Introduction: Thoughts along the I-way: Philosophy and the Emergence of Computer-Mediated Communication

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Computer-mediated communication (CMC) and its attendant cyberspace—the peculiar space/time created by literally millions of human beings around the globe communicating with one another via computer networks—have moved rapidly from the status of futuristic dream to exponentially exploding reality. Book-length guides to the mother of all networks, the Internet, proliferate, as software tools for mining its information riches are simply assumed as building blocks of new computer operating systems. The once heady exchange of e-mail now seems staid compared with increasingly sophisticated libraries of materials accessible via the World Wide Web. What was a few years ago largely the cozy club of technology-oriented academics has become a commonplace: the notion of an "Information Superhighway," or I-way, is now an elemental part of American popular culture; being on-line is taken for granted by such diverse cultural mavens as Rush Limbaugh, National Public Radio hosts, and the cartoon strip "Doonesbury"; and stories about pornography on the Internet command front-page attention.

CMC Theory: Disciplinary Boundaries and Their Consequences

A burgeoning literature of analyses and discussions has accompanied these phenomena. From tightly focused academic studies to popular books of diverse musings, enthusiasts and critics see everything promised by the rise of CMC and its virtual communities—from the radical expansion of democracy in a uniquely libertarian cyberspace to the enslavement of whole populations via a perfected technology of deception and surveillance.

To begin with, the essays collected here provide a scholarly overview of this expanding literature. But this overview further makes clear that the

starting points of earlier CMC literatures largely have been defined, sensibly enough, by such academic disciplines as computer science, communication theory, and literary theory. These analyses, however, point to typically *philosophical* concerns—to the underlying assumptions (and their attendant questions) regarding knowledge (epistemology), reality (ontology or metaphysics), and values, including ethical and political issues. For all of their insights, few of these earlier analyses have made explicit their undergirding philosophical assumptions—and the possible critiques of those assumptions. Fewer still have exploited the riches of philosophical analyses and traditions by taking these up as fruitful and suggestive frameworks within which to consider CMC and its especially philosophical dimensions.

By the same token, few academic philosophers have considered carefully the various technologies, behaviors, and possible consequences of a massive, perhaps inevitable surge toward communication as mediated by computers. But to ignore this domain is to ignore what many see as a technologically mediated revolution, one that promises to reshape radically our fundamental conceptions of—ethics and politics, knowledge and reality.

This disciplinary separation all but condemns theoretical literature in CMC to minimize attention to philosophical issues. But without taking up philosophical issues directly, CMC theories rely on largely implicit philosophical assumptions: Such unexamined assumptions then run the risk of contradiction and incoherence. To borrow a Socratic metaphor: Attempting to navigate the waters of theory on such a vessel is to ride a raft cobbled together from whatever one finds available, whose pieces fit together badly and constantly threaten to fall apart. We could wish for a more coherent and seaworthy craft —especially if we believe we are about to embark on a revolution.

Overcoming the Barriers, Embarking on the Revolution: The Goals of These Essays

The disciplinary barriers between philosophy and CMC thus leave each incomplete, perhaps dangerously so. In the face of these barriers, the essays in this volume begin with the shared assumption that reflection on CMC from within explicitly articulated philosophical frameworks is crucial for at least two reasons. First, by bringing our philosophical assumptions to the foreground, our resulting reflections on CMC no longer rest on unexamined—and thus potentially contradictory or incoherent—assumptions. Indeed, to bring these assumptions to the foreground is to invite critical attention to these assumptions and thereby to the reflections on CMC which rest upon them. Especially for a technology that appears to promise everything—from the realization of Enlightenment democracy to the demise of print, literacy, and civilization as we know it—such critical scrutiny would seem especially ur-

gent. The second reason is that developed philosophical frameworks often include conceptual elements and implications which are not otherwise obvious when such frameworks operate only implicitly. By taking up reflection on CMC within various philosophical frameworks, the authors of these essays are able to add insight and understanding that might otherwise be overlooked.

