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Reevaluating "The End of Mass Communication?"

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It is hard to imagine a more challenging arena for communication research than that presented by new media and their impact on our society. We have witnessed the fastest evolution in communication technology in human history and, along with it, the evolution of communication conceptions and theories used to assess its impact. More than a decade has passed since Chaffee and Metzger first published their intriguing article "The End of Mass Communication?" and suggested that the new media will change the notions of mass communication and, as a result, the theories used in communication research. Today, we know more about new media and its effect on communication,

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society, and communication theories. The present article, therefore, sets out to reassess Chaffee and Metzger's claim by describing the development of several core theories of communication research, namely the agenda-setting theory and the notions of media audiences and the Digital Divide, in light of the new media. Our review shows that the role played by communication technologies in social, cultural, political, and economic processes is as central and influential in the new media era as it was in traditional media environment and that, although theories may change to accommodate the changes of the new media environment, researchers are still dealing with the "old" issues of power and resistance, and structure and ownership.

INTRODUCTION

More than a decade has passed since Chaffee and Metzger (2001) published their intriguing and challenging article "The End of Mass Communication?" At the time of publication, they could present only some speculative evaluations of the impact of the new media on the notion of mass communication, its features, and its audience. The Internet, they noted, was designed to be decentralized, meaning that control is distributed to all users who have relatively equal opportunity to contribute content. They even argued that "these characteristics of the new media are cracking the foundations of our conception of mass communication" (p. 369). Thus, they suggested that core mass communication theories need to be reevaluated due to the emergence of new communication platforms.

Today, we know more about the new media and its impact on communication, society, and communication theories. Since the publication of the "The End of Mass Communication?," numerous studies have examined the communicative, political, social, cultural, and economic aspects of the new media environment (reviewed in articles collected by Lievrouw & Livingstone, 2006, 2009; Wellman & Haythornthwaite, 2002; and by Holmes, 2005; J. E. Katz & Rice, 2002). The cumulative data not only provide an empirical documentation of the changes but also highlight some of the theoretical implications of these changes. There have been very few attempts to reassess mass communication concepts in light of the changes introduced by new media technologies (e.g., Handayani, 2011; Lorimer, 2002; Metzger, 2009, 2013; Napoli, 2010). However, as Napoli (2010) noted, "No such reassessments have been conducted recently enough to fully consider the implications of recent developments such as the rise of Web 2.0 platforms and user-generated content" (p. 506). Because Chaffee and Metzger suggested several core theories as "test cases," we decided to examine their assumptions regarding the predicted changes in these theories,

namely, the concept of media audiences, the agenda-setting theory, and the notion of the Digital Divide. We begin by reviewing the changing conceptions of the media audience in light of new media technologies; then, we review the theoretical implications of these changes in the core theories suggested by Chaffee and Metzger, and we conclude by revaluating the shifting power relations between the media and its audience, and their overall implications on communication theories.

Two concerns should be stated here in relation to the scope of this review: (a) There is a wide range of new media, online platforms, and communication technologies. Being unable to distinguish among them and relate each one separately to the theoretical and empirical traditions, we preferred to use the broad category of "new media" without subdivisions or subcategories. (b) Our scan of the literature revealed hundreds of relevant studies. We preferred to highlight the dominant trends emerging from these studies and so to reflect the "state of the art" rather than present a detailed list of all the studies. Thus, the studies cited here represent only a small sample of the entire body of research reviewed for this report (more than 450 studies).

CHANGING THE CONCEPT OF "MEDIA AUDIENCE"

One of the issues raised by Chaffee and Metzger concerns the concept of "audience." They suggested that in contrast to the conception of the audience as a unified, mainly passive mass, the new media audience is viewed as a diffused group, people who produce and disseminate messages as well as consume them. Therefore, this new notion of the audience, according to them, presents new opportunities to explore the ways in which audiences interpret and create content and calls for a reevaluation of theories used in audience research. To this end, we examine three different, yet interrelated, changes in the conceptual terms used in communication research to describe the audience.

From Users to Multitaskers

As new media technologies presented people with more media choices and possibilities, practices of use, motivation and satisfaction became more central as components of audience analysis (LaRose & Eastin, 2004; Livingstone, 2003, 2008). In fact, the gradual substitution of the "old" term, "audience," with the "new" term, "users," reflects a growing interest in the diversified and complex ways people engage with today's saturated and convergent media environment. Indeed, empirical evidence suggests a change or an expansion of the ways people engage with media due to the new media development. Uses and gratification research, for example, show an expansion

of the gratifications supplied by the media due to the unique facets of Internet use (LaRose & Eastin, 2004). On the same note, the growing body of literature on media multitasking, that is, the engagement in two or more activities at once, also points the new technologies as causing a sharp increase in media multitasking behavior, especially among younger audiences (Rideout, Foehr, & Roberts, 2010; Wang & Tchernev, 2012). Of interest, both lines of research stress the growing importance of community, social, and emotional gratifications in the new media environment, sometimes at the expense of cognitive gratifications (Ophir, Nass, Wagner, & Posner, 2009; Song, LaRose, Eastin, & Lin, 2004; Stafford, Royne Stafford, & Shackle, 2004).

