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ARTICLE

Slouching toward the ordinary: current trends in computer-mediated communication

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INTRODUCTION

It has become a truism that computer-mediated communication (CMC) systems, as compared with previous communication technologies, are cheap, fast, and democratic; as such, their popularity continues to grow. Every year, it seems, a new type of CMC enters the scene: ICQ ('I Seek You'), instant messaging (IM), short-messaging service (SMS, also known as text messaging or 'texting'), web logs (blogs). How has CMC technology changed, conceptually and feature-wise, from previous technologies? More importantly, is new CMC technology giving rise to new social practices, and if so, in what directions is it steering us?

These questions, which regularly frame inquiry into the design and use of CMC systems, reflect two underlying assumptions: first, that 'new' CMC technologies really are new; and second, that CMC technologies shape communication, and through it, social behavior. The first of these assumptions is rarely challenged, other than by historians who note parallels between the internet and previous teletechnologies such as the telegraph and telephone (Baron, 2000). After all, who could deny that the social hypertext of the world wide web (Erickson, 1996), for example, constituted a radical departure from what came before? The second assumption, technological determinism (Markus, 1994), was vigorously critiqued in the early to mid-1990s (Spears and Lea, 1992; Walther, 1996), but has been making a quiet comeback as a result of a growing body of empirical evidence that the medium can shape the message, or at least, how the message is packaged and processed (Condon and Čech, 2001). Now, the

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question is no longer: does technology shape human communication, but rather: under what circumstances, in what ways, and to what extent (Herring, 2001, 2003c)?

The above assumptions have given rise to a tendency for CMC scholarship to follow in the wake of the latest popular technologies, in an attempt to get a descriptive fix on their affordances and emergent cultures of use. Consider the rapid popularization of blogging, for example, and the scholarly attention that it is presently attracting. (Conversely, how many scholars are researching MOOs anymore?) Yet, although this technology-driven agenda may seem justified, it suffers from a systematic bias: it overestimates the novelty of much CMC, and underestimates the effects of social forces such as mass popularization, according to which mundane uses of technologies tend to co-opt their destabilizing potentials over time. Brown (2000) flagged this process with respect to the commercialization of women's content on the world wide web several years ago. Could it be that the CMC of chatrooms, web boards, text messaging on mobile phones, blogs, and such like is also on its way to becoming mundane and ordinary? If so, how can this trajectory be reconciled with the perception of seemingly endless technological innovation?

Some answers to this apparent paradox suggest themselves when we reflect on the evolution of popular CMC systems and their social impacts over the past five years. A brief comparison between then and now reveals conflicting trends which nonetheless point toward a future convergence: CMC on the internet is slouching toward the ordinary. For the purposes of this survey, CMC is defined broadly to include both interactive, text-based modes and human to human communication via the world wide web.

THEN
Technologies
CMC in the late 1990s was in some respects crude and fragmented. It was mostly text-based, and its various modes were accessed by disparate means: email required a mailer system, Usenet newsgroups a newsreader (already incorporated by that time into the Netscape browser, but requiring server set-up), Internet Relay Chat (IRC) required an IRC client, ICQ an ICQ client, and so forth. While both of these characteristics were beginning to change under the influence of the world wide web, many users still experienced CMC primarily as ASCII text, and one had to have a modicum of specialized knowledge in order to access its various forms (or be provided access to them through an internet service provider – ISP).

These circumstances in no way hindered the popularity of text-based technologies, however. Email was the acknowledged 'killer app', the default mode of CMC for most users. Discussion lists, a mainstay of academic discourse communities, were so active that many listservs had started to

provide daily digests or 'header only' formats to reduce the email burden on overloaded subscribers. Usenet continued its mostly subterranean, exponential growth (Smith, 1999). When I conducted a six-month ethnographic study of it in 1998, EFNet (the largest IRC network) was bursting at the seams, a popular recreational hangout for young people in the US and abroad. Even MUDs (Multi-User Dungeons or Dimensions) and MOOs (MUDs, Object-Orientated) which previously had been known only in restricted circles, had attained a certain notoriety through published reports (e.g., Bruckman, 1993; Dibbell, 1993; Kendall, 1996; Kolko, 1995), and were beginning to develop a reputation as respectable teaching environments (Haynes and Holmevik, 1997). ICQ, which was newly introduced in 1996, was already attracting attention as an alternative to chat, especially for dyadic conversation.

