ELECTROPOLIS:

COMMUNICATION AND COMMUNITY ON INTERNET RELAY CHAT

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CONTENTS

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PREFACE

Computer-Mediated Communication

Despite the recent innovations of radio and telecommunications, communication and language theorists make a sharp distinction between the spoken and the written word. That distinction is based on a perception of temporal and spatial proximity in the case of spoken communication, and distance in the case of written communication. "Most analyses of linguistic interaction," as Naomi Baron notes, "are based on the paradigm of two people speaking face-to-face."[1] It is further assumed that alternative methods of communication - telephones and letters for example - *supplement*, as Baron expresses it, 'normal' face-to-face communication.[2] The underlying assumption that physical contact is necessarily a part of human communication pervades social theory. This is understandable. Until recently, physical contact was almost always a prerequisite for communication, with letters mainly being transmitted between people who had met in the flesh. Even the telephone assumes physical contact. It is generally only in the business world that people phone others whom they have not met, and personal telephone conversations are, as in the case of letters, conducted between people who are already known to each other.

The technology of computer-mediated communication offers an alternative to this. Computer-mediated communications systems (CMCS's) use computers and telecommunications networks to compose, store, deliver and process communication. There are three basic types of computer-mediated communication systems: email, news, and chat programs. 'Email', or electronic mail, allows users of computer systems to send messages to each other. 'News' allows users to send messages to a database divided under subject headings, facilitating electronic mail between multiple users on diverse subjects. These two types of communication are asynchronous - messages, whether private email or public news, can be created and received at widely separated times, allowing time for reflection and deliberation in response. The third type of CMCS is the chat program, which does not store messages but transmits one person's typing directly to the monitor of another person or group of people. Chat programs deal in a form of synchronous communication that defies conventional understandings of the differences between spoken and written language.

CMCS's are a recent development, with widespread availability only becoming possible within the last decade. Consequently, little has been written about them outside of technical considerations of their design and implementation. The few articles that have addressed the subject tend to do so from a commercial orientation - discussing the impact of CMC on

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[1] BARON, NAOMI S., "Computer Mediated Communication as a Force in Language Change" in *Visible Language* Vol.18 No.2 Spring 1984, p.120.

[2] BARON, *op cit*, p.122.

problem solving techniques, office communication and corporate structure.[3] An assumption that is commonly made by researchers of computer-mediated communication is that the medium is not conducive to emotional exchanges. As Ronald Rice and Gail Love state, "the typical conclusion is that as [the communication] bandwidth narrows, media allow less 'social presence'; communication is likely to be described as less friendly, emotional, or personal and more serious, business-like and task oriented."[4] This may have been found to be the case in some instances, and may reflect the overall concern among researchers to study CMC in a business environment. But computer-mediated communication systems are not - either theoretically or in practice - limited to commercial use. It is also possible to use them for social interaction. Internet Relay Chat is one such system. IRC is a multi-user synchronous communication facility that is available all over the world to people with access to the 'Internet' network of computer systems. IRC was not specifically designed for a business environment - the use to which it is put is entirely decided by those who use it. Work is certainly done on IRC. It is an excellent forum for consultations between workers on different points of the globe - everything from programming to translation to authorial collaboration goes on on IRC. However, a large part of what goes on on IRC is not work but *play*, and it is this aspect of it that I will address.

Communication using the Internet Relay Chat program is *written*, and users are spatially distant, but it is also *synchronous*. It is a written - or rather, typed - form of communication that is transmitted, received and responded to within a time frame that has formerly been only thought relevant to spoken communication. IRC does not assume physical contact between users - either prior to or after communication via computer. Users of the system will, as the medium is international, know in person at most only a few fellow users. IRC allows - encourages - recreational communication between people who have never been, most likely will never be, in a situation to base their knowledge of each other and their methods of communication on physical cues.

Users of IRC do not, however, have *no* knowledge of each other. The people who make up the IRC community are effectively preselected by external social structures - access to IRC is restricted to those who have access to the Internet computer network. There are many such

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[3] Many of the references that I have used approach CMC from this perspective - see, for instance, RICE, RONALD E. and DONALD CASE, "Electronic Message Systems in the University: A Description of Use and Utility" in *Journal of Communication* No.33 1983, pp131-152, and ALLEN, THOMAS J. and OSCAR HAUPTMAN, "The Influence of Communication Technologies on Organizational Structure" in *Communication Research*, Vol.14 No.5, October 1987, pp. 575-587. A notable exception is the work of Gordon Meyer and Jim Thomas, particularly "The Baudy World of the Byte Bandit: A Postmodernist Interpretation of the Computer Underground" (published in SCHMALLEGER, F. (ed.), *Computers in Criminal Justice,* Wyndham Hall: Bristol, Indiana, 1990, pp. 31-67) While not discussing the impact of CMC on human interaction *per se*, they discuss computer-mediated communities in the context of 'hacking', that is, unauthorised access to computer media.

[4] RICE, RONALD E. and GAIL LOVE, "Electronic Emotion: Socioemotional Content in a Computer-Mediated Communication Network" in *Communication Research* Vol.14 No.1, February 1987, p. 88.

people - the Internet spans countries as diverse as Germany, the United States, Japan, Israel, Australia and Korea. However, those individuals who use IRC will be in an economically privileged position in their society. They have access to high technology. Due to the nature of the computer network on which IRC runs, the Internet, they will most likely be members of an academic community, often students of computer science.[5] Interaction on IRC is then carried out in the knowledge that users are on a rough equality - according to conventional economic measures - and members of similarly privileged social groups. This 'equality' is not intrinsic to IRC, it is a by-product of the social structures surrounding computer technology.

Nevertheless, IRC provides a unique field to the social theorist. It challenges and forces an escape from traditional paradigms of social interaction by reference to an architecture that allows relative anonymity. It stands as a challenge to the methods of analysis that have been directed at computer-mediated communication systems. IRC was not designed to perform a corporate function, nor has it come to do so. It was intended to be a tool for *social* interaction between spatially disparate people, and as such it cannot be completely explained or analysed by reference to the methods used by other CMC theorists.[6]

Interaction on IRC involves a deconstruction of traditional assumptions about the dynamics of communication, and the construction of alternative systems. IRC is essentially a *playground*. Within its domain people are free to experiment with different forms of communication and self-representation. Within IRC, "Power is challenged and supplanted by rituals combining both destruction and rejuvenation."[7] To paraphrase F.R. Ankersmit, users of IRC do not shape themselves according to or in conformity with the conventions of social contexts external to the medium, but learn to "play" their "cultural game" with them.[8]
This is my central thesis, and I will seek to address it from two perspectives. My first concern will be the methods by which users of IRC utilise the medium in the deconstruction of social boundaries. As I have suggested, users of IRC are a pre-selected community - they have much in common as far as such considerations as social position and education are concerned. IRC, however, presents unique problems for the expression of this community. The methods by which such groups are *usually* held together rely on physical proximity. These methods are not open to users of IRC - computer-mediated communication challenges and

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5 The Internet will be discussed in detail in the Introduction.