From Active Audience to Media Literacy

The interpretive activities of the audience are also central to the research of the user in the new media environment. The term *media literacy* is used to refer to the wider array of audience activities fostered by the new media. Media literacy comprises a set of cultural competencies and social skills, such as play, performance, simulation, appropriation, judgment, and multitasking, all of which are needed for full participation in a new media culture (Jenkins, Purushotma, Clinton, Weigel, & Robison, 2009; Livingstone, 2008). The social-scientific approach to media literacy sees it as a means of protection, aiming to reduce the impact of the media on audiences' beliefs, attitudes, norms, and behaviors (S. H. Jeong, Cho, & Hwang, 2012). A critical/cultural approach views the goal of media literacy as helping people to use media intelligently, to discriminate and evaluate media content, to critically dissect media forms, to investigate media effects and uses, and to construct alternative media (Kellner & Share, 2005; Livingstone, 2008; Potter, 2011).

From Consumers to Prosumers

In the Web 2.0 environment, which is defined by the ability of users to produce content collaboratively, much of what transpires online is generated by the user. Utopian rhetoric surrounding new media technologies often assumes that the greater freedom to produce content holds practical promise for individual freedom, democratic participation, and cultural and human development in general (Benkler, 2006). The convergence of the media environment, however, that is the flow of content across media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences (Jenkins, 2006), is often considered as a drawback to these opportunities. Sundet and Ytreberg (2009), for example, claimed that the (inter)active audience discourse was adopted by established media institutions so that it could be turned into a tool for their own expansion.

In addition, audience fragmentation, that is, the increased selection of content options provided across a wider array of distribution platforms (Napoli, 2011), is often considered as a danger for a common cultural forum, or worse, as the birthplace of media enclaves and "sphericules" (Gitlin, 1998; Webster & Ksiazek, 2012). The main concern is that selective exposure patterns based on partisan affinity may cause audiences to consume a steady diet of their preferred choices, rather than sampling the diverse range of material usually offered by the mainstream media. Bennet and Iyengar (2008); Hollander (2008); Iyengar and Hahn (2009); and Ksiazek, Malthouse, and Webster (2010) suggested that this steady diet may not only contribute to further polarization of news audiences but also allow them to avoid news altogether.

Thus, the users of the new media era, who engage with the media in diversified ways, are able to critically consume media content and at the same time create it, and are able to beneficially play an active role in their cultural and political environment. At the same time, audiences are still susceptible to the impact of the media on their attitudes and behaviors; restricted as content creators by established media institutions; and prefer to be engaged, media wise, within their own social, communal, and political perimeters. As many turn more and more to new media technologies[1]—the percentage of Americans using the Internet has increased from 14% in 1995 to 81% in 2012[2]—and as interactivity, fragmentation, and convergence continue to develop, the multifaceted character of the audience carry more and more important ramifications for both the private and public spheres. To this end, following Chaffee and Metzger's proposition that the new notion of the audience calls for a reevaluation of theories used in user-centered communication research, we now turn to reevaluate two main such theories—agenda-setting theory and the digital divide.

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[1]According to Pew research center, the proportion of Americans who read news on a printed page—in newspapers and magazines—continues to decline: in newspapers, from 46% in 2000, to 23% in 2012, and in magazines from 26% in 2000 to 18% in 2012. Radio news has fallen by 10%, from 43% in 2000 to 33% in 2012. Even television seems to suffer: Only about one third (34%) of those younger than 30 say they watched TV news yesterday. In 2006, nearly half of young people (49%) said they watched TV news the prior day. At the same time, the clearest pattern of news audience growth in 2012 came on digital platforms. For example, in 2012, total traffic to the top 25 news sites increased 7.2%; and about one third or more of those ages 18 to 39 regularly see news or news headlines on social networking sites (*In Changing News Landscape, Even Television is Vulnerable: Trends in News Consumption 1991-2012*, 2012).

[2]These data comes from the Pew Research Center's Internet & American Life Project's report "Internet Adoption, 1995–2012: % of American Adults Who Use the Internet, Over Time." Retrieved from: http://pewinternet.org/Static-Pages/Trend-Data-%28Adults%29/Internet-Adoption.aspx.

REEVALUATING THE AGENDA-SETTING THEORY

The agenda-setting theory's core proposition is that the salience of elements on the news agenda influences, in turn, their salience on the public agenda. In the years since McCombs and Shaw's (1972) initial study, these agenda-setting effects have been documented in hundreds of studies on a diversity of issues, using a range of research methods under a wide variety of circumstances. Chaffee and Metzger (2001) argued that "new technologies may give more power to people whose agendas would not normally be reported in the major mass media" (p. 369). As media communication increasingly helps people to locate and contact those who care about similar issues, they concluded, "The key problem for agenda-setting theory will change from 'what issues the media tell people to think about' to 'what issues people tell the media they want to think about.'" Furthermore, they predicted that in the new media environment, measuring the media agenda "will become particularly challenging as available sources of news expand" and that measuring public agenda "will be as equally problematic as people filter and personalize their news using new media technologies."

