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Interaction of Interpersonal, Peer, and Media Influence Sources Online: A Research Agenda for Technology Convergence

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Abstract
This essay renews consideration of how new communication technologies integrates mass, interpersonal, and other communication dynamics, and proposes research to help understand reciprocal social influence processes and information processing patterns in technology-enhanced exchanges. We review discussions about the division and proposed integrations among mass and interpersonal communication research. We argue that recent technologies fostering the intersection of virtual communities and mass messages through Web 2.0 applications offer particular salience to information from anonymous peers, and that a distinctive aspect of many new technologies is that they simultaneously present multiple types of influence sources—mass, peer, and/or interpersonal—in a manner that redefines or re-orders influence processes. We further develop a framework in which interpersonal motivations which computer-mediated communication make especially potent drive mass media information sampling and information processing. New types of public messaging may also be best investigated by stringent analyses of composers' interpersonal functional goals.

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**The Interaction of Interpersonal, Peer, and Media Influence Sources Online:
A Communication Research Agenda for Technology Convergence**

Developments in communication technologies are raising new questions and resurrecting old questions about the interplay of interpersonal, mass, and—we wish to argue—peer communication. Questions about the interplay of mass media and interpersonal processes are not altogether new. Twenty years ago a special issue of *Human Communication Research* featured discussions of the "false dichotomy" between mass and interpersonal communication research. These and other critiques of the fields and foci of mass and interpersonal communication seem to focus on three issues: Some of these essays review the history and nature of the paradigms. Others illustrate how traditional mass communication events and interpersonal processes cycle and sequence with one another and have always done so. Yet others suggested the new communication technologies demand a revised view of mass and interpersonal processes; that new technologies blur the boundaries between interpersonal and mass communication events and/or the roles that communicators take on using new systems. Likewise, arguments have been made that the "convergence" of old and new media demands new and unified perspectives on traditionally segregated processes.

Some of the questions and assertions on this subject deserve reconsideration in light of recent technological developments, many of which were unforeseen when previous pronouncements were articulated, that change relationships of mass and interpersonal sources. More specifically, some new communication technologies are changing the manner of reception by which individuals acquire information from institutional, interpersonal, and peer information sources. Technology changes

the temporal and contiguous presentations of these sources, and may in fact change the information processing and social influence dynamics among these sources; that is, the sequence with which sources are sampled or the simultaneousness with which they appear may have potent effects on the information processing filters and biases.

"Media convergence" is a term that has been used to connote several phenomena that are brought about by advancements in telecommunication technology that may change some aspect of the communication process. Sometimes the term refers to the blending of previously individuated mass media: one can watch movies on one's computer, for example. We wish to discuss another kind of convergence: the potential for simultaneous communication via computers of both conceptually mass and interpersonal channels. For example, one can examine the NYTimes.com while chatting about its content with a friend via Instant Messenger; one can draw political news from a blogger, and post an individual reaction on that blog as a comment. Moreover, in addition to mass and interpersonal sources, new communication technology has made incredibly salient another information source, virtual communities and other forms of peer-generated information, which is accessible at a previously impossible level. This addition may further affect the balance of sources social influence in several settings.

How these information streams influence individuals, of course, is not a magic bullet. We believe that in many cases a deeper understanding of the use and influence of these sources may be derived through a renewed focus on the interpersonal goals that may drive users' information-seeking and processing. How these new

juxtapositions of institutional, peer, and interpersonal sources may change information processing patterns and effects of information consumption will have much to do with the interplay of motives that drive particular interactions.

Technology has also generated new forms of communication, in social networking sites and other systems, which bridge the structural and functional characteristics of mass/interpersonal/peer communication. Such technologies invite research that will advance understanding of how individuals conceptualize communication, instantiate communication strategies, and interpret new mediated message forms and content.

The purposes of the present work are several. First, we revisit approaches to the division and interaction of mass and interpersonal communication processes, to see what questions and assertions have been raised that may continue to guide understanding of these processes as they unfold via new technologies. Second, we will attempt to articulate an expanded perspective on the interplay of institutional, peer, and interpersonal sources through contemporary communication technologies, and to articulate research agendas that can help understanding of the information processing patterns that such convergent forms make likely. Third, we identify new forms and functions of mediated communication that challenge previous classifications, in order to invoke principles that may focus research to help explain these new phenomena.

Perspectives on Mass/Interpersonal Divisions and Mergers

Traditionally, mass communication processes have been conceptualized as one-way message transmissions from one source to a large, relatively undifferentiated and anonymous audience. Interpersonal communication involves smaller numbers of participants who exchange messages designed for, and directed toward, particular others. Interpersonal communication has been considered a two-way message exchange between two or more individuals in which communication strategies are shaped by the instrumental and relational goals of the individuals involved, and the knowledge about one another's idiosyncratic preferences (see for review Berger & Chaffee, 1989; Cappella, 1989).

