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*Interpersonal Life Online*

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In concluding her 1984 analysis of experimental research on computer-mediated communication, linguist Naomi Baron wrote that 'computer mediated communication – at least as currently used – is ill suited for such "social" uses of language' (1984: 136). Fourteen years later, in a move indicative of the shift in this line of research, she argued that 'e-mail is, in many respects, an ideal tool for building or maintaining social relationships' (1998: 157). Although computer-mediated communication was not invented with interpersonal interaction in mind, the rise of the Internet has clarified that this technology is fundamentally social (Parks and Roberts, 1998; Sproull and Faraj, 1997). E-mail, used primarily for person-to-person contact, is the Internet's 'killer app' and the best predictor of whether new users will stay online (Kraut et al., in press). Even aspects of the Internet that do not seem particularly social, such as business sites, online magazines and information services, have integrated social opportunities such as chat spaces and bulletin boards into their sites (Parks and Roberts, 1998). The early failure of its inventors and scholars to grasp the social implications of this medium is typical of the history of many new media. As Kraut et al. (in press) have pointed out, the interpersonal implications of the telephone were also not apparent to its innovators or early analysts. This chapter examines the Internet, and computer-mediated communication (hereafter CMC) more broadly, arguing that CMC's interpersonal opportunities are among its most important.

Research into CMC began in the 1970s, as networked computer systems were being installed in large organizational contexts and as maverick computer enthusiasts were creating interactive dial-in bulletin board systems. At the time, organizational computing systems which allowed multiple users to

interact consisted primarily of local area networks that offered e-mail, group decision-making software and computer conferencing. Despite the early presence of recreational CMC, its use in organizational contexts set the research agenda through the 1980s. Today's forms of CMC include asynchronous media such as mailing lists (discussion forums organized by topic and distributed to subscribers through e-mail), newsgroups (publicly accessible discussion forums organized by topic which are similar in form to e-mail but do not require e-mail subscriptions), and message boards on the World Wide Web. Synchronous computer-mediated forms of communication include chat (multi-user 'channels' or 'rooms' in which people gather in small numbers to discuss topics both general and specific), MUDs and MOOs (multi-user 'places' elaborately constructed through text for purposes of role playing games, social interaction and education), instant messages (a more targeted form of chat, in which users keep 'buddy' lists and can keep tabs on whether or not their friends are online and available to receive messages), and graphic user worlds (akin to MUDs and MOOs but graphical). A sense of the popularity of these media (at least in the United States) can be gained from a Pew Internet and American Life Project poll in the spring of 2000. They found that each day 91 per cent of American net users (an estimated 84 million people) send e-mail, 45 per cent (primarily young people) send instant messages, and 28 per cent participate in chat rooms or online discussions.

Although organizations are far from the only context for CMC use, early organizational research codified core assumptions and comparisons to which much interpersonal CMC scholarship still reacts. I begin by elaborating this backdrop. I then explore contemporary thought about the characteristics of

CMC. Having laid out these two frameworks for CMC research, the remainder of the chapter focuses on four areas of interpersonal meaning that have received the most attention: online language use, identity, personal relationships and social groups.

## MEDIA CHARACTERISTICS

### The Cues-Filtered-Out Perspective

Most early efforts at analysing CMC were based on the premise that media characteristics have consistent effects on communication. Drawing largely on small-group research from social psychology, in particular the work of Bales (1950), this research had practical goals. Early applications and studies (e.g. Martino, 1972; Price, 1975) were generally concerned with efficiency and effectiveness (Kiesler et al., 1984). This research agenda essentially asked what happened when face-to-face work groups meet via computer instead. Questions included how CMC affected the quality of group decisions, leadership, participation and time to decision (Rice and Love, 1987). Given this concern, the basis of comparison was (and often remains) face-to-face communication, the key features of which were taken to be the ongoing provision of feedback and the clarity of participants' relative social status. Social presence theory (Short et al., 1976) and later media richness theory (Daft and Lengel, 1984), both of which argued that media differ in the information they can provide and therefore in the extent to which they are appropriate for different communication tasks, were combined into what Culnan and Marcus (1987) called the 'cues-filtered-out' approach. This work is summarized and critiqued at length elsewhere (e.g. Lea and Spears, 1995; Walther et al., 1994) so I hit only the highlights here.

Cues-filtered-out took the defining features of CMC to be the absence of regulating feedback and reduced status and position cues. This was taken to result in anonymity and deindividuation, with a variety of communicative consequences (e.g. Hiltz and Turoff, 1978; Kiesler et al., 1984). In experiments where small face-to-face groups were compared with small computer-mediated groups, researchers found that the latter took longer to complete tasks, single leaders were less likely to emerge, participation became more equal, and there was more uninhibited behaviour (e.g. Hiltz and Turoff, 1978; Siegel et al., 1986). Most famous of the 'uninhibited' behaviours is flaming, which Walther et al. (1994) in a meta-analysis defined operationally as name calling, swearing, insults, impolite statements, threats and put-downs, crude flirtations of a demeaning or sexually explicit nature, and attacks on groups or individuals.

The task-oriented claims made from this approach have held up reasonably well, but the interpersonal implications of the cues-filtered-out approach have been roundly criticized, and this deterministic perspective has for the most part been dropped (although, as I will discuss below, the issue of limited non-verbal cues remains central). The criticisms were methodological, empirical and conceptual. Methodologically, most of the lab studies brought together unrealistically small, zero-history groups for a median time period of 30 minutes (Rafaeli and Sudweeks, 1997; Walther et al., 1994; Weisband and Atwater, 1999). Among differences in research designs were group characteristics and members, communication system infrastructures, functions or tasks around which the groups were organized, and groups' temporal structures (Hollingshead and McGrath, 1995; Walther and Burgoon, 1992; Walther, 1992). However, these variations were rarely addressed within the work, confounding experimental designs with findings (Hollingshead and McGrath, 1995).