6 A common test has been the assessment of the time taken and methods used by CMC groups to reach concensus on a given problem as compared to face-to-face groups. See, for instance, KIESLER, SARA,, JANE SIEGEL and TIMOTHY W. McGUIRE, "Social Psychological Aspects of Computer-Mediated Communication" in *American Psychologist* Vol.39 No.10 October 1984, pp.1123-1134. This is clearly not an accurate measure of the kind of communication that occurs on IRC, which is *chat* rather than *debate.*

7 MEYER, GORDON and JIM THOMAS, "The Baudy World of the Byte Bandit: A Postmodernist Interpretation of the Computer Underground", electronic manuscript, (also published in SCHMALLEGER, F. (ed.), *Computers in Criminal Justice,* Wyndham Hall: Bristol, Indiana, 1990, pp. 31-67) lines 837-838. See Footnote 15 regarding electronic manuscripts.

8 ANKERSMIT, F.R., "Historiography and Postmodernism", *History and Theory* no.28 (No. 2, 1989), p.151.

deconstructs these social tools. I will discuss the means by which communication on IRC does this.

My second concern is the construction of alternative communities on IRC. Denied or having deconstructed the more traditional methods of sustaining a community, users of IRC must develop alternative or parallel methods. Both positive and negative methods of sustaining community are developed on IRC. Computer-mediated rewards and punishments are developed, and complex rituals have evolved to keep users within the IRC 'fold' and to regulate the use of authority.

Discussion of these points will lead to a presentation of the social discourse of IRC. The challenging of the power of social norms and their replacement with rituals combining both destruction and rejuvenation, brings into play areas of discourse that are postmodern. This connection between postmodernism and that phase of culture and technology marked by computerisation has been remarked upon by even those antipathetic to the discourse. Perez Zagorin describes postmodernism as "a fundamental mutation in the sphere of culture reflecting the new multinational phase of... [the] electronic society."[9] Culture, as defined by Schneider, is a "system of symbols and meanings."[10] Since computer-mediated communication systems are "designed specifically to affect the transmission of symbols and meanings", IRC - which is both international and electronic - has the potential to alter understandings of cultural analysis.[11] My conclusion is that Internet Relay Chat, by deconstructing social boundaries and by the ways in which users construct their own community and culture, is a postmodern phenomenon.

Cultural criticism in this postmodern age is, as Alan Lui states, governed by "its belief that criticism can, and must, engage with context".[12] It is also, as Ankersmit suggests, reflexive, self-referential.[13] If history is to be able to address the questions raised by computer-mediated culture, then historians must examine the impact of that cultural context upon their craft. Historians must ask what will happen to the practice of history when "societies enter what is known as the postindustrial age and cultures enter what is known as the postmodern age"?[14] If computer-mediated communication problematises cultural criticism by questioning conventional notions about the construction of the self and of culture, then it also

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[9] ZAGORIN, PEREZ, "Historiography and Postmodernism: Reconsiderations", *History and Theory*, Vol.29 No.3, 1990, p. 265.

[10] SCHNEIDER, D., "Notes Toward a Theory of Culture", in K.R. Basso and H.A. Selby (eds.), *Meaning in Anthropology*, University of New Mexico Press: Albuquerque, 1976, p.198.

[11] HIEMSTRA, GLEN, "Teleconferencing, Concern for Face, and Organizational Culture", in M. Burgoon (ed.), *Communication Yearbook 6*, Sage: Berverly Hills 1982, p.874.

[12] LUI, ALAN, "Local Transcendence: Cultural Criticism, Postmodernism, and the Romanticism of Detail", *Representations* No. 32: Fall 1990, pp 77-78.

[13] ANKERSMIT, F.R., "Historiography and Postmodernism", *History and Theory* No. 28 (No.2, 1989) p.148.

[14] LYOTARD, JEAN-FRANCOIS, *The Postmodern Condition: A Report on Knowledge,* University of Minnesota Press: Minneapolis, 1984, p.3.

problematises historiography. If historians continue to take to the increasingly more complex forms of computerised information exchange that are being developed then these factors will have ideological implications for their craft. What will happen to the relationship of the historian to his text, and what will happen to the historian's view of texts, once electronic data itself becomes subject to historical study?

The most prosaic aspects of the historian's craft are challenged in a computer-mediated culture. If primary and secondary sources are produced and disseminated electronically, what becomes of the conventions of citation?[15] Under the application of this technology, historical texts become subject to, as Lyotard describes it, an "exteriorization of knowledge with respect to the 'knower'" [16] The form which computerised knowledge takes - electronic encoding, or data files - is not inherently identifiable with its creator. Electronic data can be modified by anyone who has the appropriate technology. It is subject to a fluidity that 'hard copy' is not - it can be changed without that change being detectable. The context of information changes the relationship between information and power, between information and discourse. As John Perry Barlow asks, "What are data and what is free speech? How does one treat property which has no physical form and can be infinitely reproduced? Is a computer the same as a printing press?... Can anyone morally claim to own knowledge itself?"[17]

In examining the Internet Relay Chat computer-mediated communication system I attempt to write history within the context of the culture of an electronic, postindustrial, postmodern society.

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[15] Two of the articles that I have made use of have only been available to me in electronic format, although they have been published in the United States. These are: MEYER, GORDON and JIM THOMAS, "The Baudy World of the Byte Bandit: A Postmodernist Interpretation of the Computer Underground" (published in SCHMALLEGER, F. (ed.), *Computers in Criminal Justice,* Wyndham Hall: Bristol, Indiana, 1990, pp. 31-67), and BARLOW, JOHN PERRY, "Crime and Puzzlement: Desperados of the DataSphere" (published in *Whole Earth Review*, Sausalito, California, Fall 1990, pp.45-57). The former was electronically mailed to me by the authors, the latter was posted to the newsgroup alt.hackers. In referring to these articles, I have cited the electronic form of the texts, since that is what I have been working with, giving line numbers rather than page references. However, electronic manuscripts would generally be read from within a text editor or word processor, enabling the reader to search for a specific text string.

[16] LYOTARD, *op cit*, p.4.

[17] BARLOW, *op cit*, lines 322-326.

INTRODUCTION

Most people are familiar with personal computers. Although only a small number are conversant with the technical details of microcomputer technology, or with computer programming languages, most people have a rough idea of what a computer looks like, and that they are used by typing commands into a keyboard and viewing feedback from the machine on a monitor. Word processing has become so common that it would be hard to find a person living in the Western world - especially in an academic community - who had not actually used a computer.

Throughout this essay I shall assume a basic understanding of the physical act of computer use. I do not intend to explain any of the technical details pertaining to my subject - most of them are, at any rate, beyond my understanding. However I feel that it would be useful to give some explanation of the historical context within which Internet Relay Chat has been developed, and necessary to offer a description of the IRC environment.

