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Alice Y.L. Lee

Hong Kong Baptist University, Hong Kong

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Online news media in the Web 2.0 era: from boundary dissolution to journalistic transformation

Alice Y.L. Lee*

Hong Kong Baptist University, Hong Kong

This paper examines how online news media have changed as the Internet has moved from Web 1.0 to Web 2.0. Based on medium theory and boundary theory, online news media are conceptualized as being regulated by the “participatory open media code”. The code analysis attempts to examine the newly emerged form and structure of online news. In the new interactive media environment, it is found that online news media have changed significantly in the following areas: (1) the inclusion of user-generated content; (2) user participatory interactivity; (3) YouTubization; (4) instant reporting; (5) sharing and community networking; and (6) customization through new communication technologies. The trend of growing reader participation in social dialogue is apparent around the globe. The transformed online media have provided good platforms for citizen participation in news. Yet, there are still constraints against quality participation.

Keywords: online news media; participatory open media code; medium theory; boundary theory; Web 2.0

Online news media organize and deliver their content in a flexible way that is very different from traditional news media, and they use a format that can be coined an “open media code” (Lee & So, 2002). This format enables an online news site to operate as a digital marketplace, where people can get together, seek news information, and exchange views.

As the Internet moves from Web 1.0 to Web 2.0, online news media are set to evolve while online journalism develops further. The purpose of this paper is to extend the conceptualization of the “open media code” and study how online news media have changed and how this change is transforming online news and its social role. There are many forces fostering the transformation of the online news media in the new age. This paper focuses on the driving force of Web 2.0 Internet technology.

Based on medium theory and boundary theory, this paper explores the relationships between medium format change, boundary breaking, and the changing faces of online news.

Medium theory and boundary theory

In the study of online journalism, many people focus on media content and its various effects. This paper, however, chooses to look at the form and structure of online news media. Medium theorists such as Harold Innis and Marshall McLuhan have argued...
that media format is much more important than media content, and technological innovations will surely affect social and cultural institutions. McLuhan (1964) points out that different kinds of media have unique characteristics and formats. To him, communication technologies affect human beings’ five senses and change their order of importance. New technologies alter the way people react to things and thus have profound social implications.

The ideas of these medium theorists indicate that any change in media format will inevitably lead to a boundary change and then the emergence of new social patterns. Medium format analysis is thus a form of social inquiry that is particularly suitable for studying the new technological society (Lee & So, 2002). Boundary change is an area of boundary study that has attracted the attention of scholars in many academic fields such as anthropology, geography, political science, and communication. The various boundaries in human society are affected by different forces. Technology is one of the major forces that can bring changes to existing boundaries. As Hut (1996, p. 178) points out, “every technological revolution has changed society as well as individual’s lives in ways that were never anticipated.”

Social scientists are eager to know how and why boundaries are set and in what ways they regulate the thinking and behavior of individuals and social groups. For example, Foucault (1965, 1979) studied the relationship between madness and the asylum as well as the relationship between crime and prison. He showed that once a person is classified as a madman, a boundary is established and he or she will be put into an asylum. The same logic applies to criminals. Once they are convicted, they will be confined to a prison. Classification creates boundaries, which in turn change people’s lives. To Foucault, boundaries are socially constructed and limits are set by human determination.

Scholars from different disciplines have various ideas about the concept of boundary. This paper adopts an anthropological notion of the boundary to examine the interface of technology and human relationships. It concerns how a medium such as an online news site interacts with its social and cultural environment in the Web 2.0 era. A boundary is thus defined as a demarcation that “serves to indicate the bounds of limits of another whether material or immaterial” (Pellow, 1996, p. 1).

The literature on boundary theory shows that a boundary is negotiable; it can be created, maintained, elaborated, and dismantled. Most worth noting is that it is transformative. This paper is particularly interested in the transformative characteristic of boundaries and its relation to journalistic changes. Boundaries set perimeters. The area within a boundary is usually called a territory: Sack (1986) refers to it as “human territoriality”, which is an expression of social power. A boundary serves the functions of classifying, communicating, and enforcing control. As boundaries of territory are alterable, their changes very often lead to some kind of social transformation or power shift.

Over the years, some social groups have been continually singled out as the driving forces for creating and breaking boundaries (Pellow, 1996). Yet, some communication scholars point out that apart from human agency, technology also plays a significant role in establishing and dissolving a boundary and thus leading to social change. Meyrowitz’s (1985) analysis of television’s social impact is a good example. The influence of television on social behavior is through changing the boundary between private and public spaces and breaking the distinctions between
children and adults, men and women, politicians and common citizens, etc. Television has also blurred distinctions based on age, gender, and authority.