Over a decade has passed since Chaffee and Metzger made those predictions. Therefore, at this stage we are now able to review the evidence that has emerged to support or refute their predictions—by examining, for example, issues deemed as important by active users, rather than dictated by the traditional media gatekeepers. We also review how the research community has dealt with the methodological challenges and present several theoretical developments.

Agenda Setting in the New Media Environment

The agenda-setting function of the mass media has evolved and continues to do so. Since the initial study, the concept of agenda setting has become more refined and complex (Kosicki, 1993; Roberts, Wanta, & Dzwo, 2002). In 2005, McCombs acknowledged, "Now, the Internet is the new frontier for research" (p. 544). Nowadays, as a result of easy access to media, people can form their own agendas and then find groups with similar agendas. The Internet makes it possible for people all around the globe to find others with similar agendas and collaborate with them (Ragas & Roberts, 2009). Shaw, McCombs, Weaver, and Hamm (1999) proposed that an individual's attachment to social groups might have an impact on media's agenda-setting influence, a term they referred to as "agenda-melding." Agenda-melding focuses on the personal agendas of individuals in terms of their community and group affiliations. Shaw and McCombs (2008) suggested that individuals attach themselves to vertical (traditional) and horizontal (social

or interpersonal) media based on their interests. McCombs (2004) argued that agenda-melding is in line with the concept of "need for orientation" and therefore agenda-setting is still relevant, even in the new media environment.

Another claim about the new media era is that the Internet plays an important role in the "reverse agenda-setting" process, in which the public agenda sets the media agenda (McCombs, 2004). Weimann and Brosius (1994; Brosius & Weimann, 1996) suggested a theoretical development in this context by defining the role of opinion leaders as "personal mediators between media and personal agendas" that "collect, diffuse, filter, and promote the flow of information." Combining the classical two-step flow theory (E. Katz & Lazarsfeld, 1955) with the agenda-setting theory, they suggested four possible models (Figure 1).

While observing the phenomenon of blogging as both a form of mass and interpersonal communication, Branum (2001) noted that Brosius and Weimann's description of early recognizers also applies to the actions of the filter-style bloggers, who choose which stories to provide a link for and what comments to make about the stories. Tomaszeski (2006) suggested the following analysis: Bloggers are being sourced by the traditional media, who are taking original content from them and incorporating it into their own messages to the public. The bloggers' input to traditional media places them in the role of mediator between the public agenda and the media agenda (Models 2 and 3). In addition, bloggers' higher visibility to the general public places them in the role of early recognizers whose information flows to the public (Models 1 and 4). Collister (2008) argued that by recognizing the role of opinion leaders in the information flow, Brosius and Weimann's models help to depict the fluid nature of agenda-setting and the inevitable "cross-fertilization" between blogs and traditional media.

Model 1: The Classical Two-Step Flow
Media Agenda → Early Recognizers → Public Agenda
Model 2: The Reverse Two-Step Flow
Public Agenda → Early Recognizers → Media Agenda
Model 3: Initiating the Classical Agenda-Setting Process
Early Recognizers → Media Agenda → Public Agenda
Model 4: Initiating the Reverse Agenda-Setting Process
Early Recognizers → Public Agenda → Media Agenda

FIGURE 1

The Individual's Power

Because traditional media have begun to rely on online blogs in a number of ways that affect the selection and presentation of news stories, blogs are sometimes able to influence what counts as newsworthy (Woodly, 2008). Witness the Clinton–Lewinsky scandal, in which Drudge's use of the Internet to disseminate his scoops symbolized the declining ability of mainstream journalists and political elites to act as gatekeepers, agenda setters, and issue framers. Although the mainstream media managed to recapture control of the political agenda, most of the stories were initially generated through online leaks and rumors (Williams & Delli Carpini, 2004).

Following Chaffee and Metzger's (2001) prediction of "what issues people tell the media they want to think about," Delwiche (2005) compared issues that dominated the agenda of blogs to those deemed most important by journalists and the public during the same period. He found that bloggers were relatively independent and provided alternative topics to those discussed in the media. His conclusion was that blogs have demonstrated their ability to affect the flow of information between traditional journalists and audiences and to bridge those components of the public sphere. Escher (2007) subsequently proposed a new methodology, collecting data from Google News, Google Blogsearch, and Yahoo! Term Extraction and comparing the rank of a story on the blogosphere agenda (number of posts for the story) with the rank of the story on the traditional media agenda (number of articles for the same story). The results presented ranking differences between the two spheres.

Earley (2009) asked whether new media technologies are weakening, strengthening, or transforming the traditional agenda-building process and claimed that the sources evaluated suggested that all three are occurring. By comparing new content on the web (news websites, blogs, and social media) with newspapers, television, and radio, Maier (2010) found that whereas coverage by news websites resembled that of traditional media (almost the same top stories), blogs and social media concentrated on news topics that were sharply distinct from those covered by the mainstream media. After reviewing numerous publications we can conclude that although some researchers found different agenda setting between blogs and traditional media (e.g., Metzgar, 2007; PEJ, 2010; Wallsten, 2007), and others found that the agenda of blogs had almost no influence on traditional media agenda (e.g., Gomez-Rodriguez, Leskovec, & Krause, 2010; Hestres, 2008; McClellan, 2010; Murley & Roberts, 2005), still others found the opposite: that the agenda of blogs did hold some influence on the agenda of traditional media (e.g., Collister, 2008; Cornfield, Carson, Kalis, & Simon, 2005; Lloyd, Kaulgud, & Skiena, 2006; Meraz, 2007, 2009, 2011; Rostovtseva, 2009; Wallsten, 2011; Woodly, 2008).