ARPANET, the Internet, and AARNet[1]

The personal computers with which most readers will be familiar - IBM compatibles, Apple Macintoshes, Amigas and so on - are a relatively recent phenomenon. It is only within the last ten to twenty years that computers have become household items. Before that computing was the domain of governmental or commercial organisations which owned large - *mainframe* - computer systems. As usage of these systems increased, it became common for computers at one geographical location, or site, to be linked together so that users on each could have access to the data and facilities contained on all the others. These local area networks, or LANs, developed into networks connecting machines at dispersed sites, utilising the telephone line system. The first of these 'long-haul' networks was the ARPANET, which came into existence in 1969. This project was funded by the Advanced Research Projects Agency, an arm of the United States Department of Defence. ARPANET initially connected machines at the University of California (Los Angeles and Santa Barbara campuses) and the University of Utah, and was intended to facilitate research at those sites. Along with the idea of sharing electronic data went the idea of communication between users. ARPANET originally allowed two methods of communication between users - email and news.

ARPANET's membership grew, with many other educational institutions in the United States adopting the new technology. In 1983 ARPANET was divided into two networks, known as ARPANET (for research use) and MILNET (for military use). The ARPANET arm continued to

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[1] For a brief description of ARPANET, the Internet and AARNet, see MILLWARD, ROSS and PHILIP LEVERTON,*Technical note 82: Using the UNIX Mail System,* University Computing Services: University of Melbourne, 1989,,pp 13-15. For a more detailed discussion, see LAQUEY, TRACEY L., *The User's Directory of Computer Networks*, Digital Press: Massachusetts, 1990, pp.193-379, especially pp.193-204.

grow, with local area networks at various government, educational and commercial sites being added to the system. With the advent of satellite communications, it became possible for computers in other countries to join the network, and ARPANET became known as the Internet. Technically, the Internet is not one network, but a number of networks that communicate with each other, however to the user it appears to be one big network.

The Australian arm of the Internet is known as AARNet, the Australian Academic Research Network. AARNet grew out of ACSnet, the Australian Computer Science Network, which served to connect computers used directly by computer science researchers. Initially this network was linked by conventional telephone lines, with machines exchanging data and mail each night. This has developed into a nationwide system permanently linking virtually all computers at major academic institutions, and some commercial and government research organisations. Initially a link to the Internet was run via undersea cables to Hawaii, but in early July 1990 the final links were installed to make AARNet fully operational, and operation of a satellite connection to the United States West Coast segment of the Internet was commenced.

The most heavily used forms of inter-user communication on the Internet are still the asynchronous forms of email and news. On most computers on the Internet synchronous communication is possible using a program that enables two users to type directly to each others' screens, thus having a real-time electronically mediated conversation. This method of communication is, however, fairly limited - only two people can 'talk' to each other at once.

It was in response to the limitations of the synchronous communication programs in existence that Jarkko Oikarinen decided to write a computer program that would enable multiple users to engage in synchronous communication across a network. This project was known as Internet Relay Chat.

Internet Relay Chat[2]

Jarkko Oikarinen wrote the original IRC program at the University of Oulu, Finland, in 1988. He designed IRC as a 'client-server' program. The user runs a 'client' program from his or her local machine, which then connects, via the Internet, to a 'server' program which may not be running on that local machine. There are hundreds of IRC 'servers' over the world, all of which communicate with each other and pass information back to the client programs - and users - connected to them. IRC was first tested on a single machine with less than twenty users

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[2] Based on a conversation with 'Max' on IRC, Thursday July 11th, 22.20. My quotes from IRC sessions are taken from 'logs', computer files which consist of the records of conversations on IRC, either kept by me or given to me by the log keepers. In all quotes from logged IRC sessions, I have preserved the original spelling and syntax. I have, however, changed the names of the interlocutors unless I have been specifically requested by them not to do so. I have done my best to be certain that I have not used nicknames already in use on IRC - if I have inadvertently done so, my apologies to the people concerned. I have also deleted the Internet emailing addresses of IRC users so as to protect their privacy - for instance, my own address emr@munagin.ee.mu.oz.au appears as *@*.*.*.oz.au. I have thus indicated the geographic location of users without disclosing their full addresses and identities. In the version submitted to the University of Melbourne, these logs were included as Appendix B.

participating. IRC's networking capabilities were then tested on a suite of three machines in southern Finland. Once tested it was installed throughout the Finnish national network - FUNET - and then connected to NORDUNET, the Scandinavian branch of the Internet. By November of 1988, IRC had spread across the Internet. The latest listing of countries whose Internet branches host IRC include Australia, the United States, Italy, Israel and Korea.[3]

IRC differs significantly from previous synchronous communication programs. Fundamental to IRC is the concept of a channel. 'Talk', 'chat' and 'voice' had no need of such a concept since only two people could communicate at one time, typing directly to each other's screen. On IRC however, where two or three hundred users is the normal population, such a system would create chaos. It was therefore necessary to devise some way of allowing users to decide whose activity they wanted to see and who they wanted to make aware of their own activity. 'Channels' were the answer. On entering the IRC program, the user is not at first able to see the activity of other connected users. To do so he must join a channel. Channels are created or joined by users issuing a command to the IRC program to join a channel. If there is already a channel of the specified name in operation, then the user is added to the list of people communicating within that channel; if such a channel does not exist, then IRC opens a new channel containing the name of the user who invoked it, who may then be joined by other users. The user can issue a commands requesting a list of the users connected to IRC and which channels they are attached to. IRC keeps track of who has joined which channels, and ensures that only people within the same channel can see each others' typed messages. IRC can support an unlimited number of channels. Channels can have any name, but generally the name of the channel indicates the nature of the conversation being carried out within it - 'Finland', 'hottub', 'worker', 'party', and so on. The user who initially invokes a channel name is known an a channel operator, or 'chanop', and has certain privileges. He or she may change the *mode* of the channel - may instruct IRC to limit usage of the channel to a certain number of users, may limit entry to the channel to people specifically invited by him or her to join, may make the channel invisible to other users by specifying it's exclusion from the list of active channels that a user may request of IRC, may kick another user off the channel, or confer chanop privileges on another user.

IRC supports numerous other commands. Once a channel has been joined, everything that the user types will be by default sent to all other occupants of the channel. It is possible, however, to alter that default setting by issuing commands to direct a message to a particular user, users, channel or channels. A number of other commands - the ability to send messages to all users or to kick a user off the IRC system entirely - are reserved for IRC operators, or

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[3] The full listing is: Austria, Australia, Canada, Switzerland, Germany, Denmark, Finland, France, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Spain, Sweden, United Kingdom, United States. Taken from a posting to the newsgroup alt.irc (from: troy@plod.cbme.unsw.oz.au (Troy Rollo), Organization: Centre for Biomedical Engineering, Uni of NSW, Date: 10 Jul 91 10:27:48 GMT, Subject: NickServ Statistics as at July 10 1991).