Taken together, these essays serve two further purposes. First, as CMC expands and becomes its own discipline within the academy, more and more instruction takes up not only the empirical dimensions of CMC but also reflection on its philosophical dimensions, especially its ethical problems and social and political implications. In fact, in their preliminary form, several of the essays collected here have already found use in courses concerned with such problems and implications. We hope that this collection—to our knowledge, the first of its kind—will serve as a useful textbook for such courses and related research.

Second, much of philosophy sees that *everything* involves some set of philosophical assumptions or foundations. This means, in turn, that there are many "philosophies of X"—that is, explicitly developed philosophical frameworks and approaches to, say, the natural sciences, education, technology, and so on. While there are diverse philosophies of technology (and these essays address questions taken up in philosophy of technology per se), there are as yet, to our knowledge, no well-developed philosophies of CMC. We hope the essays in this volume, taken as a whole, begin to sketch out the basic questions, specific issues, and tentative responses that would constitute such philosophies. Indeed, readers who examine these essays with care will see that such philosophies of CMC will include traditional philosophical areas such as epistemology (questions of knowledge), ontology (questions of reality), ethics and politics, and so forth. Readers will further discover that the questions and responses raised in these domains are at moments both similar to traditional questions *and* novel and unique. This suggests that responses from earlier philosophical traditions to similar questions may be appropriate and useful *and* that new responses may emerge here—new responses which may well constitute entirely new chapters in the history of philosophy. (I will summarize my own impression of what these essays suggest by way of conclusion.)

The Essays: Approaches, Issues, Findings

The essays take up a considerable range of philosophical approaches: phenomenology, semiotics, diverse ethical and political systems, Frankfurt School critical theory, and postmodernism. On these foundations they examine a range of specific theoretical issues. Will the new technologies facilitate or undermine critical reflection on communication the transfer of

information or the creation of meaning (Gary Shank and Don Cunningham)? What privacy rights do individuals have, and how may these be protected in societies that depend on computerized databases of their citizens (Dag Elgesem)? How can we sustain and expand the ethical sensibilities necessary to protect individuals in cyberspace (Peter Danielson)? What is the future of intellectual property and property rights in cyberspace (John Lawrence)? Do CMC environments achieve egalitarian and democratic forms of communication—communication which accomplishes gender equality as well—or do such environments only reinforce existing social systems of power and hierarchy (Susan Herring, Carol Adams, Sunh-Hee Yoon, Charles Ess)? How will religious discourse and rhetoric change in the new environment of CMC (Stephen O'Leary and Brenda Brasher)? Will textual, specifically biblical, authority survive the promised transition from an age of print to a cyberspace made up of electronic documents (Phil Mullins)?

We begin with David Kolb, who takes a phenomenological approach to the question of how CMC technologies may both preserve and expand the discursive moves of argument and criticism. Kolb introduces a commonly shared theme of several essays to follow—namely, that CMC environments issue in a more oral style of communication, in contrast with the style associated with print. (Lawrence explores more extensively the contrast between electronic and paper media: O'Leary and Brasher and Mullins take up most centrally the "orality" of electronic communication.)

Kolb further introduces a second theme in several of these essays: the debate between modernists, as represented by the German critical theorist Jürgen Habermas, and postmodernists. While postmodernists typically celebrate the episodic and ephemeral characteristics of e-mail as consistent with the themes of deconstruction, *bricolage,* and so on (see especially O'Leary and Brasher), Kolb observes that these characteristics also facilitate the kind of dialogue Habermas takes as foundational for democratic communities. (The democratizing potential of CMC environments is explored more fully in this volume by Herring, Yoon, and Ess.) But Kolb further points out a chief weakness of this medium: Returning to earlier threads of discussion and argument is all but impossible, at least within the framework of current software. Kolb suggests a technological solution—namely, making CMC environments function more like hypertext.

Kolb asks what will happen to argument and criticism in such an environment. He explores how hypertext can facilitate various logical structures, including the dialectical patterns of Hegelian and Nietzschean thought. Kolb further argues that the human realities of finite time and attention, in the face of the dramatically richer environment of continuously expanded hypertexts, will force the emergence of new forms of hypertextual discourse. (Danielson develops more extensively notions of guides and filters, both human and

computerized; the *need* for such authoritative gateways is also discussed by Lawrence.) By creating such forms, Kolb concludes, we will move beyond computers as tools for data storage and manipulation, to CMC as a realm of discourse and poetics.