Several landmark works involve both mass communication and interpersonal processes to render a comprehensive understanding of particular phenomena. The manner in which most people form and change opinions of politics, style, and other cultural issues is well-known to involve mass media messages and interpersonal discussions(e. g., Katz, 1957; Katz & Lazarsfeld, 1955; Lazarsfeld, Berelson, & Gaudet, 1944). Similarly, the integration of mass and interpersonal processes is necessary in order to understand the diffusion of innovations, a communication process that incorporates both mass and interpersonal communication in its very conceptualization (Reardon & Rogers, 1988).

Despite their organic relationship in some processes, a review of their conceptual and disciplinary differences shows that the exploration of mass and interpersonal processes often takes place in isolation of one another. This separation helps make clear how they operate together when they do, as well as to set the stage for consideration of their interactions, mergers, and/or convergences. Several commentators have illuminated the causes and consequences of a disciplinary divide between mass and interpersonal communication research. Wiemann, Hawkins, and Pingree (1988) attributed the division to historical and

academic/bureaucratic differences. Reardon and Rogers (1988) argued that the division developed as a result of scholar's efforts to define their distinctive contributions to social science. Interpersonal scholars followed the tradition of psychology and social psychology from the 1920s-1930s. Key sources such as Heider's (1958) *Psychology of Interpersonal Relations* and the approaches employed by psychologists, sociologists, and anthropologists such as Argyle, Goffman, and Bateson, respectively, helped solidify the relevance of social scientific research on face-to-face interaction and relationships (Reardon & Rogers, 1988), leading to the subarea of interpersonal communication. Mass media research evolved primarily from sociology and political science (Reardon & Rogers, 1988). Mass media research examined how mediated messages affect large audiences. These alternative sub-areas allowed scholars to focus, define, and justify their academic endeavors.

Despite its historical utility, this division has been lamented for a variety of reasons. The most prevalent concern is a lack of synthesis between mass and interpersonal communication in terms of the theories and research methods that have developed under alternative foci, to the extent that scholars with functionally similar interests may not be aware of the scientific work being performed outside of their area of specialization (Berger & Chaffee, 1988; Pingree et al., 1988, Reardon & Rogers, 1988). Cross-disciplinary integration can expand understanding and contribute to more comprehensive approaches to measurement, critics argue, as well as surface for greater scrutiny underlying assumptions inherent in individual specializations (Pingree et al., 1988). Berger and Chaffee (1988) argued that theorizing with a common purpose is the way to unify the field as a whole. Subfields pursuing

similar issues without the knowledge of one another can lead to greater division and weakened theoretical results, whereas shared purposes, language, and research areas can provide frameworks for the creation of new theories that examine processes of communication as a whole.

In addition to these general arguments for a merger of mass and interpersonal research approaches, advocates have argued that new communication technologies have the potential to merge the very processes conventionally considered as pertaining to mass communication or interpersonal communication, and that the merger of processes demands the merger of approaches in order to understand such phenomena. For example, Reardon and Rogers (1988) suggested that new interactive media did not neatly fit into preexisting areas of study. They claimed that a new epistemological approach to communication research may be needed. Several observers suggested that new technologies defy easy categorization as either interpersonal or mass media channels because of their interactive nature (Gumpert & Cathcart, 1986; Newhagen & Rafaeli, 1996; O'Sullivan, 1999, 2005; Pingree et al. 1988; Reardon & Rogers, 1988). Thus, commentators hold out hope that "this technological change may facilitate a long-needed paradigm shift in communication science" (Reardon & Rogers, 1988, p. 297) since analytic approaches from mass or interpersonal communication traditions may be insufficient to grasp the effects of new technologies in communication dynamics.

Cathcart and Gumpert's (1988) initial exploration into the mass/personal merger led them to speculate about a "new typology" they termed "mediated interpersonal communication," which they defined as "any person-to-person interaction where a medium has been interposed to transcend the limitations of time and space"

(p. 30). They argued that new analytics are needed for such forms since the interposition of media changes the quality and quantity of information exchanged, influences personal behaviors and attitudes, and shapes an individual's self image. Twenty years later, without a new typology *per se,* the study of computer-mediated communication (CMC) has done much to flesh out a number of issues that Cathcart and Gumpert identified (see for review Walther, 2006).

Likewise, O'Sullivan (1999, p. 580) argued that "The functional convergence of mass and interpersonal channels, perhaps best represented by the Internet, is both a challenge and an opportunity for scholars to pursue convergence of the two areas of study." More recently, O'Sullivan (2005) suggested that there are and have been unique blends of "masspersonal" communication, not only in Internet forms but through unconventional appropriations of conventional media, when individuals use traditional mass communication channels for interpersonal communication, traditional interpersonal communication channels for mass communication, and new communication channels to generate mass communication and interpersonal communication simultaneously. One recalls the example of proposing marriage by sending the request over the Jumbotron at a major sporting event, in front of screaming throngs of onlookers.