In the past decade, a number of media studies have been conducted using medium theory and boundary theory as their theoretical foundation. During the SARS epidemic, a study (Lee, 2005) on the role of news sites found that these online news media blended global reporting with local reporting. They were rooted in the local but facing the global and became “glocal” media. They provided glocalized news coverage on the trans-regional crisis. The characteristics of online news sites enabled them to perform a dual role of reporting the news on SARS to both local readers and readers from around the world, thus breaking the boundary between global and local. Another SARS study (Lee, 2003) shows that the characteristics of online news media allowed news sites to serve as interactive community bulletin boards in the epidemic, crossing the boundary between the roles of crisis managers as deliverers of information, with the general public as the receiver of information.

Following the conceptualization of medium theory and boundary change, this paper asks two questions: (1) How does Web 2.0 alter the media code of online news media, generate boundary blurring, and lead to changes in online journalism? (2) What are the new characteristics of online news media in the participatory media environment? Power shifting due to boundary changes and the structural transformation of online news media is the focus.

Recent studies of online news media
Communication scholars and media practitioners are fascinated by the new opportunities for the further development of online journalism in a participatory media environment. In recent years, as “we media” such as citizen journalism, Facebook, blogs, Twitter, and Wikipedia have emerged (Gillmor, 2004), media professionals’ interest in user-generated content (UGC) has increased (Hermida & Thurma, 2008; Rebillard & Touboul, 2010). Newspapers and TV news stations are jumping on the bandwagon of participatory journalism, inviting the public to send in blog articles and video stories (Bird, 2009). Studies of this new development are vivid and plentiful. Citizen journalism is the center of heated discussion. As defined by Goode (2009, p. 1288), citizen journalism is “a range of web-based practices whereby ordinary users engage in journalistic practices.” The significance of citizen journalism is that it allows members of the public to not only produce original content but also to challenge the agenda-setting processes of established professional media outlets. Also observed is the increased occurrence of traditional news organizations using citizen journalism practices (Lee-Wright, 2008; Allan & Thorsen, 2009). Robinson (2010) found that media organizations are also using blogs to bring readers into the newsroom and make them feel less like a “them” and more like a “we”. Other scholars have focused their studies on other features of online news such as multimedia storytelling and immediacy. For example, Nguyen (2010) argued that as users migrate online, they are concerned with the medium’s capability to provide traditional gratification opportunities, and immediacy is definitely one of them.

The new development in the online news arena has led to a debate on the future of journalism. The participatory scenario is what Deuze (2006) described as
“liquid journalism” and Rebillard and Tuboul (2010) considered “Journalism 2.0”. Although many studies have been conducted on the latest online news, they are piecemeal. As shown above, some focus on citizen journalism and user-generated content while others concentrate on the individual features of online news such as interactivity, multimedia storytelling, and immediacy. Few studies examine online news within a systematic framework. There is also a lack of sufficient evidence supporting the journalism 2.0 thesis. As Goode (2009, p. 1301) commented, “some of the formal and structural aspects of online news that need investigating are not so well defined at this point in time and the process of mapping there is still at an early stage.”

This paper investigates online news media in the Web 2.0 environment within a coherent concept of a participatory open media code. It systematically analyzes how the form and structure of online news media have been transformed by Web 2.0 and how this transformation is leading to boundary changes and a new face of online news media.

**Participatory open media code**

In the early 2000s, Lee & So (2002) proposed “closed media code” and “open media code” as a pair of concepts to contrast the format of traditional newspapers and electronic newspapers. Now, with the further advancement of Internet technology, the extended concept of a “participatory open media code” can be used to depict the new format of online news media in the Web 2.0 era.

A code is a systemic set of laws (Swannel, 1989), a “regulative principle which underlies various message systems” (Atkinson, 1985, p. 136). Lee & So (2002) defined a media code as a systematic set of laws that regulate the format of a medium. This concept can be examined from two perspectives: the classification of content and the mode of transmission. Classification captures “the nature of the differentiation between contents” (Bernstein, 1971, p. 88). If classification is strong then contents are insulated from each other by strong boundaries, and the reverse is also true. The mode of transmission is the degree of control within the transmission process. While a strong mode of transmission indicates greater control from the transmitter, a weak mode of transmission shows the receiver’s increased power in the communication process.