The web, meanwhile, pursued a largely parallel course of development. By the late 1990s, with e-commerce as the dominant activity on the web, 'interactivity' was becoming a buzzword, although most webpages were in fact relatively static and allowed little human to human interaction (Ha and James, 1998). In the non-commercial realm, personal homepages were popular both among faculty at academic institutions (Arnold and Miller, 2000) and with young people, for whom the web offered an unprecedented opportunity for self-expression to a mass audience (Chandler, 1998). The 'jennicam', established in 1996 as one of the first personal webcam sites, received so many hits that Jennifer Ringley continued it after she graduated from college, adding a live-chat feature (O'Sullivan, 1999). Projections for the future of CMC at that time focused on increased use of multimedia, especially video and audio streaming. Graphical virtual worlds such as The Palace and ActiveWorlds, also introduced in 1996, were attracting communities of recreational users (Suler, 1996), and generating speculation about the potential of avatar-based communication in multi-dimensional, navigable environments.

Social issues

In the late 1990s, the dominant discourses about CMC on the internet were a sometimes jarring juxtaposition of social concerns with commercial hype. Scholars, journalists, and other internet commentators expounded on the benefits (and challenges) of virtual community, anonymity and online romance, on the one hand, and e-commerce, 'stickiness', and trust (by which was meant users' willingness to provide their credit card numbers on commercial websites), on the other. Concerns that bridged the social/commercial gap included security, censorship, gender demographics, and online pornography. Views on the latter two were sharply divided: earlier utopian views of the internet as a gender equalizer enjoyed a renaissance as the number of female internet users climbed, and marketeers proclaimed

them an important new market; others pointed to a by-then irrefutable body of evidence of online gender harassment (Herring, 1999, 2000). Web pornography was celebrated for being profitable (Rich, 2001); others critiqued it as socially harmful but, in keeping with libertarian fashion on the internet, advocated filtering it out rather than reducing its prevalence (Birsch, 1996). In a different domain, language purists warned of linguistic decay as a result of the fragmented, abbreviated practices of chat users.

Throughout this period, Y2K loomed on the horizon, adding an overlay of anxiety to the generally positivist discourse about the internet. We surrendered to the internet, nervously accepted our dependence on it, as the extent of that dependency sunk in. It seemed the 'Net' would never stop growing and changing, leaving us forever scrambling to catch up. It was also exhilarating; we had the impression of living in important times. At the same time, for some, the novelty of CMC had already worn off: email had been around since 1972, listervs since at least 1975, chat since 1988, and some users who had been enthusiastic participants earlier had subsequently scaled back their use, disenchanted with the flame wars, repetitiousness, incoherence, and banality of online public discourse. By September 1999, according to Cyber Dialogue, 27.7 million adults in the US had tried the internet and discontinued its use (Pastore, 1999). Meanwhile, internet access was spreading globally and across class boundaries, bringing new and more diverse populations of communicators online.

NOW
Technologies
Two internet-wide technological trends have affected broadly online communication practices over the past five years: increased bandwidth, and a growing tendency for different forms of CMC to be made available through a web browser interface. More bandwidth, which is available to home users through cable modem and DSL technologies, has meant faster connections and a greater ability to access multimedia applications. For CMC, this means that communication environments incorporating audio, video, and 3D graphics are increasingly available. Yet, despite the growing popularity of streaming audio and video for entertainment purposes, their use for communication outside of videocam sex chats (Kibby and Costello, 2001) is not yet widespread. Perhaps surprisingly, for those who had earlier predicted that multimedia would eclipse text, CMC has yet to embrace its full multimedia potential. Exceptions include peer-to-peer (P2P) music file transfer protocols such as Napster, and massively multi-player online role playing games (MMORPGs) such as EverQuest and Ultima Online which, crucially, involve rich sensory media. However, although these protocols allow some user-to-user communication, it is typically secondary to another purpose, such as downloading music or playing a 3D graphical game.

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The second change, the integration of different CMC protocols within a web browser interface, provides greater convenience and ease of access to different online communication options. Synchronous chat, asynchronous discussion forums, and email are now accessible through the web. Usenet itself has been 'acquired' by Google; its archives are just a click away from the homepage of the popular search engine. This trend, in turn, has created de facto competition between web-based and older CMC protocols: web chat has attracted new chatters who would have gravitated to IRC in earlier days, and web boards have taken over partially the functions of listservs and newsgroups, such that both IRC and Usenet have declined in importance in recent years. MUDs and MOOs, which lack a web interface, have also receded into the shadows. Even participation in graphical virtual worlds, with the exception of game worlds, is down. The demographics of users have shifted as well, toward younger and less technically-skilled populations. The ease of access that makes public web CMC attractive to many users, including neophytes, tends also to lower the quality of discourse, making it more noisy, fragmented, and contentious than CMC in domains that are harder to access.