Gary Shank and Don Cunningham take up semiotics as a theoretical framework for understanding CMC. They argue that the unique combination of oral and textual dimensions of communication on the Internet escapes the assumptions and categories of earlier theory. They offer Shank's notion of a "multilogue" (in contrast with a monologue or dialogue), exemplified in a message thread initiated by one person and then rapidly developed through the responses of any number of communicants, as better able to account for these new forms of communication and communicative subjects. After introducing us to semiotics, Shank and Cunningham argue that the semiotic notion of abduction is fundamental to the multilogues characteristic of CMC conversation and to their more egalitarian atmosphere. They conclude that a semiotic conception of the self and communication may lead, via the rapidly expanding technologies of CMC, to an "age of meaning" rather than an information age.

Dag Elgesem explores the central issue of privacy and its protection in connection with research involving personal medical information stored in computerized databases, especially with regard to a Norwegian proposal to use a system of pseudonyms to protect individual privacy. Elgesem draws important distinctions between the *kinds* of privacy we seek to protect and what privacy *means* in the context of computerized information, in order to develop a notion of privacy as fair information processing. He further clarifies how we may think about the trade-offs between individual privacy, now understood primarily in terms of control over information about ourselves, and public benefit, especially in terms of the *risks* we are willing to take in the contemporary world in order to achieve our personal and social goals. His work will be useful especially for ethicists and other theorists who seek both greater conceptual clarity and promising foundational principles for developing ethical guidelines regarding privacy in computer-related contexts. At the same time, his discussion of the Norwegian project, which, by way of pseudonymization, seeks to achieve an ethically acceptable balance between public benefit and a minimal risk of individual loss of privacy, may provide useful suggestions for system designers facing similar ethical dilemmas. (This use of pseudoanonymity to protect privacy, however, should be considered alongside ethical critiques of anonymity by Peter Danielson and Carol Adams.)

Peter Danielson's evolutionary ethics is well suited for addressing the central ethical problems brought about by the rapid development and expansion of open computer networks. Danielson initially proposes the adoption

and adaptation of several communicative conventions of the paper world to help users sort more easily through e-mail floods. As well, Danielson exploits CMC technologies to suggest, for example, the use of ethically programmed computational agents both to serve as buffers between humans and their increasingly complicated communication technologies and to issue in more beneficial behaviors.

Danielson's approach also maintains a central emphasis on the traditional focus of ethics—namely, on human choice and responsibility. His many suggestions for ethically moderating network behavior—human list moderators, mailbots designed to minimize the noise of unnecessary messages (e.g., subscribe and unsubscribe messages), and so forth—in part rely on utilitarian and liberal traditions which favor freedom and experiment, so far as these result in no harm. And precisely because the Net constitutes an ideal environment in which to develop and test the sort of evolutionary ethics he favors, Danielson emphasizes a constructive approach of developing and disseminating beneficial conventions, informing users of these conventions, and filtering techniques, instead of attempting to prohibit undesirable behaviors. CMC advocates intent on defending the currently open, even anarchic, environment of the Internet will find in Danielson's approach and suggestions both a strong ethical defense of such an environment and constructive responses to the genuine problems users face on the Net as an open commons.

John Lawrence is an adept traveler in both the paper and electronic worlds and, hence, uniquely qualified to offer an unusually balanced appraisal of paper vs. electronic publishing. Lawrence raises a number of crucial questions: How far may digital communication transform the paper-based system of property and prestige? How might electronic publishing democratize the hierarchies and exclusions of print scholarship? What new structures must accompany cyberdiscourse if it is to replace print? And, what electronic forms of publication are most likely to replace paper? Reiterating Danielson's strategy of drawing on models from the print world, Lawrence strongly argues the need for equivalent levels of indexing, accessibility, and stability in the electronic world, if digital publishing is, in fact, to begin replacing paper-based scholarship. Lawrence also argues that two forms of electronic publishing will prove to be attractive and useful to scholars—namely, publishing large corpora on CD-ROM and providing timely book reviews and critical exchanges.