The format of traditional newspapers is a “closed media code”, which refers to the media organization’s strong classification between information contents and its rigid control of information transmission. The communication power is in the hands of the media organization. Online news sites, in contrast, have an “open media code”, which is characterized by the weak classification of information content and interactive information transmission. In this scenario, readers gain some control over the communication process.

Since the mid-2000s, the Web has changed from a surfing Web (Web 1.0) to a read/write Web (Web 2.0), further encouraging the participation of online readers. The Web can thus be seen as a platform for service delivery, which emphasizes user control and participation (Jenkins, 2002; Leung, 2010). Readers of online news are no longer merely passive media consumers. They are “prosumers” and are able to contribute content to the news sites. In the “old media” age, readers had little direct power to shape news content. Even in the Web 1.0 era, they still faced enormous barriers to entering the digital marketplace. In the new participatory media
environment, the scope of readers of online news' activities is largely expanded (van Dijck, 2009). They are able to produce their own content.

Hence, this paper argues that as Internet technology advances, the format of online news media has evolved to a “participatory open media code”, which is characterized by the extra-weak classification of information content and highly interactive information transmission. News information is woven into a horizontal network and receivers' power within the communication process is greatly increased (see Table 1).

Table 1 compares the “open media code” of the Web 1.0 online news media with the “participatory open media code” in the Web 2.0 age. In terms of organization and classification of content, news information regulated by the “participatory media code” is organized in a flatter and less hierarchical manner. In the Web 1.0 age, in the home page of an online media, there were icons classifying the content into different page categories. For example, on usatoday.com there were icons of news, travel, money, sport, life, tech, and weather. These icons facilitated readers to look for content they liked to read but the hierarchical distinction among these categories was weak. For the Web 2.0 online new media, the hierarchical distinction among sections continues to be weak. Moreover, there is no hierarchical distinction among pages and there is very weak hierarchical distinction among stories. As classification is weak, contents are separated from each other by weak boundaries.

Yet, the biggest distinction between “participatory open media code” and “open media code” is that news information on news sites is much more diversified. Most importantly, content generated by the readers is no longer excluded. In the Web 1.0 age, online news items were linked to background materials and databases. News items of the Web 2.0 online news media are further linked to outside media, blogs, and social networking sites. There is greater contextualization of news information. It refers to what is called “networked journalism” (Shetty, 2011).

In terms of the mode of transmission, readers in the Web 2.0 age do not simply “interact” with news information but also “participate” in the news making and delivering process. In the past, with interactive communication technology, online readers could control news selection. Now, with the participatory interactive communication technology of the Web 2.0 Internet application, readers do not only control the selection of news and the pacing of news reading, but also the production of news content. Online news of “open media code” was text-oriented with limited multimedia presentation. With advanced video technology, there are many more video presentations and multimedia storytelling has become common in Web 2.0 online news media.

Constant news updating is a strong characteristic of online media. However, with “participatory open media code”, immediacy becomes essential and live information delivery is prevalent. Web 1.0 online news media permitted little peer sharing. On the contrary, the Web 2.0 online news media encourage plentiful peer sharing and social networking. They are also equipped with more powerful search functionality and with greater diversity of customization through new communication technologies. Therefore, we can see that the functions of participation, interactivity, connectivity, multimedia, search, and immediacy of online news are all further enhanced. Online readers of online information can now enjoy greater control of the news consumption and production process.
From medium format evolution to boundary crossing

As Web 2.0 has altered the form of the Internet, it results in the evolution of the media code of online news media. These technological changes have led to a series of boundaries being dissolved.

First, the Web 2.0 Internet application allows users to upload their information. This technological revolution has changed the nature of the medium format of online news sites. As a result, it has blurred the boundary between the communicator and the receiver. On the news sites, readers have many channels for participation and inputting their content. The following channels are identified:

- Citizen journalism
- Blogs written by readers
- Grading news
- Response to online polls
- Recommended stories/ hit rate
- Comments on news or blogs (being posted)