In an interview, McCombs stated that overall

> the influence is from media to blogs. Occasionally, you'll see spectacular kind of case studies where purely the influence went the other way, but those seem to be the exception rather than the day-to-day rule of what's going on out there on the Internet. (as cited by Silva, 2008, p. 6)

According to Campbell, Gibson, Gunter, and Touri (2009), blogs are less likely to act as the originators of news in first-level agenda setting but instead exert influence through second-level agenda setting. For example, blogs can act as "resuscitators" by following up on stories that the mainstream media either failed to follow up on or considered a low priority, thereby giving them new impetus to reemerge on the mainstream news agenda. Blogs can also act as "reframers" by interrogating, challenging, and making transparent those elements that contribute to the mainstream media's framing of the news. Wojcieszak (2008) suggested, on one hand, a strengthened first-level agenda setting as a result of Internet users turning to major media conglomerates, as well as the focus of some online and offline sources on similar topics. On the other hand, a weakened second-level agenda setting may be attributed to the diversity of the sources online describing the same issue in a different way.[3] Correspondingly, an extensive study of the agenda setting from 1956 to 2004 (Tan & Weaver, 2012) concluded that

> in spite of Chaffee and Metzger's (2001) warning of a diminished agenda-setting power of the mass media, this study did not find that the agenda-setting effect between the "New York Times" and the public has become weaker over time. . . . One possible reason is the high level of intermedia agenda setting between traditional media and new media. (p. 12)

Another aspect of new media outlets is that of neutralizing the process of "agenda cutting," meaning uncovering news stories that went unreported despite having all the elements required to make them newsworthy (Fahmy, 2010). It is worth noting that during recent protests around the world (e.g., the Arab Spring), activists used social media, blogging, and video sharing to encourage people to protest, and Twitter emerged as a key source for real-time logistical coordination, information, and discussion. Bloggers were found to play an important role in breaking and disseminating the news,

[3]First level refers to the impact of media agenda on public agenda, that is, on *what* people think about. Second level refers to the characteristics of the issues as promoted by the media, that is, on *how* people should think about.

and they had higher likelihood of engaging their audience to participate in the revolutions than the mainstream media (Lotan et al., 2011).

Measuring Agenda Setting

In the new media environment, the headlines of online news are rapidly changing and can thus dilute the potential for media agenda setting by narrowing the common perception of what issues are important to the public (Mensing, 2004). Furthermore, in agenda setting there must be a clear delineation between the producers and the consumers of the agenda, for one must influence the other and impart the agenda. The current methodological issues are establishing causality, lag time, measuring objects, and attribute salience (Coleman, McCombs, Shaw, & Weaver, 2009). Berger and Freeman (2011) argued that the time lag cannot exist in the new media because the consumer is acting simultaneously with the producer, and the consumer is also a producer of content and, by extension, an agenda. However, "time lags are tested in numerous ways until the optimal one is found" (Kosicki, 1993, p. 107). Present-day agenda-setting studies can still measure and rank-order the issues (in both traditional and new media), survey the public (Coleman et al., 2009) and use time series analysis to differentiate the agendas (e.g., Lloyd et al., 2006; Watson, 2011). Numerous studies from the previous section (The Individual's Power) emphasize the ability to define who the producers and consumers actually are (even on Twitter, e.g., Wu, Hofman, Mason, & Watts, 2011).

In addition, Coleman and McCombs (2007) looked at the effects of agenda setting on various groups of individuals and concluded,

> Despite evidence that the youngest generation is not exposed to traditional media as frequently as the older generations are, and that the youngest generation uses the Internet significantly more, there is little support for the intuitive idea that the diversity of media will lead to the end of a common public agenda as we have known it. Rather, different media use among the young did not seem to influence the agenda-setting effect much at all. (Coleman & McCombs, 2007, p. 503)

With respect to studies to be undertaken in the future, Takeshita (2005) recommended investigating the web-access patterns of news seekers on the Internet, identifying the "hub" of news sites, and then focusing only on those hub sites. Studies are currently moving toward comparing media sources and using aggregators (search engines) to examine the issue salience in both traditional and new media. Moreover, agendas are being uncovered by focusing on issues that have received the most "traffic" and are thus

assumed to reflect common issues for a large number of readers. A new point of view suggests examining the Internet search trend as representative of the public agenda (e.g., Aikat, 2008; Granka, 2009; Y. Jeong, Kim, & Shin, 2008; Scharkow & Vogelgesang, 2011). Weeks and Southwell (2010), who used Google to measure public interest in topics, argued that "Google Trends offers an indicator of an important dimension of public opinion that is not captured perfectly by previous survey work using the 'most important issue' question" (p. 356).