Despite the call for synthesis, the publication of synthetic interpersonal/mass approaches to communication and new technology has not accelerated. O'Sullivan's (1999) analysis of articles in *Human Communication Research* since its creation in 1974 to 1999 showed that less than 3% of articles offered "synthesis scholarship," and the frequency of such synthesis did not increase after the Winter 1988 issue calling for *rapprochement* of mass and interpersonal communication research.

Results of similar analyses for other major communication journals such as *Communication Monographs,* the *Journal of Communication*, and *Communication Research* over the same time period showed that a small and sporadic amount of synthesis research has continued after several endorsements (O'Sullivan, 1999). Much has changed since 1999 with respect to the prevalence of the very technologies that may require synthetic approaches, and the number of articles in our journals (and journals themselves) devoted to those technologies has changed as well.

Integrating mass and interpersonal dynamics may be easier said than done. Adherents of each tradition who focus on new technology sometimes fail to realize their sub-disciplinary biases. For instance, *interactivity,* which is frequently mentioned in association with new technology, may connote different things for different analysts: New media are relatively *more* interactive than traditional sources, to mass communication researchers; new media are *less* interactive than traditional sources, to interpersonal communication researchers (Walther, Gay, & Hancock, 2005). Others caution that analysis of emergent forms of Internet communication defy a simplistic merger of traditional mass and interpersonal perspectives altogether. Caplan (2001), for instance, argues that CMC involves mixtures of traditional features of mass and interpersonal communication in unique and recombinant ways: In CMC, senders can be sources of mass communication (e. g., personal webpages, participating in a large online forum) and an interpersonal communication partner (e.g., Instant Messaging, online chatting) at the same time. Receivers in CMC can be anonymous audience members (lurkers), and can also be a target of an instant personalized message. Additionally, in CMC message processes are not constrained by time or physical space.

Caplan argued that these fundamental differences between CMC and traditional mass or interpersonal communication systems cannot be understood by simply "merging" or "bridging" mass and interpersonal perspectives; they are fundamentally new processes that require a new paradigmatic approach.

Although most predate the study of contemporary electronic communication technologies, some efforts to bring specific mass and interpersonal processes together have appeared throughout the years. These integrations provide stimulating launching points for reconsideration of communication processes in light of recent changes in the media and interpersonal landscapes. The following discussion reviews some exemplars, and suggests extensions of their potential application with respect to new media.

Functional Perspective on Information Seeking

In his essay, "Mass Media and Interpersonal Channels: Competitive, Convergent, or Complementary," Chaffee (1986) discussed the convergent (overlapping) and complementary (differentiated) roles that traditional mass and interpersonal channels play in the acquisition and dissemination of communication messages. Chaffee's essay reminds readers that information sources are less likely to be selected on whether they are mass or interpersonal channels; other criteria are more important selection determinants. For instance, an interpersonal source may have more or less *credibility* on a particular topic than a mass media source. Alternatively, mass media sources may not provide the same degree of *access* to information on a particular topic as might be available by asking an interpersonal acquaintance. No single information source is the end of the process: An individual may seek information on a topic from one target, and seek elaboration or a second opinion from another target. Chaffee concluded that "The traditional concept of a directional 'two step' or 'multi step' flow fails to capture the cyclical and reciprocal nature of this process" (Chaffee, 1986, p. 76).

Chaffee's (1986) conceptualization of access and credibility issues, as stronger determinants of information-seeking than media versus interpersonal forms, have important implications in the contemporary technological landscape.

The *access* criterion that Chaffee (1986) identified has been transformed radically, in several ways, with dramatic implications. Chaffee asserted that we seek information from media or interpersonal channels largely based on topic, timing, and immediate accessibility. In Chaffee's time, access considerations may have led an individual to choose an interpersonal or media source depending on which source was more able to deliver information on a specific topic most readily. If it was unlikely that TV news or a newspaper would soon carry information on a topic of interest, one might seek a knowledgeable friend. In the age of the Internet, however, a wide array of information is accessible on demand. Because of the availability of the Internet, traditional mass media or interpersonal sources may be less likely to be easy-access starting points for information seeking. The search engine puts a virtual encyclopedia on every desk.

