberals, focused on a March 29 *Washington Post* report that the harsh interrogation techniques used on al-Qaeda suspect Abu Zubaida yielded no useful information and gave fodder to those who opposed the use of such methods by the United States. This highlights a common element of stories that gain high levels of attention in social media: If they address hot-button issues that matter to a portion of the blogosphere, they are found and passed around quickly. Generally, those in like-minded tribes can easily share information. Often, it is well-trafficked bloggers who provide the spark for links and viral pass-arounds of stories. In this case, liberal media blogger Dan Gillmor's favourable post on the story was one of the sparks of its eventual popularity. This same phenomenon was clearly what was happening on the fourth story most popular story of the week. It was a collection of striking pictures on Boston.com that showed buildings all over the world participating in Earth Hour

2009, an observance where people turn off lights to highlight issues of climate change, another favourite subject in the liberal quarter of the social mediasphere.

The third most linked-to story of the week was a mix of Hollywood and politics. It also represented the mirror of the previous story because it was especially circulated among conservatives. Actress Angie Harmon, in an interview those who cover celebrities for Fox News, said she was tired of having to defend herself against charges of racism because she opposed President Obama. This story got a special lift among conservatives when the Sarah Palin blog cited it thusly: "Support Angie Harmon. She is smart, beautiful, talent, and not afraid to stand up for her beliefs! Angie Harmon is an endangered species – A Republican in Hollywood."[xxvii] Citations like this from key influencers are often the drivers that take a story into the highest reaches of the content creation world.

Very few weeks in the New Media Index top five stories would be complete without a story that seized the attention of technology-focused creators. This week there was a report in the *New York Times* about a vast spy system that had already infiltrated computers in 103 countries. Social media creators are overrepresented among technophiles and the technologically adept. They are particularly attuned to stories about tech breakthroughs or tech problems and that interest will often drive a story to the top of the charts in the New Media Index because this cohort makes up a disproportionate share of the social media population.

Overall, the PEJ's yearlong analysis of traditional news coverage and social media creation illustrated how tastes and topics differed in each domain. Among new media creators, science and technology developments often far outpace national policy debates. For them, clever pranks are more frequently cited than details of war. Second- and third-tier celebrities often gain more attention that global icons. Interesting and quirky stories gather a bigger audience than stories about consumer product recalls. Social issues that are followed by fervid believers gather more conversation than bread-and-butter economic concerns. The social media world is built on reaction to the traditional media world, but it often focuses on special, small corners of that world, rather than the weight of the subjects that are covered by traditional media. Major news outlets like the BBC, New York Times, and CNN start the conversation and link-fests in the social media space, but it is not necessarily top-of-the-newscast, or above-the-fold placement that drives the conversation. The social media world is a place where:

- A small university's decision to prevent obese students from graduating is more noted than war-fighting in Afghanistan[xxviii]
- A study about the length of time it will take golf balls to decompose – 100 to 1,000 years, the authors said – gains more traction than news about unemployment and the first major criminal trial of financial fund managers at a firm that got a federal bailout[xxix]
- Global warming is a more avidly followed story than health care reform[xxx]
- A phishing scam that compromised email accounts as people were induced to share their passwords with a fraud far surpassed captured a much bigger audience than stories about fraud in the Afghanistan elections[xxxi]
- The arrest of film director Roman Polanski in Switzerland 30 years after he pled guilty to a having sex with a minor elicited a bigger response than

negotiations between the West and Iran about Iran's intention to develop its nuclear potential[xxxii]
- The discovery of new kind of giant rat, or a meat-eating plant, or research about cats learning to manipulate their owner's emotions will draw more chatter than congressional manoeuvering on health care[xxxiii]
- A vote by the Maine legislature to allow same-sex marriages and a botched attempt by the Air Force to create a promotional photo of presidential jet Air Force One over Manhattan were more prominently recognised than the release of new "report cards" on the state of troubled banks and stories about the spread of swine flu[xxxiv]
- A survey about the decline of organised religion drew more conversation and links than the guilty plea of Ponzi-scheme champion Bernard Madoff[xxxv]

The medium is the messenger (and the network node)

A major impact of this democratisation of media participation is that it shuffles the relationship between experts and amateurs and reconfigures the ways that people can exert influence in the world. Those who have things to say have new opportunities to pitch their voice into the information commons and gain a following. Among networked individuals, the personal voice of new media essentially allows media itself to become a friend-like node in people's social networks. When Pew Internet asked a sampling of internet users if they considered the internet to have friend-type properties or to play a role in their life like a friend, many objected to the literal suggestion that the internet was a friend. Yet, many more provided testimonials about the role of the internet in their lives that facilitated a marriage between information seeking and social support. Several examples give a flavour of this:

> *From Zee Evelsizer:* I don't think of the internet as a "friend" per se, but I do consider it to play a large role in my network of resources. The roles played by online publicly available sources of information and by personal interaction through the computer medium are distinctly different, however. The former is more like having a world of encyclopaedias at your fingertips whenever wanted (and I love it!) The latter is more akin to calling a friend - although on the Net. You can find new friends through shared interests that you never would have encountered otherwise.