Empirically, the laboratory evidence for differences between face-to-face and computer-mediated communication was statistically significant, but the magnitude of difference was small (Walther et al., 1994). More importantly, research using a different methodological approach – the field study – turned up evidence that socioemotional communication not only existed in computer-mediated groups, but was more likely to be prosocial than antisocial. Hiltz and Turoff (1978) reported that users compensated for the coldness of the medium with extra efforts to be friendly, warm and personal. Social cues reported in early CMC field studies included ASCII art, salutations, degree of formality of language, para-language, communication styles and message headers (Hiltz and Turoff, 1978; Lea et al., 1992). In a content analysis of transcripts from a professionally oriented CompuServe forum, Rice and Love (1987) found that socioemotional content (defined as showing solidarity, tension relief, agreement, antagonism, tension and disagreement) constituted around 30 per cent of messages. Only 0.4 per cent of the content was negative, and 18 per cent showed solidarity. In their critique of the notion that flaming is rampant in computer-mediated systems, Lea et al. (1992) concluded that there was no comparative evidence that flaming is more common in CMC than in other media or face-to-face. The richer portrait of CMC revealed by field research has since led to more sophisticated conceptualizations of variables in experimental research.

Most conceptual criticisms of the cues-filtered-out perspective revolved around definitions of socioemotional communication and disinhibition. As Lea (1991) pointed out, Bale's category system, which was often used to code messages, has very restrictive definitions of socioemotional. It also requires that messages be identified as either

socioemotional or task-oriented, whereas messages are usually multifunctional and can be both. Thus, even studies such as Rice and Love's, which found considerable socioemotional communication, may have underestimated its prevalence. Regarding disinhibition, many studies included positive as well as negative comments as uninhibited behaviour (Lea et al., 1992), so that most socioemotional or off-task communication was seen as disinhibited. Empirical evidence also showed that even flaming, which seemed to be the most clearly disinhibited behaviour, sometimes took inhibited forms (for instance, punctuation marks substituted for letters in swear words). Furthermore, flaming was shown to be context-dependent, occurring at different levels across computer-mediated groups (Lea et al., 1992). If the cues-filtered-out perspective was right that media characteristics have consistent effects, there was no way to account for the development of norms regarding the appropriateness of flaming, or the fact that over time groups came to sanction inappropriate behaviours (Hiltz and Turoff, 1978; Lea et al., 1992). I return to the issues of context and norm development throughout what follows.

### Communication-Relevant Qualities of Computer Media

Despite the criticisms, the experimental findings of cues-filtered-out research cannot simply be dismissed (Walther, 1992; Walther et al., 1994). Most CMC researchers have continued to rely on media characteristics to think through key questions. However, rather than positing limited cues as the primary independent variable, or assuming that limited cues invariably produce particular results, the challenge now is to explain the roles that media characteristics can play in shaping communication and to clarify the variables that produce differing results in varying contexts. This has led to more sophisticated methodological and conceptual analyses. The media qualities with the greatest interpersonal implications fall into roughly three categories: those having to do with spatiotemporal issues, with the participants, and with the electronic and (usually) written nature of the medium. I focus on the Internet in what follows, though most of the discussion can be generalized to other forms of CMC such as local area networks.

In terms of time and space, as long as one is in a country or region that has access, the Internet makes physical location largely irrelevant (e.g. Baron, 1998; Lea and Spears, 1995; McKenna and Bargh, 2000; Sproull and Faraj, 1997). Interaction between two people in the same building is indistinguishable from interaction between people half a world apart. This creates a kind of spaceless proximity that did not exist to this extent before, a sense enhanced by

the speed of transmission and immateriality of time, especially in synchronous CMC (Baron, 1998; Carnevale and Probst, 1997; McKenna and Bargh, 2000). In asynchronous CMC, the fact that one can read and respond to messages on one's own time has been taken to expand the potential for interpersonal engagement and thus to be a critical feature of the medium. In a real break from earlier technologies such as the telephone, CMC dramatically reduces the costs associated with communication across distance (Baron, 1998; Pew, 2000; Sproull and Faraj, 1997). This explains in part why many people report that e-mail is good for keeping in touch with friends and family far away and also that they make fewer long-distance phone calls since going online (Dimmick et al., 2000; Pew, 2000).

A second characteristic of CMC is the limited information available regarding participants. The notion of reduced social cues remains central. However, the effort has shifted from asking simply what effect this has, to more nuanced efforts to understand the variety of possible consequences, the contexts which give rise to different options, and the creative ways in which communicators make use of, or compensate for, this media characteristic. The reduction of physical appearance cues, along with the evidence of status and attractiveness they bear, creates a kind of invisibility or anonymity (Carnevale and Probst, 1997; McKenna and Bargh, 2000; Sproull and Faraj, 1997; Turkle, 1996), which opens the potential for multiplicity of identities (Stone, 1995; Turkle, 1996), a high degree of privacy (Baron, 1998), and a lower sense of social risk (Curtis, 1997) or accountability (Stone, 1995), among other possibilities (topics I return to in the discussion of identity).

In addition to obscuring information about participants as individuals, CMC can also hide information regarding the participant structure of interactions. The net blurs the boundary between interpersonal and mass media (Baym, 1996; Lea and Spears, 1995; Morris and Ogan, 1996; Rafaeli and Sudweeks, 1997). E-mail and instant messaging are usually clearly interpersonal given their specific addressees, but other forms of CMC are harder to categorize. As Culnan and Marcus (1987) argued, addressivity in CMC is fundamentally different from face-to-face communication, as there is usually no need to specify identity and location of recipient in the latter. Furthermore, in many forms of CMC, such as newsgroups and mailing lists, it can be difficult if not impossible to judge the size of one's audience (Carnevale and Probst, 1997). Finally, just as a producer loses control over who watches a television show once it is aired, there is usually little, if any, control over access to and participation in computer-mediated groups (Galegher et al., 1998). Interactions between two individuals can thus have consequences for social formations larger than pairs. Just as the mail, telegraph and

telephone bridged time and space before the net, anonymity and unclear participant structures occurred in pre-Internet days, but not on anything like their current scale.