Furthermore, this radical degree of access seems to have obviated traditional credibility concerns in terms of preferences and acceptability of sources. Chaffee (1986) argued that credibility—the expertise and trustworthiness of a source—rather than the channel, plays the greatest role in our acceptance of information. This may no longer be the case, at least in some contexts. Search engine users generally exhibit the

tendency to "satisfice" when seeking information online, relying on Google's hierarchical display of search results by relevance, regardless of the source of the pages referenced, in guiding their information acquisition (Pan, Hembrooke, Joachims, Lorigo, Gay, & Granka, 2007). In a study of health and medical information-seeking, Eysenbach and Köhler (2002) asked focus groups of Internet users how they selected credible sources of health information online. Respondents offered reasonable criteria such as the institutional source of the information, author credentials, and recency of updating. When the same respondents were led to a computer lab and asked to find answers to specific health-related questions, however, they relied almost exclusively on the top-to-bottom rankings of search engine results, with no particular evaluation of source credibility using the criteria they themselves had articulated moments before (see also Metzger, Falanagin, & Zwarun, 2003; Walther, Wang, & Loh, 2004).

As we suggested above, another dramatic shift brought on by electronic technology's changes in information access pertains not only to the convergence of media (television, newspapers, movies, and Internet) but also the more fundamental convergence of mass, interpersonal, and peer channels (mass media sources on the one hand, and synchronous or asynchronous discussion with peers, family, and/or friends on the other). In the contemporary media landscape, individuals may consume traditional mass media information from electronic mass media. For example, individuals may watch a Presidential candidate debate on the computer via CNN.com or even on YouTube while they simultaneously or subsequently chat about that debate (and re-run the good parts) online with peers or provocateurs. How does the presence of peers affect perception and

interpretation of the political messages? In the above scenario, do the chat room messages complement the information being provided by the political candidate or vice versus? Does the simultaneous convergence of information from two sources have the same degree of influence as the traditional type of flow, in which information from one source precedes information from the other source in a distinct temporal order? The Internet and CMC subvert previous patterns with regard to the sequence of communication flows among sources.

Research has provided some insights into the possible effects of online discussions about both political races and public service announcements (PSAs). Price and Cappella (2002) found that online political discussion promoted civic engagement. Sixty groups of citizens engaged monthly in real-time CMC discussions about issues facing the country and the ongoing 2000 presidential campaign. Price and Cappella found that discussion participants' recalled more pro and con arguments over issues than they had held before the discussions. This change correlated with increases in participants' political knowledge. As a result of participants' online discussions, attitudes and behaviors were altered: Those who had engaged in online political discussion were more likely to vote and perform civic duties than individuals who did not participate in the discussions. Whether these effects are due in any way to CMC rather than discussion per se was not addressed.

Chatroom discussions also facilitate ironic effects on the persuasive potential of PSAs. David, Cappella, and Fishbein (2006) explored how adolescents' online discussions that followed the viewing of weak or strong anti-marijuana PSAs affected their attitudes. Results showed that online group interaction after weak PSA exposure led to more pro-marijuana attitudes and

beliefs than those in the no-chat conditions. A sample of seventh and twelfth grade students were assigned to four treatments crossing strong versus weak PSAs with chat versus no-chat conditions, in groups of 10-20 at a time, with participants using pseudonymous nicknames when they discussed the PSAs. David et al. proposed that high sensation seekers were likely to process the PSA messages in a biased manner. These individuals dominated the online discussions, eclipsing others who might have favored the PSA's messages but who remained relatively silent. As a result the outspoken participants influenced others negatively with respect to the PSAs' intended effect on marijuana attitudes. Both of these studies demonstrate potent effects of online chat, but did not examine whether online discussions offer dynamics which differ from those potentially garnered from face-to-face discussions.

Other research on social discussion of PSAs has reached alternative conclusions, but these studies employed face-to-face discussion rather than online chat. Kelly and Edwards (1992) assigned female college students to several groups, some who observed anti-drug PSAs without discussion and others who observed the PSAs and engaged in discussion afterwards. Results were mixed overall, but the discussion of PSAs had a significant positive effect on some attitudinal outcomes. Warren et al.(2006) also compared the utility of classroom videos on adolescents' substance use rates, alone versus with accompanying face-to-face discussions. Only with discussion were videos effective in reducing drug use in that sample. Comparing these results to those of David et al. (2006) there appear to be differences in the effects of online versus offline discussion of anti-drug PSAs.

Although David et al. (2006) did not consider online chats to provide anything other than a methodological convenience for the capture of adolescents' discussions, there is reason to believe that CMC exerted some effect. The research on social influence in online settings under the aegis of the social identification and deindividuation (SIDE) model of CMC (Reicher, Spears, & Postmes, 1995) sheds some light on the issue. Several studies offer compelling evidence that short-term anonymous online chats bestow extraordinary pressure on participants to conform to normative positions in group discussions (Sassenberg & Boos, 2002; see for review Postmes, Spears, & Lea, 1999), and that these dynamics are diluted in face-to-face settings. Thus, effects of CMC in the discussion of PSAs or other media messages should be expected to differ from offline discussions. David et al. (2006) did note that the older and more influential teens were generally considered to have higher social status than younger ones and more likely to have had prior experience with marijuana. It is just such social identification dynamics that should lead to more pronounced effects in CMC than face-to-face interaction. Social identification and peer group influence in CMC should be a useful element in explaining a variety of influence effects in the new technological landscape, as we will illustrate further, below.