> *From Shana Mason:* The Internet does play an important role in my life for both informational and social support…. If there were no Internet, I would feel more lonely and more isolated. As for information, the Internet is incredibly important as it has mostly replaced friends for information. I prefer the Internet because I feel I can distinguish between good and bad information here, and I can't necessarily do that with information I get from my friends.

> Equally important was the sense of many respondents that the value of the internet to them was most apparent when they were in a place that had no access.

> *From Candice Landry:* There have been times when I have joked about my computer as "my own personal jesus". When I visit urban areas without internet

service, I have noticed feeling "lost" without being able to get immediate answers to questions that may arise. Being on vacation now partly includes being offline. It can be very difficult to transition from a daily lifestyle of having to be connected to the internet to remain viable in my career; I recognize how I reliant I am on instant information.

Final thoughts for librarians

First, libraries can exploit the new media to become more vivid "nodes" in people's networks that can help them solve problems, make decisions, and enrich their lives. Social media can bring this to life.

Second, this new world requires new literacies. At the basic level, people cannot participate in this world without some basic computer skills.

Beyond that, the networked individuals who thrive have a combination of talent, energy, altruism, social awareness, and tech-savviness that allows them to build big, diverse networks and tap into them when they have needs. They have mastered the new literacies that library blogger Pam Berger has highlighted:[xxxvi]

- Have "graphic literacy" that recognises that more and more of life is experienced as symbols on screens;
- Know how to navigate multiple information channels and understand the change that has occurred as linear information formats such as print and broadcast media have given way to the non-linear realities of hyperlinked information;
- Know how to see the connections in the information they are encountering, even if the titbits they gather are disaggregated from any larger context;
- Know how to focus when that is required, especially for reflection and evaluation;
- Approach information sceptically and have the capacity to assess its accuracy, authority, relevance, objectivity and scope;
- Behave ethically when they encounter information online and communicate with others electronically.

Third, libraries are pressured to reexamine the ways in which they have traditionally provided service to their communities. Access to information has changed. People's capacity to search for information has changed. Their mechanisms for sorting and making sense of information has changed. The methods of curating information has changed. The ways in which information is granted legitimacy and credibility are changing. The mechanisms that people have for reacting to and contributing to information have changed. In short, it's a new information ecology requiring vastly different survival traits for information users – and the librarians who help them.

Endnotes

[i] This paper draws extensively from a chapter in a forthcoming book by sociologist Barry Wellman and me for MIT Press. The book has a working title "*Networking: The new social operating system."* A collection of Wellman's articles on networked individualism can be found here:
http://www.chass.utoronto.ca/~wellman/publications/index.html

All research and datasets from Pew Internet research can be found here:
http://pewinternet.org/

[ii] Castells' most thorough explanation comes in his *The Internet Galaxy: Reflections on the internet, business, and society."* Oxford University Press. Oxford. 2001. See esp. pp 36-63.

[iii] Ibid. pp. 39-40

[iv] Dutton, William H. "Through the Network (of Networks) – the Fifth Estate." Lecture, Examination Schools, University of Oxford. October 15, 2007. Available at:
http://people.oii.ox.ac.uk/dutton/wp-content/uploads/2007/10/5th-estate-lecture-text.pdf. The idea of the Fifth Estate is debated and explored on Dutton's blog:
http://people.oii.ox.ac.uk/dutton/. See also; David Talbot, "The Internet is Broken,"
MIT Technology Review, December 1, 2005.