Finally, computer-mediated messages can be stored in memory, replicated, retrieved at later dates, and edited prior to sending, which has also been taken to have interpersonal consequences (Carnevale and Probst, 1997; Cherny, 1999; Culnan and Marcus, 1987; Walther, 1996). Some (e.g. Hiltz and Turoff, 1978; Walther, 1996) suggest that the additional visual channel of written discourse combined with the ability to edit leads to better organized and better thought out statements than occur face-to-face. Again, all of the consequences of these media characteristics were possible before computers, but the Internet combines them in such a way and on such a scale as to represent a qualitative shift in mediated communication. These characteristics together form a backdrop for the discussion that follows.

### Media Comparisons

In casting the characteristics of CMC in terms of space, time, visual and auditory cues, participant structure and storage capabilities, the basis of comparison is usually face-to-face communication, a fact that follows both from the early agenda of CMC research and from the tendency of CMC users to think of the medium as conversational. However, as suggested by those who view CMC as a cross between interpersonal and mass media, and those who have compared it to the telephone, face-to-face conversation is by no means the only basis for comparison. Discourse analysts, in particular, have paid a good deal of detailed attention to language forms in CMC, often comparing CMC to writing. Rather than drawing on social psychology, these scholars were more likely to be guided by linguistic anthropologists (e.g. Bauman and Sherzer, 1974; Gumperz and Hymes, 1972). While the former tradition often focuses on identifying variables through the decontextualized space of the laboratory, the latter seeks to describe language forms in naturally occurring contexts, and to explain these forms in terms of those contexts. Discourse analysts have rarely looked at organizations, focusing instead on classroom and recreational groups.

Early on, Baron (1984) noted the need to distinguish between the use of CMC to replace writing and its use to replace speech. In the time since, many (e.g. Baron, 1998; Ferrara et al., 1991; Wilkins, 1991) have explored the extent to which CMC compares to writing, usually concluding that CMC represents 'a hybrid language variety displaying characteristics of both oral and written language' (Ferrara et al., 1991: 10). Like writing, CMC

involves participants who are often temporally separated and do not share physical co-presence. Communicators in CMC must make explicit much of the information that would be carried by the voice, gestures or other non-verbal cues in face-to-face conversation. Like speech, much CMC is direct, contextualized and interactive (e.g. Baym, 1996; Galegher et al., 1998). Writers can assume that their readers will share many referents, will be reading within a few days and will be able to respond. Messages are often open to reformulation.

These analyses of online interaction recognized that media characteristics influence linguistic forms. For instance, in synchronous CMC one sees many language features that can be attributed to the desire to increase speed by typing less (and, for heavy users, to minimize carpal tunnel syndrome). In Internet relay chat and MOOs, people use abbreviations, acronyms, shortened words, the deletion of subject pronouns, and contractions in response to the medium (Cherny, 1999; Werry, 1996), much as they did with the telegraph. However, participants in many CMC media also actively strive to make their language seem conversational (Werry, 1996), indicating that the medium is only one influence on language. Wilkins points to lexical repetition, which 'made it possible for the participants to follow the conversational sequence, to integrate entries with the appropriate preceding ones, and thus to experience the discourse as conversation' (1991: 63). Werry (1996) and Galegher et al., (1998) point to the informal style of much CMC. 'The discourse,' concluded Galegher et al. 'does not depart discernibly from oral and written patterns of conversation' (1998: 524). That CMC appears more similar to speech and writing than different also points to the limits of conceptualizing the medium as a core causal variable. Most of this research has been conducted in English-speaking groups, owing largely to the (now changing) historical predominance of the English language on the Internet and of the location of so many CMC researchers in the United States, Australia and England. Werry's work, however, examined both English- and French-speaking groups and found these phenomena in both languages. Non-English CMC is an area ripe for research, and one which has begun to receive increased attention.

As is the case with flaming, language forms online are highly normative and vary across and within CMC contexts. These norms, argued Ferrara et al. (1991), are acquired through interactions with other users. As the technology evolves, the usership grows and the varieties of CMC evolve, it becomes increasingly difficult to differentiate claims about the medium from claims about participants or stage of normative development (Baron, 1998). Baron (1998) argued that e-mail should be considered a 'creole' language, in that it is a still emerging hybrid of other language varieties. I would argue

this is true of all CMC. That the nature of Internet discourse is still emerging further suggests the limited causal power of the medium and the futility of making simple generalizations about online interaction.

Users' perceptions of CMC and their desires regarding these media are central to the forms computer-mediated discourse takes. As Lea (1991) showed, even perceptions of a single computer medium like e-mail are complex and varied. In his effort to explore users' perceptions of the similarities and differences between e-mail and other media, Lea used the repertory grid method in which subjects construct categories of meaning as bases for comparison. He found that e-mail was seen as written, asynchronous, spontaneous, informal, and slightly impoverished and impersonal. Perceptions varied as to whether e-mail was seen as consequential or inconsequential, or direct or indirect. Lea concluded that e-mail was in some ways more like note and letter writing, and in other ways more like face-to-face communication and telephoning. In a blow to what he termed 'rationalist' models that assume reduced cues will make CMC more efficient and businesslike, Lea's subjects didn't construe CMC as particularly information efficient or inefficient relative to other media.

Ultimately, computer media should not be understood as deficient versions of face-to-face communication (Culnan and Marcus, 1987), or as peculiar versions of the telephone, the television or the written word. Instead, theoretical approaches need to consider CMC's unique and varied qualities, and understand how users draw on their existing communicative competencies in multiple media to actively construct social meaning within the challenges and opportunities posed by this medium. The next section examines four primary areas of interpersonal social meanings: language use, identity, relationships and social groups.

#### INTERPERSONAL ISSUES IN CMC

##### **Computer-Mediated Language Use**

Rationalist conceptions of CMC assumed that cue deprivation would create discourse that was more serious and information-oriented than face-to-face communication (Lea, 1991; Rice and Love, 1987). Aside from the fact that sometimes people turned more nasty than reasonable, this idea has also been undermined by a wide variety of field studies that explored recreational CMC from qualitative linguistic, sociological, communication and anthropological perspectives and consistently found that language use online is often remarkably playful. In what may have been the first pair of studies along these lines, Myers (1987a; 1987b) studied

role playing game systems using participant observation and interviewing. Looking at the discourse, he concluded that there was a tremendous amount of play with punctuation and spelling (Myers, 1987b). He argued this resulted from a desire for spontaneity. Danet et al. (1995; 1997), Werry (1996) and Cherny (1999) are among those who have shown similar play with phonetic and visual qualities of language use in synchronous computer media. Danet et al. (1997) argued that the computer medium is inherently playful because of its 'ephemerality, speed, interactivity, and freedom from the tyranny of materials.'