Although agenda-setting theory has been investigated widely in the field of political communication, some attempts have been made to test the theory in other contexts, including business communication, religion, foreign relations, health care, entertainment, and public relations—and all within the new media environment. In one of his recent lectures, McCombs (2012) concluded, "There are a lot of interesting new routes to explore, to fit not just to political coverage, but to a wide verity of news coverage of many topics, and I urge you to follow that road." It seems that "with an expanding media landscape as well as new theoretical domains to explore, the theory of agenda-setting can look forward to at least another 30 years of fruitful exploration in cyberspace" (Coleman et al., 2009, p. 157). Regarding the future: One interesting suggestion is the "Network agenda setting model," the third-level of agenda-setting theory. Guo (2012) found that media agenda networks were significantly correlated with the public agenda networks. This new combination between Social Network Analysis and agenda setting may lead to new and innovative directions for the theory.

REEVALUATING THE DIGITAL DIVIDE

In recent decades, a worldwide debate has focused on the notion of the digital divide, its dimensions and measures. The digital divide is not an entirely new idea: There are certain similarities between the digital divide and the Knowledge Gap hypothesis (Rogers, 2001), based on the original statement, "As the diffusion of mass media information into a social system increases, segments of the population with a higher socio-economic status tend to acquire this information at a faster rate than the lower status segments" (Tichenor, Donohue, & Olien, 1970, p. 159).

In that vein, Chaffee and Metzger (2001) predicted that

> although democratic access to the new media may be true in theory, it is far from what is happening in practice. The problem of the 'digital divide' has received a great deal of attention in scholarly literature and popular press. The fear is that less privileged groups in society will be left behind during

> the information revolution because of their impaired economic ability to access new technologies. (p. 377)

The main purpose of the following review is twofold: first, to review how the notion of the digital divide (including related concepts such as access and use) has been reconceptualized among scholars during the past decade; second, to review the empirical evidence documenting the digital divide, the changes in differences among socioeconomic groups and across countries, and the main factors that have emerged to explain the phenomenon.

The Changing Conceptualization of the Digital Divide

In the early stages, the digital divide was defined as the dichotomy that exists between the "information haves" and the "information have-nots," emphasizing the fact that access to and use of the new media was unequal along lines of socioeconomic status and demographic differences. With the digital divide increasing, separating high and low socioeconomic status individuals, privileged and unprivileged groups, and developed and developing countries, information society researchers have increasingly suggested a shift from the concept of "digital divide" to that of "digital inequality," which can refer to differences in access and to inequality among persons with formal access to the Internet (DiMaggio & Hargittai, 2001). Norris (2001) described the digital divide as a multidimensional phenomenon, which including the global digital divide, the social divide, and the democratic divide. Tsatsou (2011) suggested that digital divides are to be viewed as evolving and closely dependent on the sociocultural and decision-making context in which the technology is designed, developed, and consumed. Fuchs (2009) provided a more complex and comprehensive definition for the concept, explaining it as

> unequal patterns of material access to, usage capabilities of, and benefits from computer-based information and communication technologies that are caused by certain stratification processes that produce classes of winners and losers of the information society, and of participation institutions governing ICTs and society. (p. 46)

Changes and developments in defining the digital divide have been accompanied by changing methods and measures used to identify the existence and extent of the divides that exist. Over the years, ways of measuring the digital divide have emerged including the Information Society Index (IDC, 2001), the networked Readiness Index (United Nations Development Program, 2001), the Network Readiness Index (Dutta & Jain, 2004), the

Digital Access Index (International Telecommunications Union, 2005), the Statistical Indicators Benchmarking the Information Society, the Digital Divide Index (Barzilai-Nahon, 2006; Dolnicar, Vehovar, & Sicherl, 2003; Husing & Selhofer, 2004). It should be noted that over the time, new media researchers have suggested more comprehensive and multidimensional digital divide measures: Vehovar, Sicherl, Husing, and Dolnicar (2006, p. 280), for instance, proposed three-level digital divide measurements including log-linear modeling, compound measures, and time-distance methodology.

New Media and New Barriers

A variety of barriers to new media can also contribute to inequality in access and use. DiMaggio and Hargittai (2001) described five dimensions of digital inequality: (a) technical means, such as software, hardware, and connectivity quality; (b) autonomy of use, which refers to the location of access and the freedom to use the medium of one's preferred activities; (c) use patterns, meaning the types of uses of the Internet; (d) social support networks, which refer to the availability of others to whom one can turn for assistance with use, as well as the size of networks to encourage use; and (e) skill, which signifies one's ability to use the medium effectively. Van Dijk and Hacker (2003) added the lack of "mental access," which refers to a lack of elementary digital experience.

For his part, Wilson (2006) argued that there are eight aspects of the digital divide: (a) physical access, (b) financial access, (c) cognitive access, (d) design access, (e) content access, (f) production access, (g) institutional access, and (h) political access. The author went on to connect those eight aspects to six demographic dimensions of the digital divide: gender, geography, income, education, occupation, and ethnicity.