Linguist Susan Herring reports on her most recent research on communication styles and gender in CMC contexts. Herring's analyses first support the claim that there *are* gender-related differences in communication styles, differences further associated with different value systems. Briefly, women appear to prefer an ethic of politeness, emphasizing attention to positive face (a person's desire to be ratified and liked), while men appear to prefer an ethic of agonistic debate, emphasizing negative face (the desire to be free from

rules and other forms of imposition by others). Second, Herring's findings powerfully demonstrate the overwhelming dominance of the male discourse style—both in practice and in various "netiquette" guidelines—in the current Internet environment. These findings argue that if CMC is to realize gender equality as one of its most cherished moral and political goals, changes in communication style will be imperative—primarily on the part of the males who may constitute as much as 95 percent of the current population of cyberspace. Otherwise, Herring suggests, the much-vaunted freedom and equality of cyberspace will only reproduce, and perhaps amplify, existing patterns of male dominance and female subordination.

Carol Adams takes up the work of Catherine MacKinnon, Evelyn Kaschak, Deborah Tannen, and others to articulate a feminist analysis of society and pornography. Adams argues that in a male-dominant society, naming and representation of the world reflect a male view, including a male (hetero)sexuality that reduces the object of its desire—woman—from personhood to an impersonal thing to be manipulated according to the male will. Adams then inventories myriad examples of such sexism in cyberspace, ranging from sexualized computer jargon and adult bulletin board discourse to pornography exchange and real/virtual rape. From a phenomenological perspective, Adams further points out the striking intersection between male dominance of the machine and male dominance via the machine of woman as image. Indeed, Adams argues that computing technologies dramatically expand men's ability to manipulate "woman" as entirely reduced to a computer-generated and user-controlled image. Adams's analysis thus forcefully reiterates Herring's point: The ethically and politically compelling promise of gender equality in CMC is directly contradicted by manifold reflections and amplifications in cyberspace of the sexual domination operating in the larger society.

Adams's findings have implications for both feminist philosophers and philosophers of technology. If the Internet serves as a kind of ethical and social laboratory (so Danielson), lab tests show, in Adams's words, that "cyberspace cannot escape the social construction of gender," because it is constructed and used by gendered individuals whose construction and use reflect social assumptions about gender. This not only confirms feminist analyses of society but further says that technology does not necessarily transform, much less liberate us from, cultural assumptions. Adams thereby directly contradicts more optimistic views (articulated in this volume most carefully by Danielson) that a self-regulated CMC environment will rather naturally develop toward greater equality for women and men. In the face of what seems instead to be the reinforcement and amplification of inequality, Adams concludes by arguing for greater accountability and restrictions on speech. She echoes here the strategies seen in Danielson, Elgesem, and Lawrence, of translating extant

social practices, including recognized restrictions in current law on free speech, into the contexts of cyberspace.

Focusing on the centrally planned development of "computer mind" in South Korea, Sunh-Hee Yoon seeks to create a better theoretical foundation for explaining the complex interrelationship between human consciousness and technologies. Rejecting both liberal and Marxist theories of technology, Yoon turns instead to an approach to discourse and power drawn from Michel Foucault. (Yoon's account of Foucault's critique of Habermas will be balanced by my account of Habermas's critique of Foucault and others.)

Yoon takes Foucault's analysis of discourse (one which explicitly rejects, for example, the semiotic theory articulated by Shank and Cunningham) as the foundation for a methodology of discourse analysis and then applies this methodology to the deployment of computer technology in South Korea. This analysis is of compelling interest especially because it applies a Western poststructuralism to a non-Western society and culture. The results, interestingly, are mixed: While Yoon argues that Foucault's conception of power and methodology of discourse analysis are more successful in the Korean example, he also acknowledges that, despite its lip service to democratic intentions, the Korean implementation of CMC in fact accomplishes the instrumental rationality criticized as antidemocratic by Habermas. Yoon also finds that computerization in South Korea has failed to achieve the decentralization of power and communication necessary for democracy.