'opers', the people who run and maintain the IRC network connections. Opers also have access to special commands related to the technical implementation of IRC.

IRC is not an 'official' program. There are few 'official' programs on the Internet. Most are simply programs that a group of people, who by virtue of their paid or student work have access to computers on the Internet, have decided to install on these machines. IRC operators are people who have chosen to invest the time needed to set up and maintain the IRC program on their local machines for the benefit of other local users.

IRC, then, is a multi-user synchronous communications system. It allows people to choose which person or group of people they wish to see the activity of, and to whom they wish their own activity to be transmitted.[4] IRC - the whole Internet - forms a 'virtual reality'.[5] In the words of John Perry Barlow:

> Whether by one telephonic tendril or millions, [these computers are all] connected to one another. Collectively, they form what their inhabitants call the Net. It extends across that immense region of electron states, microwaves, magnetic fields, light pulses and thought which sci-fi writer William Gibson named Cyberspace.
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> Cyberspace, in its present condition, has a lot in common with the 19th Century West. It is vast, unmapped, culturally and legally ambiguous, verbally terse (unless you happen to be a court stenographer), hard to get around in, and up for grabs... In this silent world, all conversation is typed. To enter it, one forsakes both body and place and becomes a thing of words alone... It is, of course, a perfect breeding ground for both outlaws and new ideas...[6]

Within this breeding ground, users of IRC invent new concepts of culture and interaction, and challenge the conventions of both.

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4 See Appendix A for a more complete (though not exhaustive) list and description of IRC commands.

5 'Virtual reality' is a phrase often used by users and constructors of computer systems designed to mimic 'real life'. The word 'virtual' is also used to describe individual computer-simulated equivalents of aspects of reality. The ABC recently aired a program discussing the technology of virtual reality: the BBC production "Colonising Cyberspace: Advances in Virtual Reality Technology" was shown on Sunday 11th August at 9.30pm as part of the "Horizens" series.

6 BARLOW, JOHN PERRY, "Crime and Puzzlement: Desperados of the DataSphere", electronic manuscript (also published in *Whole Earth Review*, Sausalito, California, Fall 1990, pp.45-57), lines 56-68.

PART ONE: DECONSTRUCTING BOUNDARIES

Traditional forms of human interaction have their codes of etiquette. We are all brought up to behave according to the demands of social context. We know, as if instinctively, when it is appropriate to flirt, to be respectful, to be angry, or silent. The information on which we decide which aspects of our systems of social conduct are appropriate to our circumstances are more often physical than verbal. Place and time are perceptions of a physical reality that are not dependent on statements made by other people. We do not need to be told that we are at a wedding, and should be quiet during the ceremony, in order to enact the code of etiquette that our culture reserves for such occasions. "Being cultured" says Greg Dening, "we are experts in our semiotics... we read sign and symbol [and] codify a thousand words in a gesture."[1] In interacting with other people, we rely on non-verbal information to delineate a context for our own contributions. Smiles, frowns, tones of voice, posture and dress - Geertz's "significant symbols" - tell us more about the social context within which we are placed than do the statements of the people we socialise with.[2] Language does not express the full play of our interpersonal exchanges - which, continues Dening, "are expressed in terms of address, in types of clothing, in postures and facial expressions, in appeals to rules and ways of doing things."[3] The words themselves tell only half the story - it is their presentation that completes the picture.

Internet Relay Chat, however, deals only in words. Computer-mediated communication relies only upon words as a channel of meaning.[4] "Computer-mediated communication has at least two interesting characteristics:" writes Kiesler, "(a) a paucity of social context information and (b) few widely shared norms governing its use."[5] Users of these systems are unable to rely on the conventions of gesture and nuances of tone to provide social feedback. They cannot rely upon the conventional systems of interaction if they are to make sense to one another. Words, as we use them in speech, fail to express what they really mean once they are deprived of the subtleties of speech and the non-verbal cues that we assume will accompany it. Internet Relay Chat is synchronous, as is face-to-face interaction, but it is unable to transmit the non-verbal aspects of speech that conventions of synchronous communication demand.

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1 DENING, GREG, *The Bounty: An Ethnographic History*, Melbourne University Press, 1988, p.102.

2 GEERTZ, CLIFFORD; *The Interpretation of Cultures: selected essays*; Basic Books, Inc.: New York, 1973, p.45.

3 DENING, *op cit*, p.100.

4 This may not be the case in the future. Recent advances in 'multi-media' computer applications make the development of CMC systems that incorporate video, audio and textual elements a possibility.

5 KIESLER, SARA, JANE SIEGEL, and TIMOTHY W. McGUIRE, "Social Psychological Aspects of Computer-Mediated Communication", *American Psychologist*, Volume 39, Number 10, October 1984, p. 1126.

It is not only the meanings of sentences that become problematic in computer-mediated communication. The standards of behaviour that are normally decided upon by non-verbal cues are not clearly indicated when information is purely verbal. Not only are smiles and frowns lost in the translation of synchronous speech to pure text, but factors of environment are unknown to interlocutors. It is not immediately apparent, in computer-mediated communication, what forms of social etiquette are appropriate at any given time.

Kiesler, Siegel and McGuire have described computer-mediated communication as having four distinct features in comparison to conventional forms of interaction: an absence of regulating feedback, dramaturgical weakness, few social status cues and social anonymity. Conventional systems for regulating interaction fall apart. The structure of IRC causes its users to deconstruct the conventional boundaries defining social interaction. "Anonymity [and] reduced self-regulation" become, as I shall discuss, pronounced in computer-mediated communication.[6]

Anonymity

Although the social and economic status generally associated with the use of such high technology as computer systems offers IRC users, as I have indicated, some general context within which to place each other, they know little else about each other, and that little is open to manipulation by the user.

Users of Internet Relay Chat are not generally known by their 'real' names. The convention of IRC is to choose a nickname under which to interact.[7] The nicknames - or 'nicks' as they are referred to - chosen by IRC users range from 'normal' first names such as 'Peggy' and 'Matthew', to inventive and evocative pseudonyms such as 'Tmbrwolf', 'Pplater', 'LuxYacht' and 'WildWoman'.[8] The information which one user can gain about others on IRC consists of the names by which they choose to be known and the Internet 'address' of the computer by which they are accessing the IRC program. The first is easily changed. IRC supports a command that allows users to change their nicknames as often as they wish. The second is not so easily manipulated, but still open to tampering provided that the user has some technical skill. Essentially there is nothing that one IRC user can ascertain about another - beyond the fact that they have access to the Internet - that is not manipulable by that user.

Our conventional presentation of self assumes that we cannot change the basics of our appearance. Physical characteristics, although open to cosmetic or fashionable manipulation, are basically unalterable. What we look like, we have to live with. This is, however, not the case on IRC. How an IRC user 'looks' to another user is entirely dependant upon information

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6 KIESLER, SIEGEL and McGUIRE, *op cit,* p. 1126.