The most common variety of playful language activity online is probably humour, which seems to be more common online than off. In a large project (see Sudweeks et al., 1998) in which dozens of researchers from several countries and universities conducted a quantitative content analysis of thousands of messages from international Usenet newsgroups, BITNET lists and CompuServe, Rafaeli and Sudweeks (1997) found that more than 20 per cent of the messages contained humour. In my analysis of a Usenet newsgroup that discussed American soap operas (Baym, 1995), I found that 27 per cent of messages addressing a dark and troubling storyline were humorous. The forms of humour included clever nicknames for characters (e.g. Natalie, also called Nat, was dubbed 'Not' when a new actress took over the role, and became 'Splat' when the character was killed in a car accident), plot parodies and many others. Surveys revealed that humour made both messages and participants stand out as especially likeable.

Language play is a form of performance. Bauman (1975) and Hymes (1975) described performance as communication that is marked as open for evaluation by an audience. As Danet et al. (1997) argued, online performance draws attention to the language and the medium, turning the lack of other cues into a communicative asset. Communicative performances serve a variety of social functions, among them displaying competence (often in the service of self-enhancement), entertaining an audience and facilitating group cohesion (Bauman, 1975). By making the language form and content performative and playful, participants in CMC enhance the appeal of the discourse, build online identities and foster fun relationships.

##### **Computer-Mediated Identities**

Since language is so often the only form of communication in CMC, it becomes the primary means of managing and forming impressions of our own and others' selves. Perhaps no aspect of online social life has received as much attention as identity, in both (often conflated) senses of personal individuality and category membership. O'Brien

(1999: 95) points to two 'conceptual clusters' that characterize online identity formation as well as the interests of scholars studying the phenomenon. Most analytic attention (scholarly and popular) has focused on the cluster of 'disembodied/multiplicity/fantasy', while most online identities are along the lines of 'embodied/authenticity/reality'. In a prescient essay titled 'Anonymity is part of the magic' (a quote drawn from an interview), Myers (1987a) drew attention to how reduced cues opened up the potential for identity play. The users he interviewed took this to be one of the medium's primary appeals. Reid (1991) explored the postmodern nature of this phenomenon in Internet relay chat in an essay that was among the first to describe online gender swapping. As evidenced by Turkle (1996) and Stone (1995), the postmodern implications of anonymity and identity play can be theoretically intoxicating. By divorcing our selves from our bodies, from time and from space, the computer opens a realm in which the multiplicity of identity that is taken to characterize contemporary life (e.g. Gergen, 1991) reaches an apex. We can be multiple people simultaneously, with no one of these selves necessarily more valid than any other. These varied identities can have varied degrees of relation to the embodied 'self.' Organizational research, guided by its practical agenda, conceptualized anonymity as problematic. The research outlined here, guided by a postmodern theoretical agenda, conceptualizes anonymity as indicative of a broad cultural shift. Though popular media often view online anonymity as dangerous, Turkle (1997: 151) examined how some of the MUD users she interviewed used the Internet as a way to grapple with psychological issues such as parental relationships, and argued that MUDs are 'privileged spaces for thinking through and working through issues of personal identity'.

One possible outcome of these experiments in identity is the resolution of identity issues offline. Turkle (1996; 1997) wrote of the potential to work on identity issues involving control and mastery. Myers (1987a) argued that his subjects gained a sense of efficacy or power through the self-creation process. McKenna and Bargh (2000) proposed that constructing a new identity which is successful within a new peer group can allow for role changes that create real changes in self-concept. Some (e.g. Haraway, 1991) have suggested that this may ultimately go beyond individual effects to redefine identity categories such as gender in offline life. This argument is disputed by others (e.g. Donath, 1999) who point out that people tend not to erase or redefine gender online but to exaggerate it, so that men who pretend to be women usually portray themselves as exceptionally sexually attractive in highly stereotypical ways. This has also been found amongst adolescent women who misrepresent their appearance online (Clark, 1998). At this point, we

are still a long way from knowing the offline consequences of online identity (McKenna and Bargh, 2000).

Most attention given to computer-mediated identity play has centred on MUDs. In this regard, it's instructive to remember the Pew finding that only 28 per cent of American Internet users participate in any kind of online discussion groups, and a miniscule percentage of such groups are MUDs. In comparison with the 91 per cent of people who use e-mail and the 45 per cent who use instant messaging (which do not lend themselves to the same kind of anonymity), MUDs hardly represent typical online interaction. According to Curtis (1997), creator of the LambdaMOO, the most popular social MUD and site of much MUD research, even in MUDs, role playing and gender swapping are uncommon. Parks and Roberts (1998) argued that there are no data to indicate identity deception is either widespread or more common online. To the contrary, some research suggests that anonymity, and its associated lessening of social risk, may allow people to be more honest and take greater risks in their self-disclosures than they would offline (McKenna and Bargh, 2000). The Pew poll, for instance, found that Americans feel they can be more honest in e-mail with loved ones and friends than they can be in conversation. Rather than making us less like our embodied selves, CMC's reduced cues sometimes allow us to be more true to our embodied selves than we can be in the flesh.

Online identities are also made to correspond to embodied identities through contextualization. In an analysis of (woefully understudied) personal web home pages, Wynn and Katz found that people 'pull together a cohesive presentation of self across eclectic social contexts in which individuals participate' (1998: 324). Rather than being multiple or anonymous, the online identities constructed through home pages were richly contextualized in offline social contexts and groups through self-descriptions, implied audiences, and links to web-sites of other people and groups. Wellman made a similar point in a review essay when he wrote that too many scholars and pundits 'treat life online as an isolated social phenomenon... They usually ignore the fact that people bring to their online interactions such baggage as their gender, stage in the life cycle, cultural milieu, socioeconomic status, and off line connections with others' (1997b: 446). In short, the focus on disembodied identity reflects theoretical interests and the lure of the exotic rather than an effort to understand the typical.