Deichmann and colleagues (2006) also attempted to categorize determinants of the digital divide (applicable both nationally as well as internationally) into three areas: economic factors (level and equality of wealth income), cultural factors (religion and language), and factors associated with the telecommunications infrastructure (ownership, infrastructure, and pricing). Keniston (2004) added four closely interrelated "digital divides": between the rich and poor within every country; between those who speak English or the national language of the country versus those who do not; between rich and poor nations; and between technocrats in knowledge-intensive fields, such as computer science, and other professional groups. Researchers who have studied information communication technologies in developing countries tend to distinguish between economic barriers (the lack of access to information, market, economic opportunities), physical barriers (distance), geographic barriers, political barriers (transparency of

governance, access to legal relief, accountability), and social and health barriers (language and literacy, gender issues, health issues, computer literacy).

A Survey of Empirical Evidence: From Access to Use

During the 15 years since Hoffman and Novak (1998) introduced the digital divide between those with and without Internet access, use of the web has risen dramatically. In the United States, the percentage of adults regularly going online has increased form roughly 30% to 80%. Even with this tremendous growth in access, substantial inequalities persist across demographic groups. For example, in contrast to 80% of adults in the general population of the United States who use the Internet, only about 70% of African American and 40% of people older than 65 do so (Goel, Hofman, & Sirer, 2012). Many studies have set out to explore the existence and extent of the digital divide. These studies can be grouped into two categories: studies of the first digital divide and studies of the second digital divide (Attewell, 2001). The concepts of the first digital divide characterized the earlier studies, which argued that the digital divide is a transitory glitch and will be closed in time due to market forces. Selwyn (2004), among others, criticized this optimistic view, saying that although in theory the formal provision of information communication technologies facilities guarantees that all individuals will have physical access to that technology, such access is meaningless unless people actually feel able to make use of the opportunity. Therefore, more and more studies have focused on the so-called second digital divide, suggesting that the emergence of the information society will create new social divisions while it strengthens old ones. Researchers who hold this more pessimistic view claim that groups that are already well networked via traditional forms of information communication technologies will maintain their edge in the digital economy (Sassi, 2005).

Today most studies tackle the second digital divide, rather than the first, whether it is occurring within the same country or between countries, classes, or races. Moreover, new dimensions have been added to the concept of "global digital divide." Ayanso, Cho, and Lertwachara (2010), for example, used a cluster analysis to provide insight into the regional and global digital divide by profiling 192 member states of the United Nations based on their ICT infrastructure. The resulting cluster profiles show two groups of nations, which the researchers label for presentation purposes as ICT leaders and ICT followers. Of the 192 member states, 32 nations were identified as ICT leaders and 146 nations as ICT followers (14 countries were excluded from the cluster analysis due to missing data in at least one of the variables). An examination of the two clusters shows that none of the nations in the region of Africa were identified in the ICT leaders' cluster,

whereas 22 European nations, three nations in the Americas, five Asian nations, and two nations in the region of Oceania were identified as ICT leaders.

Pick and Azari (2008) analyzed the influence of socioeconomic, governmental, and accessibility factors on ICT usage, expenditure, and infrastructure in 71 developing and developed countries. The results showed, inter alia, that there are several factors associated with the large digital divide between developing and developed nations, with the technology level more influenced by foreign direct investment and government initiative in developing nations and more associated with the labor force participation of women and educational variables in developed nations. In their study on the digital divide in Africa, Fuchs and Horak (2008) found that the least developed African countries in terms of income, education, and health also have low corresponding access and usage rates. They concluded that the global digital divide means unequal material, usage, skills, benefits, and institutional access to new information and communication technologies by different world regions. In another study, James (2011) divided a sample of developing countries according to whether they have experienced a rise or a fall in the digital divide on the Internet. He discovered that incomes tend to be relatively high in countries where the divide is falling, and vice versa in the case of countries where the divide is rising.

Numerous studies have been conducted to relate the digital divide to differences in race, gender, class, or shortly, between advantaged and disadvantaged groups or individuals. Van Deursen and Van Dijk (2010) examined the differential possession of Internet skills among the Dutch population. Their results strengthen the argument that the original divide between those who do have and those who do not have physical access to new media has led to a second divide, which includes differences in skills for using the Internet. Moreover, the results strongly indicate that a large portion of the population is excluded from actual and effective usage. In exploring the digital divide, Warf (2012) discovered that although penetration rates have grown among all sociodemographic categories, significant differences persist according to age, income, ethnicity, and education level but not gender. Willis and Tranter's (2006) study examining the social barriers to Internet use in Australia over a 5-year period found that although the Internet has become more accessible to all social categories and although further technologies diffusion should widen this accessibility, household income, age, education, and occupational class remain as key dimensions of differential Internet use. Enoch and Soker (2006) studied the effects of social-structural factors, including age, ethnicity, and gender, on Israeli university students' use of web-based instruction. The results showed that despite the great increase in use of Internet and e-mail, a steady and significant usage

gap remains in terms of age, gender, and ethnic groups, with nonusers tending to be older, female, and of Sephardic descent. According to the authors' view, this persistent gap, at least to a certain extent, can be viewed as a reflection of these groups' relative position within the stratification structure of Israeli society. Similarly, a study conducted by Schradie (2011), which analyzed data from more than 41,000 American adults surveyed between 2000 and 2008 in the Pew Internet and American Life Project, found that college graduates were 1.5 times more likely than high school graduates to be bloggers, twice as likely to post photos and videos, and 3 times more likely to post an online rating or comment.