7 For technical reasons - which I am not competent to explain - IRC nicknames cannot be of more than nine characters in length.

8 The significance of IRC 'nicks' will be discussed in Part Two: Constructing Communities.

supplied by that person. It becomes possible to play with identity. The boundaries delineated by cultural constructs of beauty, ugliness, fashionableness or unfashionableness, can be by-passed on IRC. It is possible to appear to be, quite literally, whoever you wish.

The anonymity of interaction in IRC allows users to play games with their identities. The chance to escape the assumed boundaries of gender, race, and age create a game of interaction in which there are few rules but those that the users create themselves. IRC offers a chance to escape the language of culture and body and return to an idealised 'source code' of mind.

The changes that a user might make to his or her perceived identity can be small, a matter of realising in others' minds a desire to be attractive, impressive, popular:

> *BabyDoll* Well, I gotta admit, I shave a few lbs off of my wieght when I tell the guys on irc what i look like..

However, the anonymity of IRC can provide more than a means to 'fix' minor problems of appearance - one of the most fascinating aspects of this computer-mediated fluidity of cultural boundaries is the possibility of gender-switching. While secondary characteristics such as hair colour are relatively easily changed in 'real life', gender reassignment is a far more involved process. This aspect of computer-mediated communication has had little attention given it. Sproull and Kiesler note that "unless first names are used as well as last names, gender information is also missing", but do not discuss the implications of this.[9] IRC destroys the usually all but insurmountable confines of sex: changing gender is as simple as changing one's nickname to something that suggests the opposite of one's actual gender. It is possible for IRC to become the arena for experimentation with gender specific social roles:

> <*Marion*> I've tried presenting m,yslef as male on occasion - to be honest I found itdull
> <Barf> Umm, I've gender switched once or twice for about 2 hours or so - mainly to lead another male up the garden path as a practical joke; but never a serious gender switch.
> <*Marion*> how did you find being perceived as female?
> <Barf> I wasn't really being perceived as female, since I was basically just calling myself by a female name and utilising my knowledge of being male to get the other male all stirred up
> <Barf> I did find it mildly irritating that I should get so much attention and be immediately fixated as a sex object simply by pretending to be female@
> <*Marion*> to be honest, I didn't like being male becuaseI missed the flattery that women tend to get
> <*Marion*> being expected to give attention ratehr than recieve it was quite a shock!

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[9] KIESLER, SARA and LEE SPROULL, "Reducing Social Context Cues: Electronic Mail in Organizational Communication" in *Management Science* Vol.32 No.11, November 1986, p.1497. Sproull and Kiesler's comment suggests that user names were predetermined in the system that they were investigating. If this has been generally the case in the CMC systems that have been written about, then users may not have the option of altering names, and therefore potentially their perceived gender.

<Barf> ahh - that is one reason that I tend to dislike unequal ratios in the sexes - the females get all the attention.[10]

The potential for such experimentation governs the expectations of many users of IRC. Gender is one of the more 'sacred' institutions in our society, a quality whose fixity is so assumed that enacted or surgical reassignment has and does involve complex rituals, taboos, procedures and stigmas. The attitudes taken by individual users of IRC differ as regards the possibility for gender concealment. Some view it as 'part of the game', others are hostile toward users who gender switch:

<saro> KAREN IS A BOY
<saro> KAREN IS A BOY
<saro> KAREN IS A BOY
<SmilyFace> aros: so?????????
<Karen> yes aros I heard you
<FuzzyB> Takes a relaxed place beside Karen offering her her favourite drink.

Whatever may be the attitude of individual users of the IRC program to such examples of gender experimentation, the crucial point is that it is an inherent possibility offered by the IRC software. Exploitation of this potential is an accepted part of the 'virtual reality' - a popular phrase amongst users of the Internet - of IRC. It becomes possible to play with aspects of behaviour and identity that are not normally possible. IRC enables people to deconstruct aspects of their own identity, and of their cultural classification, and to challenge and obscure the boundaries between some of our most deeply felt cultural significances. A willingness to accept this phenomenon, and to join in the games that can be played within it, is an aspect of the culture of IRC users.

Reduced Self-Regulation

Researchers of human behaviour on computer-mediated communication systems have often noted that users of such systems tend to behave in a more uninhibited manner than they would in face-to-face encounters. Sproull and Kiesler state that computer-mediated behaviour "is relatively uninhibited and nonconforming."[11] Kielser, Siegel and McGuire have observed that "people in computer-mediated groups were more uninhibited than they were in face-to-face groups."[12] Rice and Love suggest that "disinhibition" may occur "because of the lack of social control that nonverbal cues provide."[13]

Internet Relay Chat reflects this observation. Protected by the anonymity of the computer medium, and with few social context cues to indicate 'proper' ways to behave, users are able

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[10] IRC log, Friday July 12th, 00.39. This log is taken by 'Marion', therefore her name does not appear in the log. I have added her name to the beginning of her statements for the sake of clarity.

[11] KIESLER, SARA and LEE SPROULL, *op cit*, p.1498.

[12] KIESLER, SIEGEL and McGUIRE, *op cit,* p.1129.

[13] RICE, RONALD E. and GAIL LOVE, "Electronic Emotion: Socioemotional Content in a Computer-Mediated Communication Network" in *Communication Research* Vol.14 No.1, February 1987, p.89.

to express and experiment with aspects of their personality that social inhibition would generally encourage them to suppress:

> <Barf> Yes.. Oh well - I'm just saying that I switch personalities all the time, and my usual personality on IRC and my usual personality on Fidonet are at extremes, and I've never really shown my real self on any computer medium.
> <Barf> I'm deliberately creating fake personalities instead of highlighting less obvious parts of my personality, so I do the opposite of what my real self would do.
> *<Marion>* by doing something it by definition becomes an aspect of yourself - what you call your 'real self' is most likely the way you would like to see yourself or the way you usually are
> <Barf> I'm experiment in being different people, and that involves doing things that I don't want to do to make the fake character consistent and believable
> <Barf> No - my fake characters often do things and behave in such a way that I wouldn't want to ever be like
> *<Marion>* woulsn't want to - perhaps not - but if it occurs to you to encat it then it is part of your potentiality
> <Barf> Ah - but the reason that I experiment with different characters is so I can see how other people react and then adopt the good parts of the character that provoked a favourable response - however I don't compromise my own individuality and will continue
> <Barf> to do things that I like to do that not everyone else would like me to do.[14]

IRC encourages disinhibition. The lack of social context cues in computer-mediated communication obscures the boundaries that would generally separate acceptable and unacceptable forms of behaviour. Furthermore, the essential physical impression of each user that he is *alone* releases him from the social expectations incurred in group interaction. Computer-mediated communication is less bound by conventions than is face-to-face interaction. With little regulating feedback to govern behaviour, users behave in ways that would not generally be acceptable with people who are essentially total strangers.

