Living in a Connected World

Tatyana Dumova, School of Communication, Point Park University, Pittsburgh, PA, USA

With five billion of the globe's seven-billion population using cell phones,[1] 2.4 billion accessing the Internet,[2] and one billion visiting online social networks such as Facebook,[3] the world is increasingly becoming connected and, in the opinion of some, even "hyperconnected." The 2012 Global Information Technology Report released by World Economic Forum states that for many institutions and organizations, "hyperconnectivity is driving monumental shifts in terms of impact on their work styles, functions, and missions in a variety of realms" (Dutta & Bilbao-Osorio, 2012, p. 114).

According to the International Data Corporation (IDC), a global information technology, telecommunications and consumer technology marketing company, the overall digital universe is projected to grow 50 times from the beginning of 2010 to the end of 2020. This parallel universe is made of text and voice messages, photos and videos uploaded to You-Tube, digital movies on HDTVs, data readings in ATM machines, transponders' recordings of highway tolls, digital surveillance images,

security footage, and more. By the year 2020, over 40 trillion gigabytes of data will have accumulated (Gantz & Reinsel, 2012, p. 1).

Mobile devices start to play a particularly pivotal role in many aspects of their owners' lives, concludes another report by the Pew Research Center's Internet & American Life Project (Smith, 2012)[4]. Nearly one third of cell phone owners in the sample described cell phones as "something they can't imagine living without" (p. 23). An earlier study[5] conducted by Cisco (2011) similarly found that nearly half of the millennials representing the generation Y population cohort considered the Internet "to be 'close' in importance to water, food, air, and shelter in their lives" (p. 4). The 2012 Cisco Connected World Technology Report confirmed this growing trend of hyperconnectivity worldwide by uncovering a nexus of IP-connected people, devices and things, where smartphones were ranked twice as popular as desktop computers and three times more popular than tablets for text, emails, or social media updates.[6]

Even more so, the latest technological hardware and software breakthroughs such as touchscreen technology; gesture control systems; 3D autostereoscopic LSD displays with real-time eye-tracking; advances in speech recognition enabling one to talk to search apps like iPhone's Siri, and perfecting mundane search tasks with Google's Knowledge Graph, and Facebook's Graph Search; the convergence of smartphones with tablets, and tablets with laptops, and many other novelties assure a plethora of opportunities to connect people and computing devices in new ways. For example, in 2012 four Ukrainian students designed gloves that would allow people with speech or hearing disability to communicate with those who do not understand sign language. According to the *Time* magazine, the gloves have sensors that can recognize sign language and translate it into text on a smart phone, which is then converted into spoken words.[7]

In 2004, Larry Page and Sergey Brin predicted that an Internet search option will become part of a daily functioning human brain. "Eventually, you'll have the implant, where if you think about a fact, it will just tell you the answer," prophesized Page.[8] As the number of futuristic gadgets such as Google Glass and the like continues to grow, so too do the challenges associated with living in an environment "where the Internet is accessible and immediate; people and businesses can communicate instantly; and machines are interconnected" (World Economic Forum, 2012).

Impressed with the growth rate of the Internet in the 1990s, Newhagen and Rafaeli (1996) distilled five fundamental dimensions of the "the Net" and "Net-based communication": multimedia, hypertextuality, packet switching, synchronicity, and interactivity (p. 4). Indeed, interactivity was of interest to scholars even before the Internet era. As early as 1988, Rafaeli defined interactivity as:

An expression of the extent that, in a given series of communication exchanges, any third (or later) transmission (or message) is related to the degree to which previous exchanges referred to even earlier transmissions (1988, p. 111).

Since this early conceptualization, the concept of interactivity has been applied to digital technologies and the Internet, which has been evaluated from a variety of standpoints and frameworks (Kiousis, 2002; Rafaeli & Sudweeks, 1997). Recent research has examined new forms of connectedness and explored the nature of digitally mediated relationships in a variety of settings, ranging from immersive virtual environments to blogs, social networks, news websites, and consumer review sites (Bailenson, Blascovich, & Guadagno, 2008; Baym, 2010; Boczkowski & Mitchelstein, 2012; Chung, Nam, & Stefanone, 2012; Garris, Guillory, & Sundar, 2011; Matzat & Snijders, 2012). On the basis of prior research, contributors to the current issue of the *International Journal of Interactive Communication Systems and Technologies* address a range of important issues associated with the proliferation of connectivity in a global society, including the use of mobile devices, and the role of digital technologies in social, personal, legal, and political contexts.

Although Web 2.0 has become a central concept in scholarly discussions about the social impact of the Internet, the actual meaning of the term is still subject to debate, according to Peter Mechant and Lieven De Marez (Belgium) in "Studying Web 2.0 Interactivity: A Research Framework and Two Case Studies." The authors view Web 2.0 "as a medium that creates a new degree of agency in constructing engagement with online resources and with other Internet users" and apply an interaction framework to a qualitative analysis of two Web 2.0 sites. The proposed approach to interactivity distinguishes three kinds of interactions: user-to-user, user-to-document, and user-to-website. The analytical framework takes into account both structure and agency and considers Web 2.0 sites as spaces where interaction goes beyond the mere consultation and selection

of content, thus enabling further insight into the emancipatory or participatory potential of these interactive spaces. Results of the case studies indicate that the structural properties of Web 2.0 provide abundant user, document and website affordances, facilitate amateurs to (co)create and distribute content, and change the ways in which amateur photographers and artists engage with other users.