A different approach to identity has been taken by Lea and Spears (e.g. 1995), who sought a theoretical explanation for the variation in online identity. Their SIDE (social individuation and deindividuation) model is based on self-categorization theory (Turner et al., 1987; Tajfel and Turner, 1986) which conceptualizes self as a

range of self-categories including both personal and social identities. SIDE theory tries to identify situational conditions that will invoke particular self-categories and make the behaviour normative to that self-category possible and appropriate (Lea and Spears, 1995). From this perspective, some online contexts will do little to make the self-categories associated with offline selves relevant, and these will be most likely to result in identity play, deception and other behaviours divorced from social contexts. Other contexts will make those categories more relevant, and will invoke self-representations and behaviour consistent with embodied versions of the self. Consistent with this theory, Myers (1987a) and Baym (2000) have argued that the selves constructed in online groups are dependent on the norms of the groups within which they are constructed, so that what is an appropriate identity in one context may not be in another. 'The process of self-creation,' wrote Myers, 'depends very heavily on continuous group negotiation within previously negotiated interaction contexts' (1987a: 259).

To summarize, to the extent that it exists in CMC, anonymity is used in varying ways in different contexts. In some cases, it offers the chance to explore untried identities or to falsify the self. In other cases, it offers the freedom to be more open and honest than one would otherwise be. In still other cases, anonymity is an obstacle to be overcome through various forms of self-disclosure. It is too often forgotten that in much – perhaps even most – CMC, however, anonymity is not an issue, as people are corresponding with people they also know offline and building online selves that are richly contextualized in their offline social networks.

#### COMPUTER-MEDIATED RELATIONSHIPS

The same forces that can affect identity online also offer new possibilities for developing and sustaining interpersonal relationships in this medium. Just as studies of online identity have gravitated toward novel identities, most of the attention regarding interpersonal relationships in CMC has explored the formation of new relationships, with particular attention to friendship and, to a lesser extent, romance. In their excellent review of relational theory and its implications for CMC, Lea and Spears (1995) argued that theories of personal relationships are biased toward face-to-face communication, and often define relationships in terms of face-to-face qualities, leaving them unable to explain relational development in CMC. They fault traditional theories such as Altman and Taylor's (1973) canonical social penetration model for their 'emphasis on physical proximity, face-to-face interaction, and nonverbal communication and talk as the essential processes of relating, and a general

tendency to use physical and spatial metaphors in describing and accounting for relationships' (1995: 212). Lea and Spears also fault these theories for their tendency to ignore relationships that cross boundaries, don't lead to marriage or are negative. On the other side of the coin, they point out that perspectives on CMC that focus on disembodiment, such as those discussed in the previous section, also raise doubts about the possibility of forming genuine personal relationships through mediated means.

One of the wonderful things about CMC is that it gives us an opportunity to rethink theories of communication. In this case, despite the implications of many interpersonal and postmodern theories that people can't or won't form personal relationships through CMC, people do, and do so often and fairly successfully. CMC, and the Internet, offer new opportunities for creating relationships. The Internet's discussion groups broaden the field of potential relational partners beyond those physically proximate (Lea and Spears, 1995). Kraut et al.'s (in press) interviews suggest that online groups are the main way in which people start online relationships. Parks and Floyd (1996) conducted a survey of Usenet participants in which they found that almost a third had formed friendships through Usenet. In a follow-up study of MOOs, Parks and Roberts (1998) found that such a high percentage of their respondents had formed personal relationships through MOOs that they were statistically unable to compare them with those who had not. I documented many interpersonal friendships and occasional romances that had emerged through a Usenet group (Baym, 2000). Indeed, the people I studied often described the group as 'a bunch of close friends'. Relational opportunities online are also increased by the aforementioned reduction of social risk, which makes some people more willing to strike up conversations with strangers (Curtis, 1997). Furthermore, liking and attraction face-to-face are often based in the early stages on physical appearance (e.g. Duck, 1977). In CMC, people are more likely to be brought together by shared interests, giving them the chance to discover similarity in values and interests, and to focus on one another's conversational style without attending to appearance (McKenna and Bargh, 2000). This is a devastating reversal for stage models of relational development such as social penetration which so often rely on physical attraction to explain the early stages of relational development (Lea and Spears, 1995). Computer-mediated relationships often follow a predictable developmental trajectory (Baker, 1998; Parks and Floyd, 1996), moving from public discussion, to e-mail, to the telephone and then to face-to-face meetings. Of the friendship pairs in Parks and Floyd's (1996) study, 98 per cent had spoken on the telephone and a third had met face-to-face. Eventually, CMC becomes just one way

that relational partners interact (Wellman and Gulia, 1999).

Walther has conducted a line of research which seeks to explain relational development in the face of reduced cues. His social information processing theory proposes that regardless of medium, people experience the need to reduce uncertainty and increase affinity. As a result, CMC users 'adapt their linguistic and textual behaviours to the solicitation and presentation of socially revealing, relational behaviour' such as personal self-disclosures (Walther et al., 1994: 465). Walther and Burgoon (1992) showed that, over time, CMC becomes more similar to face-to-face communication in terms of socioemotional conversation and impression formation. In zero-history groups, Walther (1994) found that the expectation of future interaction increased the likelihood of the expression of immediacy and affection, similarity and depth, trust and composure. The differences between interpersonal information revelation and processing in CMC and face-to-face are issues not of quality, he argued, but of rate.