### Table 1. Comparison of online news media in the Web 1.0 and 2.0 eras.

<table>
<thead>
<tr>
<th>Web 1.0 Online News Media (Open Media Code)</th>
<th>Web 2.0 Online News Media (Participatory Open Media Code)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Organization and Classification of Content</strong></td>
<td><strong>B. Mode of Transmission</strong></td>
</tr>
<tr>
<td>1. Weak hierarchical distinction among sections</td>
<td>1. Interactive communication</td>
</tr>
<tr>
<td>2. No hierarchical distinction among pages</td>
<td>2. Text-oriented with limited multimedia presentation</td>
</tr>
<tr>
<td>3. Weak hierarchical distinction among stories</td>
<td>3. Constant news updates</td>
</tr>
<tr>
<td>4. Diversified content, Few or no UGC content</td>
<td>4. Little peer sharing</td>
</tr>
<tr>
<td>5. News items linked to background materials and databases</td>
<td>5. With search function</td>
</tr>
<tr>
<td></td>
<td>6. Customized version delivery possible</td>
</tr>
<tr>
<td></td>
<td>7. Single web version only</td>
</tr>
<tr>
<td></td>
<td>1. Participatory Interactive communication</td>
</tr>
<tr>
<td></td>
<td>Readers control selection and participate in content production</td>
</tr>
<tr>
<td></td>
<td>2. Increasing multimedia storytelling, more video presentations – YouTubization</td>
</tr>
<tr>
<td></td>
<td>3. High immediacy with breaking news, live webcasts, live chat and live information delivery</td>
</tr>
<tr>
<td></td>
<td>4. Plentiful peer sharing and social networking</td>
</tr>
<tr>
<td></td>
<td>5. Powerful search function</td>
</tr>
<tr>
<td></td>
<td>6. Greater diversity of customization – customization through new communication technologies</td>
</tr>
<tr>
<td></td>
<td>7. Web layout customization possible</td>
</tr>
</tbody>
</table>
• Comments on news or blogs (not being posted)
• Submission of pictures, videos and graphics
• Submission of story ideas, discussion topics, news sources, etc.
• Response to news or blogs through icons
• Readers’ input or complaints
• Readers’ articles
• Readers’ letters
• Input to forums/BBS/chat rooms
• Input to the “correction column” or reporting “abuse”

Previously, communication power and the news production were in the hands of news organizations. However, Web 2.0 challenges this power structure. It has initiated an era in which all people are communicators, as readers are permitted to use the news site platform to express their views. They are able to share the power of news production with news professionals. The significance of this change is that it brings “user-generated content” into the mainstream of journalism. The demarcation between communicators and receivers is no longer distinct. The clear-cut classification of professional content and amateur content in news pages is softened. In short, Web 2.0 allows citizens a voice, which has never before been the case.

Second, it breaks the monopoly of “social monitoring” by the traditional news media and crosses the boundary between the reporter and the reader. In the past, the public put the power of monitoring government and public institutes into the hands of the news media, which were endowed with the “watchdog” role and became the “Fourth Estate” of the establishment. Traditional news media basically controlled the right of social monitoring. Now, regular citizens can expose injustice or voice grievances through online news media. This introduces a practice of “social monitoring by all people”. With the emergence of citizen journalism, social monitoring and reporting by Net citizens becomes possible. Examples include i-report on CNN, i-reporter on udn.com, and “Chase, Chase, Chase” on NOWnews. These forums crystallize the idea of “everyone is a reporter”. As ordinary people can now join in the news-making process, the definition of “reporter” must be rethought.

Third, Web 2.0 blurs the boundary between promoter and consumer because some online news media allow individuals or organizations to promote functions and activities on their sites. For example, announcements and activities submitted by readers are published in the “we news” section on the Taiwanese site NOWnews. With these bottom-up information corners, promotion no longer relies solely on media organizations and advertising agencies. People can undertake promotions on their own through the news sites.

Fourth, it also blurs the boundary between the “information marketplace” and the “opinion marketplace”. For traditional news media, it is a long-standing practice to separate editorial and news pages. Fact and opinion are not supposed to be mixed together. In the early stage of online news, readers’ views and opinions were posted in “forum” sections or “chatrooms”. However, with the new participatory interactivity, many news sites publish readers’ comments together with news stories. The comments directly follow the stories and become part of the story chain. The classification between fact and view is weakened. In this news chain, information and opinion are interwoven. In addition, due to improved connectivity, news stories are linked with blogs and columns, integrating fact and opinion in the news reading process.
Fifth, the boundary between private space and public space is no longer very distinguishable. News sites invite readers to write blogs, which have become a prominent aspect of the Web 2.0 mediascape. Blogs are defined as “frequently updated personal websites with all updates displayed in reverse chronological order” (BBC, 2010, p. 1). These personal accounts are now openly published on public news sites. Taiwanese readers are particularly interested in writing private stories on news sites. Their blogs signify interweaving of personal thoughts and public information.

Sixth, Web 2.0 further breaks down the wall between print and broadcast. In its early stages, online news was very much text-oriented. Now news sites are increasingly using multimedia to tell news stories. As more online news media embrace multimedia presentations and video storytelling, online journalism has become more multimedia-oriented.