The lack of self-regulation amongst users of IRC can be both positive and negative, as far as interaction is concerned. The safety of anonymity can "reduce self-consciousness and promote intimacy" between people who might not otherwise have had the chance to become close.[15] It can also encourage "flaming", which Kiesler, Siegel and McGuire define as the gratuitous and uninhibited making of "remarks containing swearing, insults, name calling, and hostile comments."[16]

Users of IRC often form strong friendships. Without social context cues to inhibit a free exchange between people - to encourage shyness - computer-mediated interlocutors will often 'open up' to each other to a great degree. Freedom is given, either to be someone whom you are not, or to be more yourself than would usually be acceptable. As one user of the system sums it up:

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[14] IRC log, Friday July 12th, 00.39.
[15] KIESLER, SIEGEL and McGUIRE, *op cit,* p.1127.
[16] KIESLER, SIEGEL and McGUIRE, *op cit,* p.1129.

bob by nature I'm shy..
bob normally wouldn't talk about such thingsw if you met me face to face
bob thus the network is good.. [17]

Personal relationships amongst participants in computer-mediated communication systems can often be deep and highly emotional. Hiltz and Turoff have noted that some participants in such systems "come to feel that their very best and closest friends are members of their electronic group, whom they seldom or never see."[18] 'Net.romances', long distance romantic relationships carried out over IRC, can result from the increased tendency for participants in CMC systems to be uninhibited:[19]

Channel	Nickname	S	User@Host (Name)
+custard	Ireshi	G	*@*.*.*.OZ.AU (Libby)
+custard	Lori	H@	*@*.*.washington.edu (Lori - Daniel's beloved)
+custard	Daniel	H@	*@*.*.*.edu.au (Daniel - Lori's beloved)...

<Lori> After just a few chats on irc, it became obvious to me that this was someone I could easily become very good friends with him...
<Lori> The more we talked, the more we discovered we had in common...
<Lori> By this time, I knew I was starting to have "more than just a friend" feelings about Daniel...
<Lori> I told him that I was starting to get a crush on him...
<Lori> Anyway, it's grown and grown over the months.
<Daniel> A few mishaps, but we've overcome them, to bounce back stronger than ever.
<Lori> And, as you know, we'll be getting together for 3 weeks at the end of November, to see if we're as wonderful as we think we are.

Such expressions of feeling are not in any way thought to be shallow or ephemeral. Far from being unsatisfactory for "more interpersonally involving communication tasks, such as getting to know someone", as Hiemstra describes researchers of CMC behaviour as having characterised the medium, IRC has in this instance fostered an extremely emotional bond between two people.[20] Users of IRC are able to so dispense with the conventional boundaries surrounding communication, and cross-cultural exchange, to form deep friendships, even love-affairs, with people whom they have never met.

Net.romances display computer-mediated relationships at their most idyllic. However, disinhibition and increased freedom from social norms have another side. Along with increased broad-mindedness and intimacy among some users goes increased hostility on the part of others. 'Flaming', the expression of anger, insults and hatred, is a common phenomenon in all forms of computer-mediated communication, and IRC is no exception.

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[17] IRC log, Tuesday May 14th, 23.48

[18] HILTZ, STARR ROXANNE and MURRAY TUROFF, *The Network Nation: Human Communication via Computer,* Addison-Wesley Publishing Company, Inc.: Reading, Mass., 1978,,p.101.

[19] Users of the Internet often refer to social phenomena occurring on the system by using the format "net.<phenomenon>" - thus 'net.sleazing' and 'net.romance.'

[20] HIEMSTRA, GLEN, "Teleconferencing, Concern for Face, and Organizational Culture", in M. Burgoon (ed.), *Communication Yearbook 6*, Sage: Berverly Hills, 1982, p.880.

Anonymity makes the possibility of social punishment for transgression of cultural mores appear to be limited. Attracting the anger of other users of the system is a relatively unthreatening prospect - although it is possible for users to ignore a particular user, all that user need do is change his or her nickname to 'start afresh' with the people whom he or she had alienated. Protected by terminals and separated by distance, the sanction of physical violence is irrelevant, although, as I shall discuss later, social sanctions *are* present and often in a verbal form that apes physical violence. The safety of anonymous expression of hostilities and obscenities that would otherwise incur social sanctions, encourages some people to use IRC as a forum for airing their resentment of individuals or groups in a blatantly uninhibited manner:

> !Venice! Bashers have taken over +gblf... we could use some help...
> !radv*! Comment: -Gay_Bashe:+gblf- FUCK ALL OF BUTT FUCKING, ASS LICKING, CHICKEN SHIT BIOLOGICAL DISIASTERS![21]

Not all uninhibited behaviour on IRC is either so negative or so positive. Much of the opportunity for uninhibited behaviour is invested by users of IRC in sexual experimentation. The usually culturally-enforced boundaries between sexual and platonic relationships are challenged in computer-mediated circumstances. Norms of etiquette are obscured by the lack of social context cues, and the safety given by anonymity and distance allow users to ignore otherwise strict codes regarding sexual behaviour. Conversations on IRC can be sexually explicit, in blatant disregard for social norms regarding the propositioning of strangers:

> *Han* does this compu-sex stuff really happen?
> *Lola*-> *Han* *smooch*
> *Han* mmmmmmm......hehehe you alonee ;)?
> *Lola*-> *Han* certianly am! I'm dialling in from home
> *Han* me tooo.....are oyu horny today at all ;)?
> *Lola*-> *Han* today? it's the middle of the night where I am... as for the adjective, well, do what you can ;-)
> *Han* mmmmmm......when did you last get off?[22]

Such behaviour is often referred to as 'net.sleazing'. Perhaps because the majority of the users of IRC are in their late teens or early twenties, since the Internet primarily serves educational institutions and thus students, sexual experimentation is a popular Internet game. Adolescents, coming to terms with their sexuality in the 'real world', find that the freedom of 'virtual reality' allows them to safely engage in sexual experimentation. Ranging from the

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[21] IRC log, Sunday July 7th, 18.36 - note that these are 'wallop' messages, that is messages written to *all* operators. +gblf is a popular channel on IRC, so popular that it is in almost - that is, barring technical mishaps - permanent use. The acronym stands for 'gays, bisexuals, lesbians and friends.' Other 'permanent' IRC channels are +hottub, known for flirtatious chat, and +initgame, in which users play games of 'twenty questions'.