Charles Ess takes up a central claim made to justify the use of CMC—namely, the claim that such communication environments have a democratizing effect, as they level traditional hierarchical structures of authority. The democratization claim, however, faces several theoretical deficits. A stronger theoretical foundation is hence required if the democratization claim is to retain its justificatory power. To develop such a theory, I turn to Jürgen Habermas's theory of communicative action and discourse ethics. I argue that Habermas's theory overcomes the deficits facing the democratization claim, thus providing it with a stronger theoretical foundation. CMC proponents will also find Habermas useful as he makes explicit the connection between communication and democratic forms of polity and as he defends modern technologies—including the computers and networks of CMC—against important critiques of such technologies as antidemocratic. Finally, I try to show how Habermas's theory, especially the rules and guidelines of his discourse ethics, provide significant guidelines regarding the ethical and political practices required if communication in CMC environments is to live up to its promise of democratization. I close by noting ways in which current and emerging practices largely appear to affirm Habermas's approach, as these emerging practices work both to counter forms of discourse which Habermas's theory would reject as antidemocratic and to encourage forms of discourse

If CMC only partially effects the revolutionary transformations of values and social structures envisioned by its enthusiasts, then religion—as humanity's oldest expression of values and community—is likely both to impact and to be impacted by these transformations. Accordingly, a more complete philosophical approach to CMC must include the perspectives of religion scholars. Stephen D. O'Leary and Brenda Brasher introduce us to these perspectives by first showing how religious beliefs and rhetorics of persuasion are transformed by technologies of communication. In particular, they explore the transformations made possible by the peculiar "secondary orality" (so Walter Ong) of CMC which resurrects oral communicative elements of tribal cultures into a new, global context of communication. O'Leary and Brasher then describe the first glimmers of "technologized religion" visible on Internet lists and Usenet groups devoted to religion. Largely optimistic regarding the potentials of new religious possibilities enabled by cyberspace, O'Leary and Brasher further consider the "cyborg humanity" of those who take up CMC as an extension of their communicative interests, speculating on what effects this new form of being human, made possible by CMC technologies, may have on fundamental questions of religious consciousness. (Readers concerned with the questions of gender and CMC so sharply raised by Adams and Herring will also want to look carefully at O'Leary and Brasher's discussion of the negative and positive implications for women of cyborg disembodiment.) O'Leary and Brasher further point out a peculiar danger of cyberspace —namely, of falling victim to a contemporary form of Gnosticism. The cyber-Gnostic cannot distinguish between wisdom and knowledge, on the one hand, and the digitized forms of communication possible in cyberspace, on the other; this epistemological confusion may condemn the cyber-Gnostic to a futile quest for "the knowledge that saves," knowledge that may simply not be found on the Net. Appropriately, O'Leary and Brasher close with a cyberpunk's prayer, completing the rhetorical journey they begin by quoting St. Paul's speech in the Athenian marketplace.

Sharing David Kolb's interest in phenomenology and hypertext, Phil Mullins examines notions of text and textual authority engendered by print culture as these are exemplified by the authority of the Bible in its role as a sacred text in North American culture, and explores how these notions may be fundamentally altered in a new era of electronic communication. Mullins argues that the emergence of secondary orality transforms print-based attitudes toward text—specifically, biblical literalism and historical-critical scholarship. This transformation is exemplified in the American Bible Society's project of creating a multimedia translation of selected portions of the Christian Scriptures, a project which radically reshapes the very form of the Scripture. More generally, Mullins argues that the communicative excess of electronic culture leads to a shift in our rhetorical strategies (thus reinforcing a central point made by O'Leary and Brasher). In this new context, the making of

interesting but temporary connections in the electronic medium may override print culture's emphasis on scholarship as the cumulative development of more complex and sturdy argumentative wholes (a point also explored by Kolb).