Changing faces of online news in the Web 2.0 era

A decade ago, Lee and So (2001, 2004) evaluated the performance of selected news websites. What they found then is quite different from the situation today. Following the change in media code and boundary crossings, the online news scene has experienced significant changes in several respects.

Incorporation of user-generated content

Online news contents are no longer manufactured only by professional journalists. Now, ordinary readers have an opportunity to become news makers and writers. Nowadays, most online news media include user-generated content on their sites. User-generated content has gradually taken up a noteworthy proportion of their news space. Among the ways in which reader participation is facilitated, citizen journalism and readers’ blog are more significant. Citizen journalism here includes practices such as citizen news gathering, current-affairs-based blogging, photo and video sharing, and the posting of eyewitness commentaries on current events. The breakdown of the boundaries between reporter and reader encourages the development of citizen journalism. Many news sites involve some sort of citizen journalism activity. For example, the BBC had a “Have Your Say” section and also incorporated an ad hoc section entitled “About the World Cup”, asking for readers’ submissions about the football World Cup. Some of the sites, such as CNN, the BBC, NOWnews, and the New York Times, not only seriously organize reader participation in newsgathering, but also provide reporting tips and training.

The incorporation of citizen journalism practices by traditional news organizations such as CNN and the BBC has already taken a firm foothold. This constitutes a vital democratic function of professional journalism. In the citizen journalism corner of many news sites, there are various sections such as news stories, photos, assignments, blogs, citizen journalists, readers’ interviews, feedback, and comment, etc. This rich categorization reflects that citizen journalism activities have been managed in a sophisticated manner instead of just being incorporated for “window dressing”.

Apart from citizen journalism, readers’ blogs constitute a large part of the user-generated content on news sites. The content of the blogs is highly diverse. Yet, most is related to the category of living and leisure, such as food, art, travel, love affairs, and entertainment. Media organizations are using blogs to bring readers into the newsroom and cultivate their sense of belonging. The news sites in mainland China...
and Taiwan are particularly interested in encouraging readers to write blogs and become attached to them. Thus, private blogs are now getting into the public sphere of news media. Moreover, online news contents are more diversified too.

**Participatory interactivity**

One advantage of online news is its interactivity. In the Web 1.0 era, interactivity between readers and media organizations was limited to forum discussions, emails to editors, interactive graphics, and other minor interactions. With Web 2.0, readers can enjoy a much higher level of interactivity by participating in sites. For example, the *London Times* website states, “Don’t just read the Times – listen to it, watch it, shape it, be part of it” (The Times, 2010).

Very often, interactivity is regarded as “the ability to manipulate or modify someone else’s content” (Robinson, 2010, p. 126; see also Downes & McMillan, 2000; Steur, 1992). Participatory interactivity, then, extends the meaning of interactivity by emphasizing many-to-many, unbounded, and asynchronous discussions and active participation that adds content. As mentioned in the previous section, there are many channels for readers to participate. The UK’s *Guardian* constantly tells its readers how they can “get involved” in its site, asking them to have their say on the big issues of the day, send in their pictures, explore hot topics, share their travel tips and secrets, contribute to features and stories and give (or receive) career advice.

Apart from citizen journalism and readers’ blogs, the most noticeable activity is commenting on news or blog posts. In the Web 1.0 era, readers could voice their opinion through emails to editors but their comments were not usually published. Now, readers’ comments are posted directly after the news stories or appear with a click of the “comment” icon in many news sites. For some big news events, the number of readers’ comments can reach up to 700. Apart from facilitating the posting of comments, some news sites such as that of the *London Times* also encourage reader participation in “Twittering the news”. In mainland China, micro-blogging has become more popular on news sites.

Recent research into online news has resulted in heated debates about the future of journalism. This paper suggests that news in the future will serve to generate a “social dialogue” (see Table 2). News stories that professional news organizations produce will only serve as raw material rather than the finished product. They will become mere links in the news production chain. The notion of a chain of news production means that news is no longer the “end product”. Rather, it is the beginning of a social conversation. Some well-performed news sites such as those of the *Times*, the *New York Times*, and *USA Today* are actually working in this direction of initiating social dialogue.

For some important news issues, news sites not only provide in-depth reporting but also invite experts and readers to comment. As a result, the readers themselves become producers of meaning as they read, process, and discuss the news. They also share the journalist’s role of serving as watchdogs by conducting social monitoring through commenting.