[v] The most recent figures on each of these categories can be found on this page at the Pew Internet website: http://www.pewinternet.org/Static-Pages/Trend-Data/Online-Activites-Total.aspx

[vi] The "Beyond Reality" channel can be accessed here:
http://www.youtube.com/user/Madrosed

[vii] Much of the material about Ashley and Lola is drawn from a rich portrait of them produced by Patricia G. Lange (see http://digitalyouth.ischool.berkeley.edu/book-creativeproduction) for the large report on youth and digital learning produced by a team of scholars convened by the John D. and Katherine T. MacArthur Foundation. Ito, Mizuko, Heather Horst, Matteo Bittanti, danah boyd, Becky Herr-Stephenson, Patricia G. Lange, C.J. Pascoe and Laura Robinson *Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media*. November, 2008. Available at:
http://digitalyouth.ischool.berkeley.edu/report

[viii] MacArthur Report: http://digitalyouth.ischool.berkeley.edu/report

[ix] Hirsh, Jesse. "An epic thread yields rapid internet justice." Available at:
http://jessehirsh.com/an-epic-thread-yields-rapid-internet-justice ... Much of the raw material for Hirsh's story comes from this message thread:
http://tsxclub.com/forums/canada-east/35879-warning-help-all-members.html

[x] See
http://www.teknotik.com/jdmrides/forum/showthread.php?t=3613&highlight=ek_k20

xi See http://tsxclub.com/forums/canada-east/35992-theft-investigation-petition-law-enforcement-authorities.html

xii Much of the material about Parles is drawn from a white paper that Ferguson began and his friends, including Pew Internet's Susannah Fox, completed in 2008, "E-Patients: How they can help us heal health care." Available at: http://e-patients.net/e-Patients_White_Paper.pdf

xiii Fox, Susannah, Sydney Jones, "The social life of health information," June 11, 2009, available at: http://www.pewinternet.org/Reports/2009/8-The-Social-Life-of-Health-Information.aspx

xiv This material comes from email exchanges and interviews that Ferguson conducted before his death.

xv The online memorial guestbook is here: http://www.caringbridge.org/visit/karenparles/guestbook

xvi See http://www.danah.org/papers/FriendsterMySpaceEssay.html

xvii McGrath, Ben, *Oops,* New Yorker, June 30, 2003. Quoted in Daniel J. Solove, *The Future of Reputation: Gossip, Rumor, and Privacy on the Internet.* Yale University Press. New Haven. 2007. p.29

xviii "What's the best cell phone conversation you've overheard?" Available at: http://www.gapersblock.com/fuel/archives/cell_phone_conversations/

xix YouTube video available at: http://www.youtube.com/watch?v=hx_WKxqQF2o&feature=PlayList&p=FC4AB97670BEEBD8&playnext=1&playnext_from=PL&index=30. And Tricia Walsh-Smith's blog is here: http://updates.triciawalshsmith.com/

xx Gregorian, Darah, "At last, wife gets $crewed." N.Y. Post, July 22, 2008. Available at:

http://www.nypost.com/f/print/news/regional/at_last_wife_gets_crewed_YBmEfp6JaztihhRckBI5WN

xxi See http://www.archive.org/index.php.

xxii See http://www.journalism.org/

xxiii See PEJ News Coverage Index (NCI) methodology here at http://www.journalism.org/about_news_index/methodology

xxiv See PEJ New Media Index (NMI) methodology here: http://www.journalism.org/index_report/social_media_aid_haiti_relief_effort at the bottom of the page.

From January through June, PEJ used Icerocket and Technorati both. But Technorati's analysis tool went down in early July – I don't know if that's worth mentioning or not

xxv See details of PEJ's News Coverage Index for this week at: http://www.journalism.org/index_report/pej_news_coverage_index_march_30_april_5_2009

xxvi See details of PEJ's New Media Index for this week at: http://www.journalism.org/index_report/bloggers_focus_april_fools%E2%80%99_joke_interrogation_techniques_and_outspoken_actress

xxvii While it does not say anywhere, it certainly does not appear to be an official blog for Palin. See: http://www.thesarahpalinblog.com/

xxviii http://www.journalism.org/index_report/swiss_ban_and_%E2%80%9Cclimategate%E2%80%9D_stir_online_discussions

xxix http://www.journalism.org/index_report/health_care_reform_and_fort_hood_dominate_blogs

xxx http://www.journalism.org/index_report/global_warming_and_balloon_drama_drive_online_conversation

xxxi http://www.journalism.org/index_report/email_and_nobel_dominate_blogs

xxxii http://www.journalism.org/index_report/celebrity_crime_case_spurs_outrage_blogosphere

xxxiii http://www.journalism.org/index_report/rat_and_republican_overtake_blogosphere_0

xxxiv http://www.journalism.org/index_report/samesex_marriage_and_photo_op_flap_lead_diverse_online_conversation

xxxv http://www.journalism.org/index_report/bloggers_ponder_decline_religion_economic_prosperity_and_newspapers

xxxvi Berger, Pam. Infosearcher blog. "Learning in the Web 2.0 World." Available at: http://infosearcher.typepad.com/infosearcher/2007/04/learning_in_the.html