Mullins likewise parallels Kolb, drawing on scholarly analyses of hypertext to argue that print-culture notions of textual authority and stability will be replaced by "texts" as fluid creations of active author/readers who delight in the play of message construction out of an information-rich environment. In contrast with the literalists' print-bound conception of textual authority, Mullins observes that the new fluidity of text—especially as "text" now becomes the open and continuously revised hypertext of digitized information shared across global networks—in fact recovers a forgotten feature of sacred texts: In earlier communities, the sacred "texts," whether oral or literary in form, remained vital precisely by virtue of their fluidity, as they transformed and were transformed by community experience over time. In this way, Mullins suggests in the domain of religiosity the communitarian promise of CMC, endorsed especially by those who see a democratization potential in CMC (see Yoon and Ess), as a counterweight to the isolated Cartesian self of modernity (see Shank and Cunningham).

Summary 1: What CMC Theory May Gain

As they bring diverse philosophical perspectives to bear on especially the ethical and political choices occasioned by CMC technologies, these essays should help both theoreticians and users from all disciplines understand more clearly the complex issues surrounding such concerns as privacy and the public good, individual rights, intellectual property, sexism, and democratization. We hope these essays thus not only contribute to a crucial interdisciplinary dialogue regarding theories of CMC—assumptions regarding ethical and political values and the nature of knowledge and reality, which underlie the design, implementation, and justificatory arguments for CMC systems—but also contribute to more informed and wiser choices in practice.

Summary 2: What Religion May Gain

In turn, philosophers and scholars of religion can glean new insights as well. Scholars of religion will see that cyberspace offers new forms of religious experience, while it directly challenges print-related notions of textual scholarship and the sacred text as authority. But the promised revolution here is complex. CMC may not only catapult us forward to entirely new forms of religion and religious communities; in addition, precisely as text-based authority and literalism are threatened with extinction by hypertexts and CMC,

religious communities may recover an older, but currently forgotten, freedom and autonomy with regard to questions of authority and interpretation.

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Summary 3: What Philosophy May Gain;
the Nature of the CMC Revolution

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The essays point to both tradition and revolution for philosophers as well. Cunningham and Shank, for example, see CMC as unseating Descartes—but requiring the semiotic theory of the nineteenth-century philosopher C. S. Peirce. Danielson's evolutionary ethics includes modern utilitarianism and rights-based notions, as does Elgesem's notion of privacy rights. Any claims of revolution must face an entrenched sexism which continues, if not expands, in cyberspace (Herring, Adams). And the postmodernist Foucault's realization in Korea (Yoon) is countered by the moderns Habermas and Kant as important sources for understanding how democratization and gender equality might be achieved in cyberspace (Ess).

Finally, both Kolb and Mullins observe that the hypertextual, ephemeral, and ludic qualities of CMC will directly undermine especially one form of philosophical discourse and argument—namely, the carefully crafted, largely linear accumulations of argument and scholarship closely associated with literacy and print culture. Such discourse is likely to disappear, replaced by the playful and the evanescent. But to trumpet the victorious overthrow of a grand philosophical past may be premature. Just as the CMC revolution may catapult religionists both forward and back, so it may cut in more than one temporal direction for philosophers. As especially David Kolb makes clear, the claim that philosophical discourse per se is tied narrowly to print culture is only partially correct. Rather, philosophical thought as practiced especially by Hegel and Nietzsche intentionally moves beyond the alleged linearity of printed texts; such thought may be even more powerfully articulated and critiqued in the fluid and hypertextual spaces of CMC. Again, the CMC revolution clearly threatens to overturn a familiar part of the present—but in doing so, it may return us more powerfully to other elements of our past. Indeed, a Hegelian might observe that the transformations promised by CMC —as going beyond a certain form while incorporating elements of past stages in some promising new synthesis of these two—might constitute simply another dialectical transition, or *Aufhebung,* in the development toward the Absolute.

In a famous metaphor, Hegel also noted that the owl of Minerva flies only at dusk. That is, philosophy, as a reflective activity, can only follow upon act, not guide it. The essays collected here suggest that this view may be only partially true. They argue that CMC will fulfill its revolutionary promise, though in paradoxical and incomplete fashion; but these essays also intend to

contribute to that fulfillment by offering prior, philosophically informed cri-
tique and insight. We thus hope that these essays will inaugurate and constitute
important voices in the dialogues out of which more complete philosophies of
CMC will emerge—philosophies that, unlike the owl of Minerva, will contin-
ually unfold in dialogue with CMC technologies and their appropriations by
diverse human communities.