This participatory interactivity scenario echoes what Rebillard and Tuboul (2010) described as “Journalism 2.0”. This paper reveals a vivid picture of user participation, particularly in the area of readers’ comments. Whether readers have the real power to express their opinion and are able to use that power well are controversial issues waiting to be examined.
YouTubization

Text has always been and remains the cornerstone for news websites. However, in the Web 2.0 era, there has been an obvious shift toward multimedia reporting. Technological convergence dismantles the boundaries between the main types of media (Shetty, 2011). News sites around the world are dedicating many resources to multimedia and video storytelling. News sites dedicate many resources to multimedia and video storytelling. They have set up multimedia or video sections, signifying the independent and important status of video on the sites. Compared with news sites a decade ago, there are more video clips provided on all sites. Many sites provide webcasts and most of them deliver live webcasts. Obviously, news sites are eager to serve online users with video content. This practice is probably stimulated by the growing popularity of YouTube and Google video. It has become a business strategy for attracting young readers and generating extra revenue.

In Hong Kong, Apple.atnext.com has even put forward a pioneer form of news reporting known as “animated news”. Apart from text, a news story is accompanied by animated images. Apple Animated News is very popular among young people in the city (Au Yeung, 2010; Chan, Lau, & Ngan, 2010). Some Western sites provide

<table>
<thead>
<tr>
<th>Epochal Background</th>
<th>Traditional Journalism</th>
<th>Future Journalism</th>
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<tr>
<td>Media Environment</td>
<td>Industrial society</td>
<td>Information/knowledge society</td>
</tr>
<tr>
<td>News Carrier</td>
<td>Traditional single media (newspaper, magazine, radio, TV, Web 1.0 Internet)</td>
<td>Convergence of multi-media platforms (traditional media + Web 2.0/3.0 Internet + wireless mobile media)</td>
</tr>
<tr>
<td>News Role</td>
<td>Gatekeeper (to select news)</td>
<td>Tutor/commentator (to introduce news)</td>
</tr>
<tr>
<td>News Ownership</td>
<td>The news industry controls and owns the news</td>
<td>The news industry shares news ownership with the public</td>
</tr>
<tr>
<td>News Production</td>
<td>Professional journalists (reporters and editors)</td>
<td>Professional journalists + citizens (everyone can be a reporter)</td>
</tr>
<tr>
<td>Distribution Format</td>
<td>Mode of vertical influence: from top to bottom, unidirectional, lecture type, one point to many (single direction radiating outward)</td>
<td>Mode of network sharing: top-bottom connection, bidirectional cyclical interaction, dialogue: one point to another (network connection)</td>
</tr>
<tr>
<td>Mode of Operation</td>
<td>Closed-door production</td>
<td>The public participates and monitors news production to raise production transparency</td>
</tr>
<tr>
<td>Operating Task</td>
<td>Produce news (news stories are the final products)</td>
<td>Share news, start social dialogue (news stories as start of social dialogue)</td>
</tr>
<tr>
<td>Social Responsibility</td>
<td>• Help readers understand the world • Build a democratic society</td>
<td>• Help readers understand the world • Build a democratic society • Expand public sphere, promote social dialogue</td>
</tr>
</tbody>
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video clips showing journalists interviewing one another across the table in the newsroom. For instance, on the New York Times site, the managing editor chats with the political editor about controversial political issues.

In the Web 2.0 era, video has become an important medium for public communication. Using video to tell a news story has also gradually grown to be a common phenomenon, which can be considered the “YouTubization” of news. Although many online news media (such as nytimes.com) are originally print media, now their online versions are all multimedia oriented. The line between print and broadcast site has been dissolved.

**Instant reporting**

Immediacy is another major characteristic of online news. At the early stages of online journalism, not all news sites provided breaking news. Over the years as Internet technology has advanced, having breaking news has become imperative. Furthermore, updating news is not good enough. What is required is to provide minute-by-minute breaking news. Nowadays, news sites also offer all kinds of live information on weather, traffic, stocks, and finance. In addition, some sites even provide online “live chat” with readers and most of them offer live webcasts. These webcasts are usually related to current affairs or investment advice. It is observed that the mainland Chinese online news media places great emphasis on immediacy. They not only have live webcasts and live chat, but also provide news updates, breaking news, and other live information.