Meanwhile, new modes have emerged into mainstream consciousness. In the chat realm, ICQ, which featured a split-screen option with keystroke-by-keystroke message transmission, was bought by America Online and merged with its instant messenger protocol. Like IM, ICQ has a contact list that indicates when a friend is online and available to chat. Meanwhile, IM soared in popularity; Jupiter reported more than 67 million users by September 2001, including many in corporate contexts. Among young, recreational US users (according to informal surveys that I conduct whenever I give a lecture in a university other than my home institution), IM is edging out older modes of group chat. This is an interesting replacement, in that chatrooms allow large-scale, multi–participant conversations (many chatters in the same 'room' at the same time), whereas 'IMers' tend to engage in multiple simultaneous dyadic conversations. However, this appears to be mostly a US phenomenon as yet; in Germany, there is relatively little use of instant messaging, while group chat remains popular (Beißwenger, 2001), and Spain has high rates of both IM usage and chatroom participation (Greenspan, 2003).

There are geographical differences as well in the use of SMS on mobile phones. SMS is ubiquitous among teenage and pre-teenage users in industrialized nations outside North America. As of April 2001, 16 billion SMS messages had been sent, but SMS has only recently infiltrated the US communication ecology due to the complications caused by multiple network standards. Text messaging is perversely unergonomic: one 'types' words by repeatedly pressing miniature telephone buttons until the desired letter is reached; the tiny screen size limits message length to 160 characters,

resulting in abbreviated patterns of language use. At the same time, a text message is cheaper, and because it is asynchronous, less intrusive than a phone call. SMS can be sent both to and from the internet (via a web interface), or between cellphones directly, making it the most mobile and ubiquitous of CMC modes in popular use at the present time.

The newest mode to attain widespread popularity is also text-based. Blogs are frequently updated websites in which messages are posted in reverse chronological sequence, typically by a single author. They are maintained both by tech-savvy insiders and including teenage girls to record personal observations and commentary; current estimates place the number of blogs at over four million (Perseus, 2003). In some milieux, they have replaced personal homepages as the preferred mode of self-presentation on the web. Additionally, some blogs permit readers to post comments directly to the web interface, making blogs a hybrid of webpages and interactive CMC (Herring et al., 2004). Group or 'community' blogs, such as Metafilter (Krishnamurthy, 2002) and Slashdot, bear a strong resemblance to web-based asynchronous discussion forums.

IM, SMS and blogs are all 'new', but how different are they from what came before? Each contains a technical innovation: an awareness or 'social presence' indicator for IM, mobile access for SMS, and blog update capability that makes modifying a webpage as easy as posting a message to a discussion list. In other respects, all of them share more features with previous CMC technologies than they differ from them: IM is a form of synchronous chat, SMS is essentially email sent over mobile phones, and blogs are HTML documents, like other webpages. Even the keystroke-by-keystroke feature of ICQ was common to earlier forms of split-screen chat. Yet, more generally, all involve text messages that are composed and read via a digital interface, as do most currently popular forms of CMC. This is not for lack of ability to imagine different CMC systems: alternative text-based paradigms, voice-to-text and text-to-voice conversion systems, and multimedia protocols are being envisioned and designed continuously. Rather, the robust popularity of, for example, email over the past 30 years suggests that it satisfies some important communicative needs. It is an interesting question why the message-centered, text-interface paradigm still dominates the available options: is it due to historical precedence, lower cost, ease of production, viability across platforms, the comfort of familiarity, inertia, or all of the above? We revisit this question below.

Social issues

Online discourse takes place today in a more subdued social, economic, and political climate. The past five years saw the dot com crash and a subsequent scaling-back of optimism about e-commerce. Although Y2K passed without major incident, the terrorist acts that followed continue to remind us of our

vulnerability through technology. To be sure, the internet continues to grow; recent estimates place the number of global users around 700 million (CyberAtlas, 2003). However, although foreign adoption has increased such that US users now only make up only one-third of the online population, the percentage of English-language web pages remains disproportionately high (Lavoie et al., 2003), evidence of continuing global disparity.