[22] IRC log, Tuesday May 14th, 23.48. In the original transcript, taken by 'Lola', her name is not shown. 'Han's' private messages to 'Lola' appear as shown, however her private messages to him appear in the format "->*Han* <message text>. I have included 'Lola's' name at the beginning of her statements for the sake of clarity.

afore-mentioned gender-role switching to flirtation and 'compu-sex', IRC provides a medium for the safe expression of a "steady barrage of typed testosterone."[23]

Disinhibition and the lack of sanctions encouraging self-regulation lead to extremes of behaviour on IRC. Users express hate, love, intimacy and anger, employing the freedom of the electronic medium to air views and engage in relationships that would in other circumstances be deemed unacceptable in relating to strangers. This 'freedom' does not imply that IRC is an idyllic environment. Play with social conventions can indeed lead to greater positive affect between people, as it has between 'Daniel' and 'Lori', and to greater personal fulfilment for some users. It can, however, also create a violent chaos in which people feel 'free' to act upon prejudices, even hatreds, that might otherwise be socially controlled.

Beyond Boundaries

Users of IRC treat the medium as a frontier world, a virtual reality of virtual freedom, in which participants feel free to act out their fantasies, to challenge social norms, and exercise aspects of their personality that would under normal interactive circumstances be inhibited. The medium itself blocks some of the socially inhibiting institutions that users would, under other circumstances, be operating within. Social indicators - of social position, of age and authority, of personal appearance - are relatively weak in a computer-mediated context. They might be inferred, but they are not evident. Internet Relay Chat leaves it open to users to create virtual replacements for these social cues - as I shall discuss in Part Two, IRC interaction involves the creation of replacements and substitutes for physical cues, and the construction of social hierarchies and positions of authority. That it is possible for users of IRC to do this is due to the ways in which the medium deconstructs conventional boundaries constraining interaction and conventional institutions of interpersonal relationships. It is this freedom from convention that allows IRC users to create their own conventions, and to become a cohesive community.

The chance for deconstruction of social boundaries that is offered by IRC is essentially postmodern. On its lighter side, computer-mediated communication lends itself to irony, pastiche, playfulness and a celebration of ephemeral and essentially superficial examples of witty bravado. On its more negative side, the disinhibiting effect of computer-mediated communication encourages the expression of dissent, rebellion, hostility, and anti-social chaos. It involves a stripping away of the social coordinates that let the user know where he or she is in the cultural network, indeed it encourages this by allowing the continual invention of new moves to old language games.[24]

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[23] BARLOW, JOHN PERRY, "Crime and Puzzlement: Desperados of the DataSphere" electronic manuscript (published in *Whole Earth Review*, Sausalito, California, Fall 1990, pp.45-57) lines 114-115.

[24] See LYOTARD, JEAN-FRANCOIS, *The Postmodern Condition: A Report on Knowledge,* University of Minnesota Press: Minneapolis, 1984, especially "Part Three - The Method: Language Games," pp.9-11 for a discussion of this concept.

Users challenge the boundaries between their differing social systems, introducing elements of intimacy to meetings with strangers and foreigners, overstepping the thresholds of social nicety. There is a continual search for ways to present the unpresentable, to bring elements technically outside the medium of communication within its realm. Whether this continual play with the limits of expression is positive or negative, it involves users of the system in a game that is essentially postmodern. Engagement with the system involves immersion in the specific context of the IRC program. There is no way to interact with IRC without being a part of it - it is interaction that creates the virtual reality of channels and spaces for communication. Immersed in this specific, although not 'local' in any geographic sense, context, players of the IRC game are involved in turning upside down the taken-for-granted norms of the external culture. Emotions and behaviours are taken out of their usual contexts and transposed into the electronic context of IRC, where they cease to be unproblematic. Faced with the impossibility of replicating conventional social boundaries in the IRC environment, users of the system search out and experiment with new and unconventional ways of relating. It is this "symbolic cultural ethos... that reflects the postmodern elements of the computer underground and separates it from modernism... by offering an ironic response to the primacy of a master technocratic language."[25] The users of IRC have created a culture that challenges "the sanctity of an established... authority."[26] To paraphrase Jim Thomas and Gordon Meyer, speaking on the computer underground of 'hackers', it is this style of playful rebellion, irreverent subversion and juxtaposition of fantasy with high-tech reality that impels me to interpret IRC as a postmodernist culture.[27]

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[25] MEYER, GORDON and JIM THOMAS, "The Baudy World of the Byte Bandit: A Postmodernist Interpretation of the Computer Underground" electronic manuscript (also published in SCHMALLEGER, F. (ed.), *Computers in Criminal Justice,* Wyndham Hall: Bristol, Indiana, 1990, pp. 31-67) lines 208-236.

[26] MEYER and THOMAS, lines 237-238.

[27] MEYER and THOMAS, lines 289-291

PART TWO: CONSTRUCTING COMMUNITIES

> In crude relief, culture can be understood as a set of solutions devised by a group of people to meet specific problems posed by situations they face in common... This notion of culture as a living, historical product of group problem solving allows an approach to cultural study that is applicable to any group, be it a society, a neighbourhood, a family, a dance band, or an organization and its segments.[1]

This definition of culture owes much to Geertz's understanding of culture as a "system of meanings that give significance to shared behaviours which must be interpreted from the perspective of those engaged in them."[2] 'Culture' includes not only the systems and standards adopted by a group for "perceiving, believing, evaluating and acting", but also includes the "rules and symbols of interpretation and discourse" utilised by the members of the group.[3] Culture, says Geertz, is "a set of control mechanisms - plans, recipes, rules, instructions (what computer engineers call 'programs') - for the governing of behaviour."[4] In this sense the users of IRC constitute a culture, a community. They are commonly faced with the problems posed by the medium's inherent deconstruction of traditional models of social interaction which are based on physical proximity.

The measures which users of the IRC system have devised to meet their common problems, posed by the medium's lack of regulating feedback and social context cues, its dramaturgical weakness, and the factor of anonymity, are the markers of their community, their common culture. These measures fall into two distinct categories. Firstly, users of IRC have devised systems of symbolism and textual significance to ensure that they achieve understanding despite the lack of more usual channels of communication. Secondly, a variety of social sanctions have arisen amongst the IRC community in order to punish users who disobey the rules of etiquette - or 'netiquette' - and the integrity of those shared systems of the interpretation.[5]

Shared Significances

In traditional forms of communication, as I have already suggested, nods, smiles, eye contact, distance, tone of voice and other non-verbal behaviours give speakers and listeners

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1 VAN MAANEN, JOHN, and STEPHEN BARLEY, "Cultural Organization: Fragments of a Theory." in P.J. Frost, et. al., (eds.), *Organizational Culture,* Sage: Beverly Hills, 1985, p.33..