**Broader connectivity and sharing**

In Web 2.0, connecting and sharing are major features of “we media” such as social networking sites, Wikipedia, and YouTube. Online news media are unable to ignore these media. According to the 2010 Pew internet and American Life Project, 30% of Internet users get news from friends, journalists, or news organizations they follow on social networking sites (Lenhart, Purcell, Smith, & Zickuhr, 2010). Another study of young people’s news habits also indicates that “discussion with friends” is youngsters’ top source for news and information (World Association of Newspapers, 2007). Therefore, most of the news sites are willing to be linked to outside sites, particularly the social networking sites. A decade ago, many sites were hesitant about linking their readers with other news sites for fear of losing traffic. However, this attitude has changed. On many sites, sections such as “World” and “Grab the Web” report the headline news of other news organizations. The New York Times site even has a “blogroll”, which provides links to numerous outside blogs.

Sharing news and information is certainly another attraction for online readers. The ability to exchange news and current affairs with peers is very important. It affects readers’ frequent use of a particular news site. Many users like to pass first-hand accounts to peers and they do it frequently. Therefore, many sites are providing links to help their readers share or recommend news stories, features, and blogs to friends. In addition, media organizations are trying to establish connections with social networking sites and popular websites such as Facebook, Twitter, MySpace, Yahoo Buzz, Google, and Digg, in a bid to cast a wider net for sharing. For example, the Times site provides more than 150 links and the NOWnews site offers 79 links.
Online news media are now linking up with social media in a big cyber network. Thus, broader sharing moves the networked journalism scenario from personalization to socialization (Russell, 2011).

**New media customization**

Customization is the offering of tailor-made news services to individuals. In the past, many news sites provided customized free email newsletters to their readers. Some sent their news through RSS feed. With the advancement of various wireless devices in recent years, online news has been further customized into different editions for readers’ convenient access. The “Times Reader 2.0” delivery package provided by the *New York Times* and the “Next Zebra” mobile phone package offered by Nextmedia are good examples. As these customization services can generate income, online news media are working very hard on exploring new ways to deliver their news. The popular methods include sending news to the iPhone, iPod Touch, the iPad, and iTunes. Some online news media such as CNN and udn.com are also experimenting with pushing news and other content to readers’ blogs and websites. “My.cnn” is the outstanding example of so-called “custom news” that allows the reader to log in at any time to a certain Web page and watch their personal picks of the current news (Shetty, 2011).

**Journalistic changes**

This paper shows that the format of the online news media includes new elements and has evolved toward a “participatory open media code”. The extended media code is characterized by the weak classification of information content and highly interactive information transmission. Professional contents and readers’ inputs are further merged. News contents are more diversified. The incorporation of UGC has become a significant part of online news media content. The agenda-setting and gate-keeping functions of online news media have been further eroded.

The evolution of the media code led to the boundary dissolutions presented in the previous section. It subverted existing social relationships (such as the relationship between reporter and reader), changed the power structure (the reader has gained news content production rights), and upset the game in journalism. The change has introduced new journalistic practices that constitute the unique characteristics of the online news media. They are UGC incorporation, participatory interactivity, the YouTubization of news, instant reporting, broader connectivity and sharing, and new media customization.

**Conclusion and discussion**

Web 2.0 has precipitated another communication revolution. According to medium theory and boundary theory, technological innovations always have social and cultural implications. This paper shows that developments in Internet technology have broken down the boundaries between communicator and receiver and has brought about truly two-way interaction in public communication. The new technology is changing journalism by giving the readers a way to communicate with journalists, and with each other.
Under the regulation of “participatory open media code”, the digital marketplace has taken on a new face. In the early 2000s, online news media served as a “digital marketplace” for readers to obtain news and exchange views through hyper-links. However, this original “digital marketplace” was quite rudimentary and less interactive. In the Web 2.0 era, the “digital marketplace” has become more vivid, lively, and diversified. Readers get together not only to seek information but also to distribute it. Apart from receiving news, they also actively participate in the production of media content. Readers go to a site not only to enjoy “freedom of choice” but also “freedom of participation”. The transformed online news media are now places for readers to give and take information within a public sphere that promotes sharing, connecting, and participating. Most importantly, they are expected to facilitate and foster participatory journalism.

The promise and reality

Boundary theorists claim that boundaries are socially created and they are alterable. Their changes always lead to social transformation for power shifting. Medium theorists also point out that media format change will lead to boundary dissolution and the emergence of new social patterns. Actually, at the heart of the Web 2.0 technological revolution and boundary breaking is the issue of power. As readers can now enjoy the power of active participation in the news-making process, the monopoly on the production of news content by news professionals has been broken and journalists seem to struggle with their declining authoritative role in society. The power relationship between the news professional and the reader has been reversed. While contemplating the future of news, a rosy picture is often depicted based on the participatory democracy thesis. It is said that future news will no longer be the “end” of news production. Rather, it will be the beginning of endless and unbound social dialogue. Users are expected to play a key role in participating in and driving this conversion. This paper echoes the observations of Connery (1997) and Goode (2005, 2009) and shows that online new media will then be turned into a cyber coffee house similar to the town square or bourgeois café that Jurgen Habermas described as a vivid public sphere.