Some dismiss relationships formed via CMC as inferior to those formed face-to-face, raising the issue of relational quality. Wellman and Gulia (1999) argued that most relationships formed through the net are specialized weak ties, encouraged by the lack of status and situational cues. However, Wellman and Gulia also argue that strong ties emerge online and, as is the case offline, these ties encourage frequent, companionable contact; they are voluntary, mutually reciprocal and supportive of partners' needs; and they create long-term contact. Lea and Spears (1995) argued for understanding CMC relationships through the eyes of those who have them, claiming that a lack of face-to-face meeting does not render relationships less real or significant to those involved. Parks and Floyd (1996) used scales that measure commitment in face-to-face relationships, and found that Usenet relationships were moderately committed, generally exceeding the scales' midpoints. Parks and Roberts (1998) did this too, and also asked people to make specific comparisons with an offline relationship. They found that MOO relationships were stronger than those formed through Usenet (a finding they attributed to the sense of co-presence created by synchronous communication) and as a whole showed moderate to high levels of development. Parks and Roberts (1998) did find some differences between MOO relationships and face-to-face ones. Offline relationships were slightly more developed, but there were no differences in depth and breadth of interaction; cross-sex friendships were more common in MOOs than in newsgroups or offline; and respondents spent significantly more hours per week with their offline relational partners than their online counterparts. The differences between Usenet and MOOs point again

to the importance of context in understanding interpersonal dynamics in online environments.

At times, relationships formed online may be more appealing than those formed face-to-face, a phenomenon Walther (1996) labelled 'hyperpersonal interaction'. In hyperpersonal communication, users overestimate the attractiveness of their online relational partners, relative to people they know offline, making CMC more socially desirable than face-to-face communication. Walther (1996) offers several explanations for this, including the freedom to idealize that the lack of visual cues provides, the ability for communicators to choose which aspects of the self to disclose and when to disclose them, the increased ability to devote attention to message formation, and the likelihood that these factors will combine such that computer-mediated messages show more self-awareness and introspection. To this list might be added Lea and Spears' (1995) point that when one meets in a group linked by common interest, it is easy to assume that the other is similar to the self in other ways as well. In an experiment, McKenna and Bargh (2000) found that people who met online once then met face-to-face liked each other more than people who met face-to-face both times. Like online language and identity, relationships formed online do not seem to differ radically from those formed face-to-face. Indeed, they often evolve into face-to-face relationships. They can be weak or strong, specialized or broad, committed or casual, idealized or well grounded.

The Internet also serves as a means for people with existing ties to maintain their relationships, a phenomenon which has only recently gained any academic attention and remains underexplored. In a study comparing Internet and telephone use, Stafford et al. (1999) found that e-mail was used to support and maintain meaningful relationships. This was especially true of long-distance relationships, and those which people didn't have the time to keep up with face-to-face (Dimmick et al., 2000; Pew, 2000; Wellman and Gulia, 1999). The Pew (2000) poll found that e-mail increases contact with family and friends for significant majorities of online Americans, and that siblings who have e-mail use it more than they use the telephone to contact one another. Though the maintenance of existing relationships is less exotic a topic than the creation of entirely new ones, a more balanced understanding of the interpersonal implications of CMC will have to devote considerably more attention to this more common dimension of online life.

### Computer-Mediated Social Groups

From the earliest research into CMC, there has been a strong interest in groups. The organizational research, as we have seen, begins with the



assumption that CMC groups are different from others, and examines the effect of computer mediation on small-group processes. A second strain of research explores voluntary social groups, often focusing on issues of community. The term 'community' has become almost synonymous with 'online group', especially when the term is advantageous for site developers. This implies that any group involved in social discussion is necessarily a community. However, as is the case in offline groups, online groups vary widely. Though 'community' may apply to some, it is forced with others. Rafaeli and Sudweeks (1997) argued that groups differ in terms of their interactivity, or the extent on a continuum to which sequences of messages relate to each other. Interactivity functions as a mechanism that makes people want to become involved in and stay with Internet groups.

A complete review of the literature on online social groups is beyond the scope of this chapter. In keeping with my focus on interpersonal issues, I focus on three common and consistent findings in analyses of online groups: they are normatively regulated, hierarchical and often very supportive. As with language, identities and relationships, work on online social groups reveals that 'everything old is new again'. In many ways computer-mediated groups are not very different from other kinds of groups. I close this section with a glance at the ongoing debate concerning the label 'community'.

Many studies of online communities have described how groups develop norms for their interaction. The term 'ways of speaking' is used in the ethnography of communication to describe how group values, beliefs and social structures are embodied in a culture's language form and use. Emergent ways of speaking online range from the use of particular words, phrases or other routines to standards of appropriate and inappropriate conduct and means for handling behavioural violations. Lea et al. (1992) argued that norms in CMC are locally defined, created by the group rather than the medium. There are norms that run across groups; however, it is questionable whether any behavioural standards apply to all computer-mediated groups. McLaughlin et al. (1995), for example, conducted a study of messages from several Usenet groups which chastised others' behaviour, and were able to derive 'a taxonomy of reproachable conduct' that applies across Usenet. Werry (1996) points to a general code of conduct for Internet relay chat. I have discussed Baron's (1998) claim that norms for e-mail use are still emerging, a claim true of other modes of CMC as well. I have argued that community in CMC is an emergent process (Baym, 1998), in which the pre-existing factors of system infrastructure, temporal structure, participant characteristics and external contexts are appropriated in unpredictable ways by users. The outcome is a set of social meanings that allow participants to

experience the group as community. These social meanings include identities and relationships, as well as group-specific forms of expression and behavioural standards. Tepper (1997) has written about a Usenet group which uses the practice of asking stupid questions as a way to distinguish insiders (who know better than to answer them) from outsiders (who plunge in with earnest responses). Cherny (1999) offers a rich description of many ways MOO participants developed unique ways of interacting and making jokes. All of these can be considered normative, in that they become normal within the group, while remaining unfamiliar (and often incomprehensible) to outsiders. Knowing the inner discourse of a group, with its codes, in-jokes, vocabulary and routines, can offer a sense of belonging that many find appealing. Other norms for appropriate behaviour within groups include those that regulate the appropriateness of flaming (Baym, 1993; Lea et al., 1992) and the use and misuse of anonymity (Baym, 2000). Galegher et al. (1998) showed differences in how one establishes legitimacy and authority depending on whether a group is recreational or explicitly supportive.