Conversely, the gender gap appears to be closing. The number of female self-reported web users caught up with that of male users in the US in 2000 (Rickert and Sacharow, 2000) and continues to rise, although men still spend more time online per visit (Pastore, 2001) and dominate public discussion forums (Herring, 2003a). Indeed, the gender demographics, behaviors, and values of internet users now largely mirror those of mainstream society, as reflected also in the increasing 'mainstreamization' of web content (Brown, 2000). Gender issues have been replaced in popular awareness by other concerns. In a parody of the classic 1993 New Yorker cartoon ('On the internet, nobody knows you're a dog'), a recent cartoon shows the same dog reading on a computer screen: 'Welcome Canine User 39. Mutt, mostly black Lab. Enjoys pepperoni, fetching and sniffing other dog's heinies. Updating profile.' The underlying concern is no longer with liberation through anonymity from gender (and other forms of) discrimination, but with loss of personal privacy due to the ready availability of information about individuals online.

Even if Big Brother is not constantly watching, there is a growing awareness that our online communication leaves traces, in the form of archives, chat logs and navigational histories. Experienced users have become more cautious about what they say and do online. Relatedly, as abuses such as online harassment, cyberstalking, trolling, and spamming increase (Herring, 2003b), efforts are being made to filter and control abuser access to online environments through reputation systems and 'trust metrics', which require others to vouch for an individual, or for the individual to otherwise demonstrate trustworthiness, before he or she is allowed to participate fully. Legislation is also being promoted to restrict and punish anti-social behaviors, and to limit spamming. Whereas the libertarian ideology that characterized the internet in the 1990s required users to tolerate various forms of annoying behavior in the name of freedom of expression, users today are less tolerant of abuse and more willing to accept systems of control to restrict it. Maintaining a 'liveable' online environment is becoming increasingly important, as choosing to forego internet use becomes less of a practical option.

Other attitudes seem never to change. Language purists continue to fret about degradation of language through CMC, focusing currently on the IM and SMS messages exchanged by teenagers. However, the abbreviations and non-standard spellings typical of such messages are not really new (Thurlow,

2003). They carry on earlier practices from chat; going back further still, they function as a semi-private code to prevent teachers and parents from understanding what is written, much like teens of earlier generations passed notes 'encrypted' in special alphabets or writing permutations (Palfreyman and Al Khalil, 2003).

WHITHER CMC?

A colleague recently expressed consternation in a posting to a professional listserv that his undergraduate students no longer find the internet fascinating. They do not relate to the utopian and dystopian speculations of earlier decades, and find the debates of the 1990s about online democracy, identity, and virtuality hyped and vaguely silly. The explanation, it seems, is that they have grown up with the internet: using the web and communicating with others online are taken for granted. IM and SMS are no more exotic to this generation, it seems, than note-passing and talking on the telephone were to mine, and blogging is just the modern analog of keeping a personal journal.

Members of older generations as well have acquired extensive familiarity with CMC over the years, especially in the form of email, distribution lists, and webpages. While some embrace new paradigms, for others it is a relief that the pace of technological change seems to have slowed – or at least, that recent changes are less radical, building incrementally on established paradigms. Constant innovation and complexity in online communication tools exact a price; many users just want them to be stable, simple, and usable across computing platforms, an impetus that no doubt contributes to the enduring popularity of email.

In short, after barely more than 30 years of existence, CMC has become more of a practical necessity than an object of fascination and fetish. (Over)use, disenchantment, fatigue, ubiquity, indispensability, and the passage of time all contribute inexorably toward this end. The most popular technological trends that have emerged over the past five years lead in this direction as well. Despite the availability of increasingly sophisticated multimedia protocols, CMC remains predominantly grounded in 'old' textual practices. Idiosyncratic protocols are being united under a simpler browser-accessible format, and blogs integrate text-based CMC and HTML capabilities. The mobility of SMS (and wireless technologies more generally), and the presence indicators of IM and ICQ, blur the line between online and offline communication, a trend that is also evident in increased uses of traditional modes of CMC in order to establish face-to-face contact. These trends simplify CMC and appropriate it for ordinary interactional purposes.

Certainly, the sheen of novelty of computer-mediated communication has not yet worn off completely, save perhaps for the youngest generations of

users. Designers still strive to innovate; superficially new technologies still exert an appeal. Yet I advance this prediction for the next five years: increasing technological integration, combined with assimilation of day-to-day uses and the corresponding need to ensure the trustworthiness of one's interlocutors, will continue to make the internet a simpler, safer, and − for better or for worse − less fascinating communication environment. If this prediction proves true, CMC researchers would do well to take a step back from the parade of passing technologies and consider more deeply the question of what determines people's use of mediated communication. In addition to technological determinism, the effects of time, familiarity, and mass popularization would need to be theorized and investigated.

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