Multiple Information Sources and Peer Influence: Web 2.0

Do asynchronous comments about videos affect perceptions of videos the same way that chatroom discussions undermined the potential influence of anti-drug PSAs? Do comments appearing adjacent to YouTube videos affect perception of the videos? There is a need for further research on how social influence transpires under various conditions where online peer discussion co-appear with institutionally-authored messages or other messages that

bear the conventional characteristics of mass media. These situations are made radically accessible by the convergence of mass, peer, and interpersonal communication channels. Online chatrooms, asynchronous discussion boards, and various types of commenting and referral systems provide salient group dynamics. Indeed, we wish to suggest that one of the most fruitful approaches to understanding new technology may be through consideration of the multiple and simultaneous social influence agents embodied in the channels that these technologies make salient.

Much attention has been given to Web 2.0 (O'Reilly, 2005), which encapsulates websites built to facilitate interactivity and co-creation of content by website visitors in addition to original authors. In the original Web, personal and institutional webpages were changeable but not dynamic (Papacharissi, 2002). Feedback to a website's content was made through other channels—primarily e-mail—if at all. The traditional Web was a one-to-many medium, and in that respect was similar to other mass communication channels (Trenholm, 1999). More recent technologies allow for interactivity on websites. For example, Facebook, a social networking site, allows users to place comments on their friend's "wall," thereby co-creating the friend's homepage (Levy, 2007).

Web 2.0 provides new forms of communication among individuals and groups. In addition to social networking sites on which one's associates can contribute content to one's web-based profile, it includes picture-sharing systems that allow users to append "tags" to content that facilitate later searching, linking, and the discovery of conceptually or visually similar content on others' sites; video-sharing systems like YouTube, where users upload and share videos, and may publically comment on those videos either verbally or

with additional videos; wikis, which are collaboratively edited documents; reputation systems such as those on product vendor sites, on which customers can post their evaluations of products and vendors, or on auction sites such as eBay where sellers and buyers are numerically and verbally rated for others to see, as well as sites that specifically solicit ratings of instructors such as RateMyProfessor.com. All of these forms allow ostensible peers—other users—to interact, without having to disclose much about one's offline identity or qualifications. The sites are populated by relatively anonymous peers. As such, they are prone to the kinds of influence that social identification facilitates. Moreover, we may say that the peers are not simply peers, but peers exhibiting "optimal heterophily" (Rogers & Shoemaker, 1971): They are like us in terms of interests and in their shared perspective (e. g., also customers rather than vendors, students rather than teachers) except for one important difference: they have experience with the specific target (vendor, professor, etc.) while we do not. Thus their trustworthiness and relative expertise should be quite strong. Indeed, Sundar and Nass (2001) found that people more highly value information presented on computers when they believe that the information was selected by other (unidentified) computer users. In an experiment that presented identical news stories on computers to subjects, ostensibly peer-selected stories were preferred, as opposed to stories that appeared to have been chosen by news editors, computer algorithms, or even by the subject him- or herself. When other users were perceived to be the source of online news, the stories were liked more and perceived to be higher in quality, and were perceived to be more representative of news.

Casting Web 2.0 as an interface that presents multiple sources of influence

demands that we explore whether and how peers' (users') additions to webpages affect other users' perceptions of the original author's mass media message. Several studies have begun in this direction.

These effects are clear in online recommender systems, or reputation systems: tools explicitly designed to display peers' evaluations of various targets. Their foci range from product reviews to vendor reviews to professor reviews. Edwards, Edwards, Quing, and Wahl (2007) experimentally examined the impact of online peer reviews of college faculty in RateMyProfessor.com on students' perceptions of faculty. Edwards et al. proposed that online reviews are believed to be authored by individuals similar to the receiver. After reviewing contrived positive peer reviews for a professor on RateMyProfessor.com, and watching a video showing a sample of the professor's lecture, students rated the instructor more attractive and credible. On the other hand, when students read experimental negative peer evaluations, they rated the instructor as less attractive and less credible, despite watching the identical lecture video. This research found similar results with respect to attitudes toward course material and learning. Edwards et al. concluded that the interactive web has the ability to manipulate offline beliefs and actions, by affecting students' perceptions of credibility and attractiveness, their affective learning, and state motivation in the educational process. These findings are not unlike those of Resnick, Zeckhauser, Friedman, and Kuwabara (2000), who established that the quality of one's peer-generated ratings as a seller on eBay renders a demonstrable monetary influence on the prices one is able to garner for the goods one sells.