Finally, a recent decade-long study, conducted by Rideout et al. (2010) for the Kaiser Family Foundation and reported by the *New York Times* in 2012 (Richtel, 2012), identified an additional disturbing phenomenon: ''Despite the educational potential of computers, the reality is that their use for education or meaningful content creation is minuscule compared to their use for pure entertainment.'' As access to the new media has spread, children in poorer families are spending considerably greater time than children from more well-off families on time-wasting activities (such as games, shows, social networks, etc.). The study lamented that ''instead of closing the achievement gap, they're widening the time-wasting gap'' (p. 353).

To conclude, our review revealed various definitions of the digital gap, ranging from a simple dichotomy between ''information haves'' and the ''information have-nots'' to the more complex and comprehensive definitions describing the unequal patterns of access to and usage of new media. Our review of the empirical evidence unveiled varied measurements of the digital divide in terms of access to and use of the new media. Earlier works identified the digital divide as the gap created between individuals, groups, and countries due to a lack of physical access to the new media infrastructure and proposed that the digital divide would diminish once the new media infrastructure was made available to all potential users. Later works, however, have shifted the focus from access to the new media to the consumer's skills in using those facilities properly, productively, and efficiently. Most empirical results suggest that there is a profound difference in usage of the new media between privileged and unprivileged groups and between developed and underdeveloped countries. Thus, the digital divides reflect the structural inequality in society, both within and between countries.

These emerging trends in the study of the digital divide relate to the propositions made by Chaffee and Metzger: It seems that their fear that the less privileged groups in society would be left behind during the information revolution has become a reality much more in terms of usage but less in terms of access. The relatively free access to new media may undermine the selective nature of mass media production, namely, the role of the

gatekeepers. In the conventional media, the institutional gatekeepers could determine who and what are worthy of exposure and publicity. However, in the new media environment, it is enough for a person to have a computer, Internet access, and fundamental proficiency in language and online communication in order to produce content and proliferate it on virtual platforms and social networks. However, the revealed gaps in the usage of the new communication platforms among different social groups may even strengthen the "old" knowledge gap hypothesis by creating and solidifying information gaps across social strata. Thus, although people from a lower socioeconomic position spend much more time on new media compared to people from a high socioeconomic level, they also gain less from this use and do not utilize sophisticated tools such as online information searching (Van Deursen & Van Dijk, 2013; Zillien & Hargittai, 2009).

As to the future: Communication technologies and economic developments may significantly improve the access of unprivileged groups and developing countries to new media platforms. At the same time, the new media environment may become much more sophisticated, demanding higher levels of media literacy in order to fully utilize its potential and opportunities. Thus, Barzilai-Nahon's (2006) argument that "networks and associated technologies are not neutral artifacts but are political and social spaces in their structure as well as in their content levels" (p. 269), may lead us to predict that the new media will continue to reflect the uneven power distribution and the hierarchical social status in any given society groups and within countries. Future research, therefore, should explore how the variety levels of user's media literacy—reproduce, preserve or change the existence and extent of the socioeconomic divisions among individuals, groups, organizations and countries.

POWER SHIFTS

In our current attempt to assess Chaffee and Metzger's predictions on the impact of new media on the notion of mass communication we focus on user-focused aspects. It is important to realize, however, that the user perspective is not the only one, so we believe that there is a need to broaden this review to the media institutions and power reconfiguration perspectives. Chaffee and Metzger argued that if new communication technologies shift power from elite groups to a greater proportion of media users, and particularly if media producers and consumers do become interchangeable, then problems such as media-induced hegemony and democratic access to the media are likely to be less pressing. Furthermore, they predicted that new media will create opportunities for media audiences to challenge the status

quo and define their own social reality, thereby rendering ideological control by the elite-owned media anachronistic. Yet they also noted that critical communication theory argues that the history of every technology is toward greater centralized control by groups who are already in power, and thus the Internet is no exception.

Various studies indicated that media ownership concentration is gaining momentum throughout the world even within the new media environment (Caspi, 2012; Hindman, 2009; Noam, 2009). This trend is revealed in the commercial sphere as well. A major implication of the network economy is the shift from the mass-mediated public sphere to a networked public sphere (Benkler, 2006). This shift is based on the increasing freedom that individuals have to participate in the creation and dissemination of information and knowledge and the possibilities that this participation presents for a new public sphere to emerge alongside the commercial mass media market. However, as the fast growth of the digital advertising market implicate,[4] it is easier to speak in the new media environment but harder to be heard. To be heard requires higher volume, which typically means more marketing resources and revenues. As Germano (2009) noted, advertising always played an important role as a major source of media funding, but the recent developments in the media environment mean greater competition for all media institutions, traditional as well as new, over the same volume of advertising. As a result, the advertising industry regularly interferes with the content of both traditional and new media, thus creating media bias in favor of the advertisers (Blascoa & Sobbriob, 2012; Ellman & Germano, 2009).[4] For example, Germano showed that excessive concentration of ownership can lead to substantial bias in areas sensitive to advertisers and that the numbers he obtained as thresholds for the occurrence of substantial bias in equilibrium are potentially alarming. A well-documented example is the coverage of health hazards of anthropogenic climate change (Boykoff & Boykoff, 2004; Oreskes, 2004).[5]