It seems that the technology and the format of online news media are already serving democratic journalism. Yet, how much power do the readers have? On the positive side, we can see that the evolving format of online news media does offer great opportunities for user participation. News sites around the world have embraced user-generated content and welcome user comments. Even in a tightly controlled society like mainland China, citizen journalism and reader blogging have set foot on its dominant news sites such as People.com and Eastday.com. Nevertheless, concerns over the true democratic value of all kinds of user participation are valid. Habermas (1989) characterized an ideal public sphere not only by its openness and equal opportunity of access, but also by its critical and independent nature. It should be a critical and rational forum in which abundant and accurate information can circulate. Most importantly, political and market forces should not interfere in the sharing of information. Using these criteria for evaluation, the quality of participation on the news sites is still far from satisfactory. On the one hand, as people do not identify themselves, the credibility of the information exchange is doubtful. The CNN website states clearly that it is not responsible for the
news published in its “i-report” section, as news stories there are mostly not verified. Given that checking and verifying user-generated content is difficult, the lack of accuracy is a problem. On the other hand, most of the readers’ blogs are related to living, leisure, travel, and entertainment. They do not contribute much to conversations about important public affairs. Indeed, most of the stories generated through citizen journalism remain quite trivial. Some user-generated content displayed in the Taiwanese sites are good examples of mere infotainment.

Nevertheless, it is found that some global news media in the US and the UK are working seriously to initiate social dialogue on their sites and have achieved some positive results. Examples are nytimes.com and bbc.com. These efforts may be driven by survival needs, democratic ideals, or both. With the participatory open media code, online news media have the capability of generating meaningful dialogues. However, whether this actually happens will depend on if they have the will and resources to do so.

### Net generation and online news

The other brighter aspect revealed by this paper is that the characteristics of the “participatory open media code”, such as interactivity, the YouTubization of news, constant updating, sharing, and community networks, as well as the wireless customization of news, do match the needs of the upcoming readers – the “Net Generation” (young people who were born after the 1980s). This suggests that news will continue to have a market in the future. The Net Generation is spending increasingly more time online, and is likely to become the major target of online news providers in the years to come. These young people are active information seekers and are also expressive. They enjoy interactivity and participation, and love to share ideas with their peers. They like tailored products and emphasize the value of customization. They are active in new social movements and interested in joining social conversation (Tapscott, 2009). Net Generation users may not be loyal visitors to news websites but they consume news and information produced by news sites through social networking links. As they have great potential to play a constructive role in fostering “social dialogue”, online news media should continue to develop new delivery strategies to reach them, offering citizen journalism workshops and media and information literacy (MIL) training to equip them as active participants in future digital news marketplaces.

As the Web 2.0 Internet application becomes prevalent around the world, UNESCO has taken the lead to initiate the promotion of media and information literacy, combining media literacy and information literacy as a combined set of competences (Moeller, Joseph, Lau, & Carbo, 2011). Net Generation young people are encouraged to be equipped as media- and information-literate citizens who are not only able to access, organize, and use media messages/information, but also be capable of critically analyzing, evaluating, and creating media content and information. UNESCO has even developed a document, “Media and Information Literacy Curriculum for Teachers” (Wilson, Grizzle, Tuazon, Akyempong, & Cheung, 2011), to popularize the concept. Apart from putting emphasis on the acquisition of media knowledge and skills, the MIL training stresses the development of active citizenship (Wilson et al., 2011).

If the young people have the opportunity to be well trained as MIL prosumers, they will be able to produce a high quality of user-generated content with credibility,
authenticity, and creativity. Moreover, they will also develop the sense of active citizens and actively participate in social conversation. The prosperity of the future news market indeed very much depends on the quality of its audiences – the Net Generation. Cultivating media- and information-literate young people become an urgent and important task in the new millennium.

Notes on contributor

Alice Y. L. Lee is an associate professor at the Department of Journalism, Hong Kong Baptist University. She graduated from the University of British Columbia (UBC) with a PhD degree in educational studies. Her research interests include online news media, media literacy education, Net Generation, and Web 2.0. She is now the vice-chairperson of the Hong Kong Association of Media Education.

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