The influence of web-based social comments on perceptions of individuals extends beyond recommender systems. Perceptions of individuals who created online profiles in social networking systems are influenced by the comments and attributes of postings which others leave on those profiles. According to Walther, Van Der Heide, Kim, Westerman, and Tong (2008), the content of friends' postings on profile owners "walls" in the Facebook social networking site affects perceptions of profile owners' credibility and attractiveness. The physical appearance of one's friends, as shown in those wall postings, affects the perceived physical appearance of the profile owner, as well. Other recent research also shows that when there is a discrepancy between a Facebook profile owner's self-disclosed extraversion and perceived attractiveness, and the imputation of those characteristics implied by wall postings, others' comments override the profile owners' claims (Walther, Van Der Heide, Hamel, & Shulman, 2008).

While new communication technology can make peers and their potential influence exceptionally salient, the basis of online influence dynamics need not rest in group identification and social identities, as the SIDE model claims. However, in some circumstances new communication technologies make individuals salient, raising the potential influence of interpersonal sources as well. Several social networking systems within Web 2.0 applications make salient what one's friends are doing, not just what a diffuse group of anonymous peers have to say. For instance, although it is clear that the definition of "friend" is stretched rather thin in Facebook, where the 250-275 average number of friends an individual specifies and links with (Vanden Boogart, 2006; Walther et al., 2008) exceeds by far the 10-20 close relationships people tend to sustain in traditional relationships (Parks, 2007), among this huge amalgamation may be one's closest affiliates. Facebook prompts

users to describe, and the system displays, what films and TV shows these friends are watching, what political views they hold, and what events they are attending. Even the web-based DVD-by-mail system, Netflix, offers users the opportunity to share information automatically about what movies chosen friends have rented and how they rated them.

To summarize, one important avenue of research for the convergence of sources that new technology promotes will be to understand the various avenues and interactions of social influence agents who co-appear (or are closely within clicking reach) in Web 2.0 interfaces. Another potentially important line of research goes beyond the impact of the overwhelming presence of what friends and peers think and do on passive social influence on receivers. The dynamics we have considered so far have focused on how individuals passively use the social information made manifest by participative social technologies, in terms of how such information shapes receivers' own perceptions and decisions.

If individuals come to guide their own media information-seeking and information-processing in order to attempt to satisfy other social goals through subsequent or simultaneous interactions with social partners, convergent social technologies make possible a separate set of dynamics. For example, do friends and family members watch broadcasted political debates for the express purpose of gathering talking points with which to deride certain parties' candidates in interpersonal conversations with relational partners? If so, do these motivations affect attention to and processing of candidates' messages? Other research on traditional communication sets the stage for a contemporary re-examination of just such possibilities.

"Communicatory Utility" in Media Information-Seeking

The predominant view of the two-step flow of individuals' use of mass media and interpersonal encounters suggests that individuals garner information from the media which they then elaborate in interpersonal encounters, to understand the issues that the media discuss. In distinction to the primacy of the issue suggested in such an approach, Atkin (1972) demonstrated how interpersonal motivations drive mass media information-seeking in order to fulfill interpersonal goals. Atkin (1973) defined *behavioral adaptation* as one of the primary motivations to seek information: Because of an individual's "need [of] information that is useful for directing…anticipated behavior" (p. 217), people garner information from mass media when they anticipated future communication with others about some topic. As such, while information garnered from mass media sources may provide its consumers with matter related to the topic, it also provides *communicatory utility*— awareness about a topic about which the individual expects to interact—with respect to further conversations.

In establishing these constructs, Atkin (1972) analyzed survey data that revealed an association between the number of conversations people had with others about the news and the number of news sources to which one was exposed. Atkin also found a significant association between the degree to which individuals discussed an ongoing presidential campaign with their family and friends and the degree to which the sought information about that campaign, even after controlling for individuals' level of interest in the campaign (as well as education level and socioeconomic status of participants). In other words, even when people were not interested in the Presidential campaign, they sought information about the campaign because they knew they would be called

upon to have interpersonal discussions about it. To further establish the effect, Atkin (1972) conducted an original experiment in which he led subjects to different levels of expected future interaction on various news topics, of a local or national relevance. Expected future communication about a topic significantly predicted the extent to which participants reported information seeking on that particular topic. Similar findings are reported by Wenner (1976), who found that some people who watched television did so because it provided a vehicle for conversation, and Lull (1980), who found that media were often used relationally to facilitate interpersonal communication. Similar effects have been found in more recent studies as well (e.g., Southwell & Torres, 2006). In short, one drive to employ mass media information is because of prospective discussion about it among interpersonal acquaintances.