Online groups also take social form through the emergence of social hierarchies, a finding which runs counter to the experimental finding that computer mediation creates equality, but which is completely consistent with offline groups. In one-shot situations, it may be rare for single leaders to emerge and participation may be fairly evenly distributed in CMC. Over time, however, groups develop patterns of participation which are radically unequal. At the simplest level, one can distinguish heavy users, light users and lurkers. Baym (1993), Galegher et al. (1998) and others have shown patterns of participation in which the majority of participants write only once or never, while a tiny minority write the majority of the messages. Participants may gain status through a variety of means other than loquacity, including skilled use of the software (Myers, 1987a), shared expertise (Kollock, 1999) and clever performance (Baym, 1993), forms of social capital at play offline as well. Some computer-mediated groups have hierarchies built into their design, pointing again to the importance of context. MUDs, for instance, partition users into levels with differing degrees of control over the system. At one extreme are those who can delete other users; at the other are guests with no abilities to create lasting change (Reid, 1999). MUDs also develop emergent hierarchical structures; in adventure-based MUDs these are based on competition and strength, while in social MUDs they are based on contributions to the group (Reid, 1999).

Another finding from field research into voluntary groups which runs counter to the findings from short-term experimental groups is that online

groups tend to be interpersonally supportive, even when they are not designed to be (Wellman and Gulia, 1999). Some groups are explicitly supportive, providing camaraderie and advice on fields such as medical conditions, addiction and abuse recovery. Other groups, while ostensibly organized to discuss hobbies or other lighter-weight topics, may nonetheless provide social support. In a content analysis comparing levels of empathy in online patient and emotional support groups to other sorts of online groups, Preece and Ghozati (1998) found that empathy is more prevalent in patient and emotional support groups, but that most groups use empathic communication. Kollock (1999) pointed out that online groups are notable for the provision of expert and informational support. Adapting social exchange theory (e.g. Ekeh, 1974; Roloff, 1981) to the Internet, he argued that the features of online interaction (specifically that gifts of information and advice are given to unknown recipients one might never encounter again and that one can't expect immediate reciprocation) change the costs and benefits of social action such that even a response to a single person becomes a public good. In addition to the potential of such offerings to increase one's own status within a group, Kollock (1999) located the motivations for contributing in this environment to anticipated future reciprocity and the sense of efficacy that can come from being able to help.

Wellman and Gulia (1999) have argued that there is something distinctive about the provision of support, information, affiliation and sense of belonging to a group of people one hardly knows. These qualities (among others) have led many to label these groups 'communities', a label much debated in both popular and scholarly discourse. Some are highly enthusiastic about such communities because they overcome barriers of time and space and offer access to others with shared interest that may not be available locally (e.g. Rheingold, 1993). Others express concern that in an increasingly fragmented offline world, online groups substitute for 'real' (i.e. geographically local) community, falling short in several ways. Lockard, for instance, argued that 'to accept only communication in place of a community's manifold functions is to sell our common faith in community vastly short' (1997: 225). The most serious charges against calling online groups communities are their homogeneity and lack of moral commitment. Because participants can leave with a mere click, online communities 'do not oblige their participants to deal with diversity' (Healy, 1997: 63).

There have been several reviews of the concept of community and its applicability to CMC (e.g. Fernback, 1999; Komito, 1998), most of which point out that debates over the definition of 'community' far predate the Internet. Komito (1998), in an interesting analysis of different kinds

of community, argued that many online groups are best likened to foraging communities. Foraging communities are aggregations of individuals, membership is temporary and voluntary, people move and groups are redefined based on ecological or personal factors, and they are typically egalitarian. Ultimately, however, Komito concludes that 'the most useful means of looking at Net communities may be to treat "community" as background, and focus instead on how individuals and groups cope with continuously changing sets of resources and constraints and how individuals make regular adjustments in their rules for social interaction' (1998: 104-5).

#### INTERPERSONAL CONSEQUENCES OF THE INTERNET

This review of interpersonal issues in online life just scratches the surface of a broad range of research that comes from many disciplines and makes use of multiple methods. I have focused on what happens in the online context, arguing that much of what happens there is highly sociable, and that this interpersonal interaction is among the greatest appeals of CMC. The simple picture of CMC and its effects painted by early experimental research has given way to a far more varied and complex portrait – or set of portraits – as the use of CMC has grown and people have found new ways to make use of it. Far from impersonal, CMC is often playful and creative. People use it as a means to assert their own identities and to explore new means of self-presentation. New relationships ranging from weak acquaintanceships to deep romantic bonds are formed, and relationships with people formed offline are perpetuated through CMC. Social groups form that offer a sense of belonging, information, empathy and social status, among other rewards. All of these phenomena offer powerful incentives for people to become involved with CMC and to stay online once there.

However, as the controversy surrounding the use of the term 'community' indicates, there is concern from many quarters that our increased use of the Internet will have deleterious consequences for the rest of our lives. This concern has been bolstered by Kraut et al.'s (1998) unexpected finding that first-year users of the Internet became more socially isolated and depressed the more they went online, and by Nie and Erbring (2000) whose subjects reported becoming more socially isolated the more they used the Internet. These studies have both been attacked on methodological grounds. Kraut et al. (1998) have been criticized for their atypical sample, and for describing the Internet as causing depression when the users who showed increased symptoms of depression did not seem to meet clinical definitions

of depression (Rierdan, 1999). Nie and Erbring's study has been challenged for its leading questions, for offering no assessment of the magnitude of reported reductions in social contact, and for assuming all online activities are 'non-social'. A questionnaire study of students at the University of Texas (Scherer, 1997) puts the issue into sharper perspective. Scherer found that 13 per cent of Internet users reported some signs of dependency on the Internet, specifically that it interfered with academic work, professional performance or social life. Those reporting such 'Internet addiction' were significantly more likely to be male. This suggests that it may be a relatively small percentage of net users for whom the Internet has negative consequences. A serious problem with all of these studies is their retreat to determinism; the Internet is conceptualized as a single entity, as though it makes no difference with whom one communicates online and as though all online contexts are identical.