Pruthikrai Mahatanankoon's (USA) article, "Moderating Effects of Novelty and Spontaneity on Personal Electronic Communication at Work," focuses on the changing dynamic of personal electronic communication in the workplace. The author defines personal electronic communication as "an informal communication in the workplace that extends beyond work-related responsibilities." The study applies media synchronicity theory to the analysis of survey data obtained from 110 white-collar employees in the Midwestern region of the United States. The author's findings show that, in the workplace, synchronous electronic communication such as instant messaging (IM) and short message service (SMS) were often preferred to asynchronous electronic communication such as e-mail. Results of several statistical analyses revealed the moderating effects of spontaneity and novelty seeking as the precursors of employees' transition to the use of communication tools with higher media synchronicity. The need for social connectedness along with the freedom to communicate with higher levels of synchronicity was among the factors that determine the "spillover" effect that blends work-related activities with non-work related needs.

Other researchers, for example, Cathy Marie Quast Sowa and Rodney K. Marshall (USA), believe that in comparison to instant messaging, SMS communication "is more asynchronous but allows for greater accessibility to exchange messages at any given time." The article entitled "Did U Get My Txt Msg?: Graduate Students' Text Messaging Uses and Gratifications" evaluates the use of SMS communication and digitally enabled interaction among cell phone users on a college

campus in the American Midwest. The study examined the frequency of graduate students' text message use and the gratifications they achieved through communications via text messaging. Analysis of 3,082 text messages indicated that there was no significant gender difference in either text message frequency or the gratifications obtained. The authors found, however, that half of the participants used text messaging to fit more than one gratification for digital media use: the gratifications of socializing, coordination of schedules, information exchange/professional communications, and escape. It appears that graduate students are likely to send text messages that meet a variety of communication purposes and combine gratifications within a single text message.

In contrast to the above study by Sowa and Marshall, the article by Ashley D. Cox, Cassie A. Eno, and Rosanna E. Guadagno (USA), "Beauty in the Background: A Content Analysis of Females in Interactive Digital Games," demonstrates that gender differences do exist in the depictions of characters of popular home video games. Based on the results of prior research, the authors hypothesized that female characters from top selling console video games would appear primarily in supporting roles and would be represented "as suggestively dressed with sexualized portions of their bodies exposed." It was also predicted that female characters would be less likely to engage in violence than male characters. A content analysis of 538 characters from 48 interactive video games supported the hypotheses and suggested that video games convey stereotypic depictions of women consistent with traditional gender roles. The researchers discuss the results from the point of view of the social learning theory with an emphasis on those features of interactive digital video games that may amplify their socializing impact. Future research might look at the implications of these findings in the context of mobile gaming systems.

A conference report and a book review conclude the current issue. The 6th International Conference on Weblogs and Social Media organized by the Association for the

Advancement of Artificial Intelligence (AAAI) was held in Trinity College, Dublin, Ireland on June 4-7, 2012. Lemi Baruh (Turkey), who himself was among the presenters, provides a nuanced account of the panel sessions, workshops, and other conference events. In general, blogging around the world continues to stay strong and current with technological advances, merging with other social media and allowing people to connect through hyperlocal, mobile, or live blogging (Dumova, 2012). Carmen Stavrositu (USA) offers a review of *The MoveOn Effect: The Unexpected Transformation of American Political Advocacy* (Oxford University Press, 2012) written by David Karpf. The book focuses on the changing American political ecology and the many opportunities for mediated political participation enabled by Internet-based technologies. Given the booming use of social interaction technologies at both individual and organizational level, the discussion of the benefits and challenges is timely and relevant. It is important to bear in mind, however, that the effectiveness of online participation modes is yet to be analyzed. A recent study by the Pew Research Center's Project for Excellence in Journalism (2012), for example, concluded that during the 2012 presidential campaign neither of the two candidates used digital tools like blog posts and tweets to their fullest potential.

The learned contributors to this volume of the *International Journal of Interactive Communication Systems and Technologies* take a multidisciplinary approach to reassessing issues associated with the implications of various Internet-based communication platforms and other digitally enabled technologies for people's everyday lives. The editor invites readers to continue the discussion to identify new areas of scholarly investigation, promote scientific inquiry, and enrich knowledge.

Tatyana Dumova
Editor-in-Chief
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[4] The report is based on the results of a national survey of 2,254 adults including 1,954 cell phone users.

[5] The study population was comprised of 1,441 college students (18–24 years of age) and 1,412 employees (aged 21–29) in fourteen countries.

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Tatyana Dumova (PhD, Bowling Green State University) is an Associate Professor in the School of Communication at Point Park University in Pittsburgh where she teaches undergraduate and graduate courses in digital media. Her research focuses on the social implications of information and communication technologies and the role of technology in teaching and learning. She has presented and published her research nationally and internationally. Recently, she has lead-edited Blogging in the Global Society: Cultural, Political and Geographical Aspects *and a two-volume* Handbook of Research on Social Interaction Technologies and Collaboration Software: Concepts and Trends.