Atkin's (1972) notion of communicatory utility is intriguing on several counts. Clearly it offers another insight into the merger of mass and interpersonal events, but it connects the utilization of mass communication to a superordinate interpersonal functionality. It is intriguing in terms of the questions it raises with respect to the availability of mass and interpersonal sources in the current technological landscape: Do individuals peruse electronic mass media, as well as websites or recommendation systems online, in order to fuel discussions with friends? Do these discussions precede or co-occur with the perusal of information sources, rather than follow them the next day at lunch? That is, does a question (or an anticipated question) in an online chat with a friend or friends prompt an information search *in situ*? All of these variations are germane to the notion of communicatory utility online, and they raise information processing questions that pertain to the timing and

specifiability of information sought when interpersonal discussion and media searching can take place contemporaneously.

Communicatory utility is a concept that helps explain an example offered above: individuals might watch a political debate not in order to gather information with which to make a voting decision, but rather, to have ammunition with which to derogate some candidates. Yet Atkin's original formulation of the utility construct offered little in the way of what kinds of interpersonal goals might be served by sampling media, other than to be able to hold one's own conversationally. By expanding the range of interpersonal goals one may consider, the potential of communicatory utility can go beyond helping us understand media consumption, to help illuminate issues of media information processing.

We posit that the specific interpersonal goal(s) that prompt an individual's media consumption shape attention to *variations in the content and features* of the topical information one consumes, affecting its interpretation and recall. For instance, collectively derogating political candidates or office-holders may be an activity that relational partners use to reinforce the similarity of their attitudes. This, of course, is not restricted to online news and online chats, but may be a general purpose cross-media communication function. As such, one may not watch a debate or speech with an open mind in an effort to make political decisions. Rather, one may watch for the illogical assertions and dumb mistakes a disliked speaker utters.

These notions raise the question, is purposive sampling of mass media information biased by specific interpersonal goals? If so, how? How does biased sampling affect attention, repetition, inference, and retention? Goals may vary in

any number of dimensions with respect to instrumental, identity, or relational issues (Clark & Delia, 1979; Graham, Argyle, & Furnham, 1980) in the service of needs for inclusion, affection, and/or control (Schutz, 1966). The goals of an online chat may include the desire to impress a conversational partner. This could take the form of a desire to maintain status, as may have been the case in the adolescent chats observed by David et al. (2006), consistent with Heider's (1958) balance theory. Does an adolescent student who craves inclusion with outspoken sensation-seekers look for anti-drug Youtube videos accompanied by derisive user comments, to which he adds his own derision? Alternatively, interpersonal goals may reflect a desire to express attitudinal agreement and convey interpersonal similarity in order to impress a prospective relationship partner. If the expression of one's attitude becomes a strategy subordinated to a goal of expressing solidarity with another person, one's sampling of media messages is likely to be exercised in a manner which allows one to express the socially-utilitarian attitude. Thus when one pursues relational goals, they may focus the nature of one's media sampling and the potential counter-attitudinal advocacy one generates. In this way relational goals affect the attention, selection, interpretation, and retention of media information.

The currency of this proposition is that information-seeking and processing may be different in traditional environments, where media exposure and interpersonal discussion are separated by some interval of time, compared to the new media environment in which mass and interpersonal channels may be sampled (and re-sampled) simultaneously. Even in offline group discussions, communicators share or withhold information in a biased manner due to the social motives they bring to

discussions, such as maintaining good relations, obviating conflict, or gaining status; validation from others further biases information sharing (Wittenbaum, Hollingshead, & Botero, 2004). Computer-mediated communication may exacerbate this tendency. CMC has particularly dynamic properties that facilitate selective self-presentation in the pursuit of relational goals, facilitated by unique characteristics of the channel and the context in which it is deployed (Walther, 1996). Studies show that CMC allows users fluidly to adapt one's self-presentation to one's expectations or observations of a conversational partner in order to facilitate impressions and positive interactions, in both asynchronous statements (e. g., Thompson, Murachver, & Green, 2001; Walther, 2007) and adaptive synchronous interactions (e. g., Herring & Martinson, 2004). Web users are well aware of the impressions they construct in the pursuit of relationships, and consider carefully the balance between honest disclosure versus socially desirable distortion in selecting communication strategies to attract others online (Gibbs, Ellison, & Heino, 2006). For these reasons it is important to improve understanding of how these Internet-magnified motivations affect message processing.