With regard to the assumed growing diversity: A higher number of content providers does not always translate into greater diversity, so the

[4]As the Pew Annual Report on American Journalism 2013 noted, the digital advertising market is growing faster than other kinds of advertising. Total digital advertising (including mobile) rose to $37.3 billion in 2012, a 17% increase. News organizations are facing continued competition from other companies for digital ad dollars. Digital advertising, across formats, continues to be dominated by five large companies: Google, Yahoo!, Facebook, Microsoft, and AOL. Within digital, mobile advertising is growing rapidly as well. Although still small, the mobile ad market grew 80% in 2012 (Pew Research, 2012).

[5]Baker (1994), Hamilton (2004), and McChesney (2004) present well-documented accounts of ongoing distortions. For example, Baker (1994) documented the statistical impact of advertising on the coverage of tobacco-related health hazards.

message's concentration does not necessarily change. According to Hindman (2009), search engines, used by the large majority of the online population, serve as powerful gatekeepers that yield a significant autonomous influence in directing traffic on the web and serve also the interests of large commercial players (see also Madsen, 2011). Furthermore, the substantial overlap between Yahoo! and Google's search results seems to reflect winner-take-all linkage patterns. According to Sunstein (2001), the diversity of communication options and range of possible choices online force consumers to filter the information they receive and enable them to immerse themselves in narrowly tailored media environments. The audience, however, will not spin off in all directions, creating endless fragmentation (Webster & Ksiazek, 2011). According to Turow (2012) the customized media environment which people inhabit today reflects "diminished" consumer power. Even though the producers of communication understand that consumers' attention is a crucial commodity in the emerging markets, with some private companies attempting to manipulate consumers and occasionally even engaging in monopolistic practices. Not only ads and discounts, but even news and entertainment are being customized by newly powerful media agencies on the basis of data that people don't know they are collecting and individualized profiles that people don't know they have. The common mass-mediated sphere is being replaced by multiple nonoverlapping spheres catering to particular class identities. Hence, Hindman (2009) suggested that those who had hoped the Internet would expand citizens' access to political information have to contend with two central facts: First, relatively little of what citizens are looking for is political. Second, much of what citizens seek is familiar. In fact, search engines help to keep the attention of the public highly centralized.

In sum, there is evidence supporting Chaffe and Metzger's suggestion that new technologies are shifting power from elite groups to a greater proportion of media users. However, this is only a partial shift. Although media producers can also act as media receivers and vice versa, they are still not interchangeable, and problems such as concentration of media, media-induced hegemony and lack of democratic access to the media still persist even in the new media environment.

CONCLUSION

More than a decade after Chaffe and Metzger first published their predictions, we may now state that although several major communication theories have not lost their relevance, they may need to be readjusted to some degree to reflect changes brought about by the patterns of flow, structure, access, and ownership of new media. Even in this new environment, the

original theories reviewed here demonstrate strength and resilience accompanied by flexibility and a certain amount of adjusting. To paraphrase General Douglas MacArthur's famous saying about old soldiers not dying but simply "fading away" (in his address to Congress on April 19, 1951) we suggest that "old communication theories never die; they just readjust."

In conclusion, future attempts to examine the resilience of communication theory should broaden the scope of the theories examined. Here we focused only on several key theories, as highlighted by Chaffee and Metzger. It is our view that future efforts should be directed toward exploring the attributes of new media and their impact on certain theoretical assumptions. If we are determined to reevaluate communication theories regarding production, control, audiences, and effects, then we must also explore the relevant attributes of new media. Eveland (2003) proposed a mix-of-attribute framework for advancing theory, specifically in a quickly evolving communication environment. As Dylko and McClusky (2012) noted,

> To make the mix-of-attribute framework more operationally useful, future studies should proceed by identifying relevant new media attributes, then using quantitative content analyses to document which of these attributes exist in the medium of interest, conclude by relating these new media attribute of new media to communication theories. (p. 269)

Our review shows that although theories may change to accommodate the changes of the new media environment, researchers are still dealing with the "old" issues of power and resistance, and structure and ownership. Delineating the relationship between institutions and individuals, these issues form the bases of both structural functionalism and critical thought in social science. Given the unique role the media play in diverse social, cultural, political, and economic processes, those issues are as relevant to the new media as they were (are) for traditional media. Moreover, the persistence of these issues in the new media era highlights the fact that communication technologies change, as they always did, but they still maintain their roles as important, powerful, and influential social institution. A future challenge will be the search for the factors underlining the resilience (or lack of it) of certain traditional communication theories: What are the features or attributes that predict survival, modification, decline, or sudden death?

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