Critics of the notion that online life lessens the quality of offline life argue that Laney community and sociability are not 'zero-sum games' (Orleans and Laney, 2000; Wellman and Gulia, 1999). Wellman (1997a; 1997b) Wellman and Gulia, 1999) has been among the most vociferous proponents of the notion that use of the Internet is integrated into the rest of life. Wellman and Gulia (1999) argued that the problems with conceptualizing the net as something that will divorce people from face-to-face life include the facts that online ties are strong and important, that the comparison between electronic communities and face-to-face ones is false given the overlap in online and offline contacts, and that people manage relationships in multiple media. Wellman wrote: 'community ties are already geographically dispersed, sparsely knit, specialized in content, and connected heavily by telecommunications (phone and fax). Although virtual communities may carry these trends a bit further, they also sustain in person encounters between community members' (1997a: 198). In organizational contexts, people who communicate heavily in one modality tend to communicate heavily in others; heavier users of CMC are also more likely to use the telephone and to have face-to-face conversations (Kraut and Attewell, 1997).

There is also evidence that people who use the Internet are as socially and culturally involved as those who do not. Robinson and Kestnbaum found that 'computer users are at least as active as, if not more active than, nonusers in most arts-related activities' (1999: 215). In terms of interpersonal relationships, an observational study of children's home use of the computer determined that 'online communication was usually not a substitute for interpersonal communication; rather, both often occurred simultaneously' (Orleans and Laney, 2000: 65). The online world was a topic for children's conversation, children surfed the net

together to find commonly valued items, they used the Internet for shared social experimentation, and the Internet gave them the chance to show off esteemed knowledge and skills for one another. The Pew (2000) study found that Internet users were more active socially than non-users: 61 per cent of non-users reported visiting family or friends the day before, whereas 72 per cent of Internet users had done so. This included heavy and long-time Internet users. Even the Internet dependent students in Scherer's (1997) study had more relationships face-to-face than they had online, although they were more likely to have a larger proportion of their relationships online. It may very well be that for some people the Internet has damaging personal and interpersonal consequences. For others, an online social life extends and complements the sociability they maintain offline. As a whole, however, we must conclude that, as McKenna and Bargh put it, 'there is no simple main effect of the Internet on the average person' (2000: 59). The questions that have yet to be asked will explore which individual variables combine with the many variable of Internet use and contexts and with what range of impacts.

#### SUMMARY AND FUTURE DIRECTIONS

Research into the interpersonal dynamics of CMC began with the naive assumption that media characteristics would have determining effects on interaction. There are numerous ways in which media characteristics contribute to interpersonal social processes. Language takes on enhanced roles and hybrid forms as a result of the limited non-verbal cues and the written yet speedy nature of the medium. Identity play, self-revelation and the creation of new relationships are enabled by the cue and participant structures. Social group formation is encouraged by the spatiotemporal and inexpensive nature of the net, qualities which also enable offline groups to move online and which let relationships that developed offline be perpetuated online. However, there are many other contributors to online interpersonal dynamics, including contexts, users and the choices those users make. The computer medium is far more complex and diverse than first imagined.

The shift from simplistic thinking to a recognition of the range of computer-mediated communication is in part a shift in methods and approach. Early research was characterized by a narrow and practical agenda which generally relied on laboratory experiments. These experiments often failed to recognize confounding variables, leading to the sense that any effects found must result from 'the computer'. Field research explored a broader range of CMC contexts, examining organizations, but also

looking at role playing and social groups in bulletin boards, IRC, Usenet and other recreational forms of CMC. This work in natural contexts revealed both the variables that had been confounded in experimental work, and the wealth of alternative scenarios for CMC. The diversity revealed by fieldwork has played back into laboratory work, so that more recent experimental work has been oriented toward discerning the range of variables that can cause a range of outcomes in a range of CMC contexts. The lesson is not that one method is better than another, but that regardless of method, researchers need to recognize the breadth of CMC contexts and the significant (and often unpredictable) inputs of users.

If we look at context, it is clear that what happens in a decision-making organizational group with zero history (e.g. levelling of status, anonymity, rudeness) is quite different from what happens in a recreational MOO with a built-in power structure and a long history, where one will find a status hierarchy, well-known participants (who are likely to have met offline), well-developed friendships, and standards for appropriate interaction. What happens in a social MOO differs from what happens in a social Usenet group; indeed MOOs differ from each other. E-mail between friends or family may not resemble any of these. The infrastructure of different kinds of computer-mediated interaction (e.g. one-to-one, one-to-many, many-to-many, real-time versus asynchronous, built-in power structure or not) also provides context that shapes what occurs within. There are also a variety of reasons for interacting via computers – among them work, play, relational maintenance, the seeking of social support – each of which gives rise to differing sets of expectations, brings different realms of background knowledge to bear, and otherwise shapes the basic context in which interaction takes place. Many contexts from offline life are imported into online interaction, an area about which we still know far too little. Any assessment of the interpersonal import of CMC requires a complex understanding of how the use of CMC fits into the overall distribution and conduct of people's interpersonal interactions.

Users must be considered for at least two reasons: they have critical individual differences and they are creative. Far from being monolithic, people differ in their perceptions of the Internet, in what they want online, and in what they find online. Some find support and friendships that enhance their lives, others find their lives diminished by their time online. Nearly all of the research into CMC has been conducted at the level of the group, or averaged across individuals; we know too little about the individual differences that make a difference in computer-mediated experience.

Users are also creative, and they shape online contexts in ways that may not be predictable even from rich understandings of contexts and media. People who want their interaction to resemble

conversation may create groups with a good deal of abbreviation and language play, while those who want their interaction to resemble writing may create spaces that look like formal letters. Rather than resigning themselves to 'cuelessness', people rose to the occasion and found alternative ways to express themselves. Though they will always have their place, predictive theories of CMC will always fall short.

There are no simple questions to ask about CMC, as there is no single thing that is CMC, any more than there is a single thing called 'telephone-mediated communication', or 'television-mediated communication'. Discussions about the quality of CMC, which are surely worth having, must be predicated on this more complicated and messy reality. The studies to be done should look at the varieties and dimensions of contexts, and the varieties, perceptions and creativity of users, and should explore both the predictable and the unpredictable social meanings that emerge from the many combinations of these variables. CMC's uses and implications must be contextualized in the offline worlds in which they are embedded. In short, we must remember that the computer may be new, but like the many new media that came before, it is only a medium.

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