New Message Forms

Finally, an approach to new communication technology from the perspective of mass, peer, and interpersonal communication and communicators' goals may offer approaches to new communication forms, the understanding of which begs real analysis. Although there may be many aspects of CMC that are analytically novel in structure and purpose (see Caplan, 2001), we focus here on a potential hybrid of mass and interpersonal messaging: public interpersonal messages

posted on social networking sites. Although these sites have been the focus on intense research activity of late, very little research has formally considered the goals guiding users as they compose messages. Ultimately, we believe, a goals-based approach will help us understand how the users of such systems conceive of these publicly shared messages, which, given that communication technologies are often best understood in terms of their actual appropriations (see DeSanctis & Poole, 1994), will allow us to learn much about their utility as communication tools and the messages they convey.

An example becoming very well-known is the Facebook feature, wall postings. Person A, who Person B has specified in the system as a "friend" (a person with privileges to see and contribute to portions of Person B's profile) can post an interpersonal verbal message (accompanied by Person A's photo, by default) to Person B's profile wall. These postings often appear to express interpersonal affection, comment on some mutual event in the past or future, or proclaim relational status (among best friends forever!). However, it is also known to all involved—posters and profile-owners—that such messages can also be read by all the other people connected to Person B's social network of friends. It is, by definition, a public message, bordering on being broadcasted (or at least, narrowcasted within the social network) for others to see. Facebook users have noted that one of the main uses for social networking technology is relational maintenance (Lampe, Ellison, & Steinfield, 2006). Are such wall posts "mass" messages or "interpersonal" messages?

The exchange of messages that are inherently interpersonal and at the same time public is rare, and comparable to few other communication forms. The notion of posting on a "wall" may conjure the image of graffiti, which shares communication characteristics with Facebook: Rodriguez and Clair (1999) note that graffiti is a participatory medium. Participants write messages which a receiver independently observe and potentially reply. Graffiti also has characteristics of mass media messages: Messages are transmitted by a sender to many receivers, mediated by the wall on which it is written. Graffiti affords asynchronous interactivity (Robshaw, 1996), like Facebook, although its lack of photos other individual author signifiers obviously limits its social networking and relational maintenance utility.

In one sense wall postings may constitute "tie signs," (Morris, 1977). In their material manifestations offline, where they are less content-rich than Facebook messages, tie signs function as public symbols of interpersonal connections, or "signals that a couple is to be treated as a bonded pair" (Burgoon, Buller, & Woodall, 1989, p. 318), and can include touch behaviors or articles of clothing, jewelry, decorations, or other adornments that belong to, or signal mutual belonging to, another person. A woman wearing a particular man's sweater, or a half-heart pendant, can constitute such public signifiers of relational belonging. They do not always explicate who the relational partner is, the way a Facebook posting makes obvious and visual. Yet Facebook postings do contain content, and the construction of that public/private content may be intriguing.

Facebook posts certainly qualify as that which O'Sullivan (2005) called "masspersonal communications," yet this characterization only helps to raise rather than answer questions about their function and strategic aspects. How does their knowledge about the public visibility of their otherwise private conversation affect friends' construction of Facebook wall posts? Is there conscious or unconscious

collusion in the collaborative construction of personal identity online -- are there "rules" of Facebook postings (e. g., if I do not post pictures of myself drinking, my friends don't discuss it) that define friendship online, or that distinguish between close vs. weak friendship constructions? Do private codes appear on wall postings, and if so, to communicate meaning to the friend or to signal exclusivity to others? Do supportive wall postings buffer offline public embarrassments, even if there is no ostensible content-based connection between the events? What communicatory utility does a Facebook posting provide for other conversations – or, what communicatory utility does "real life" offer for self-promotion and relational signification on Facebook? Unless one commands a flock of paparazzi, rarely before these participative social network technologies could people make such varied public displays of affection, among such different levels of relationships, in such an enduring and broadcast manner. What users think as they construct these masspersonal messages is a new domain of inquiry that reference to interpersonal goals and audience considerations will help to address. Web 2.0 sites are by nature interactive environments, not just site-to-user, but user-to-user and user-to-public as well. Consequently, the way people learn to interact may be evolving as well.

In conclusion, we reiterate a new perspective on the merger of various communication processes in the common interface that some new communication technologies provide. The first analytic keystone is to recognize that new interfaces bring into proximity or simultaneity information from several types of sources. Analysis proceeds by identifying the presence and salience of type of sources such as institutional, interpersonal, and/or peer, and to assess the sources of credibility

relevant to each source *in situ* with respect to communicators' goals. A second analytic keystone is the recognition not only that interpersonal contacts motivate media information seeking, but that an expanded range of particular interpersonal goals may be found to affect information processing in potentially different ways; different relational motivations such as status seeking, maintenance, or relationship initiation may bias information sampling from various media and affect the ultimate interpretations derived from them. These dynamics may be especially potent when conversations guide media consumption simultaneously, as the Internet not only allows but promotes.

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