2 MEYER and THOMAS, lines 172-174.

3 MEYER and THOMAS, lines 175-177.

4 GEERTZ, CLIFFORD, *The Interpretation of Cultures: selected essays,* Basic Books, Inc.: New York, 1973, p.44.

5 The "The on-line hacker Jargon File, version 2.9.4, July 1991", an electronic dictionary of computer-related terms defines 'netiquette' as, */net'ee-ket/ or /net'i-ket/ [portmanteau from "network etiquette"] n. Conventions of politeness recognized on {USENET}.* Note that USENET is the news network that the Internet carries.

information they can use to regulate, modify and control communication. Separated by at least the ethernet cables of local area networks, and quite likely by thousands of kilometres, the users of IRC are unable to base interaction on these phenomena. This "dramaturgical weakness of electronic media" presents a unique problem.[6] Much of our understandings of linguistic meaning and social context are derived from non-verbal cues. With these unavailable, it remains for users of computer-mediated communication to create methods of compensating for the lack. As Hiltz and Turoff have reported, computer conferees have developed ways of sending computerised screams, hugs and kisses.[7] This is apparent on IRC.

Textual substitution for traditionally non-verbal information is a highly stylized, even artistic, procedure that is central to the construction of an IRC community. Common practice is to simply verbalise physical cues, for instance literally typing 'hehehe' when traditional methods of communication would call for laughter. IRC behaviour takes this to an extreme. It is a recognised convention to describe physical actions or reactions, denoted as such by presentation between two asterisks:[8]

> <Wizard> Come, brave Knight! Let me cast a spell of protection on you..... Oooops - wrong spell! You don;t mind being green for a while- do you???
> <Prince> Lioness: please don't eat him...
> <storm> *shivers from the looks of lioness*
> <Knight> Wizard: Not at all.
> <Bel_letre> *hahahah*
> <Lioness> Very well, your excellency. *looks frustrated*
> <Prince> *falls down laughing*.
> <Knight> Wizard: as long as I can protect thou ass, I'd be utter grateful! :-)
> <Bel_letre> *Plays a merry melody*
> <storm> *walks over to lioness and pats her paw*
> <Wizard> *Dispells the spells cast on Knight!*
> <Wizard> Knight: Your back to normal!!!
> <Prince> *brings a pallete of meat for Lioness*
> <Lioness> *licks Storm*
> <storm> *Looking up* Thank You for not eating me![9]

The above extract from a log of an IRC session, involving an online fantasy role-playing game, shows a concentration of verbalised physical actions and reactions. This density of virtually physical cues is somewhat abnormal, but it amply demonstrates the extent to which users of the IRC system feel it important to create a physical context within which their peers can interpret their behaviour. Verbal statements by themselves give little indication of the

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[6] KIESLER, S., SIEGEL, J., and McGUIRE, T. W., "Social psychological aspects of computer-mediated communication", *American Psychologist*, Volume 39, Number 10, October 1984, p.1125.

[7] Cited in KIESLER, et al, p.1125.

[8] To a lesser extent, users of IRC will also use other non-alphanumeric characters (for instance '<', '>', '#', '!' and '-') to enclose and denote 'physical' actions and responses. The asterisk is, however, by far the most common indicator.

[9] IRC log, Thursday May 2nd, 20.06.

emotional state of the speaker, and without physical expression to decode the specific context of statements, it is easy to misinterpret their intent:

> *Whopper* just kidding...not trying to be offensive
> <*Fireship*-> *Whopper* didn't assume that you were...[10]

The corollary of Geertz's definition of culture is that groups of people who *fail* to communicate do not compose a common culture. If meaning is lost in transition from speaker to addressee, then community is lost - "undirected by culture patterns - organized systems of significant symbols - man's behaviour would be virtually ungovernable, a mere chaos of pointless acts and exploding emotions, his experience virtually shapeless."[11] In order for IRC users to constitute a community it is necessary for them to contrive a method to circumvent the possibility of loss of intended meaning of statements. Verbalisation of physical condition is that method. Interlocutors will describe what their reactions to specific statements would be were they in physical contact. Of course, this stylized description of action is not intended to be taken as a literal description of the speakers' physical actions, which are, obviously, typing at a keyboard and staring at a monitor. Rather they are meant to represent what would be their actions were the virtual reality of IRC an actual reality. Without some way of compensating for the inherent lack of social context cues in computer-mediated communication, IRC would get no further than the deconstruction of conventional social boundaries. The textual cues utilised on IRC provide the symbols of interpretation and discourse that the users of IRC have devised to 'meet specific problems posed by situations they face in common.' Without these textual cues to substitute for non-verbal language, the users of IRC would fail to constitute a community - with them, they do.

The users of IRC often utilise a 'shorthand' for the description of physical condition. They (in common with users of other computer-mediated communication systems such as news and email) have developed a system of presenting textual characters as representations of physical action. Commonly known as 'smileys', CMC users employ alphanumeric characters and punctuation symbols to create strings of highly emotively charged keyboard art:

:-) or :)	a smiling face, as viewed side-on
;-) or ;)	a winking, smiling face
:-(or : (	an 'unsmiley': an unhappy face
:-(*)	someone about to throw up
8-)	someone wearing glasses
:-P	someone sticking out their tongue
>:-O	someone screaming in fright, their hair standing on end
:-&	someone whose lips are sealed
@}-`-,-`--	a rose

[10] IRC log, Sunday June 30th, 17.12. As in previous quotes, the name of the log keeper - 'Fireship' - has been added for the sake of clarity.

[11] Geertz, *op cit*, p.46.

These 'emoticons'[12] are many and various. Although the most commonly used is the plain smiling face - used to denote pleasure or amusement, or to soften a sarcastic comment - it is common for IRC users to develop their own emoticons, adapting the symbols available on the standard keyboard to create minute and essentially ephemeral pieces of textual art to represent their own virtual actions and responses. Such inventiveness and lateral thinking demands skill. Successful communication within IRC depends on the use of such conventions as verbalised action and the use of emoticons. Personal success on IRC, then, depends on the user's ability to manipulate these tools. The users who can succinctly and graphically portray themselves to the rest of the IRC usership will be most able to create a community within that virtual system.

Speed of response and wit are the stuff of popularity and community on IRC. The Internet relays *chat*, and such social endeavour demands speed of thought - witty replies and keyboard *savoir faire* blend into a stream-of-consciousness interaction that valorises shortness of response time, ingenuity and ingenuousness in the presentation of statements. The person who cannot fulfil these requirements - who is a slow typist, who demands time to reflect before responding, will be disadvantaged. For those who can keep the pace, such 'stream-of-consciousness' communication encourages a degree of intimacy and emotion that would be unusual between complete strangers in the 'real world'. The IRC community relies on this intimacy, on spur of the moment social overtures made to other users:

> /time
> *** munagin.ee.mu.OZ.AU : Tuesday August 27 1991 -- 00:28 EST (from munagin.ee.mu.OZ.AU)
> /join +Sadness
> *** Miri has joined channel +Sadness
> /away Dying of a broken heart
> You have been marked as being away[13]
> /topic Heartbreak
> *** Miri has changed the topic to "Heartbreak"
> *MALAY* What's wrong? Are you OK? <Tue Aug 27 00:36>
> *Stodge* Hey, what's happened? Wanna talk about it? <Tue Aug 27 00:36>

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[12] This term is in general use throughout the computer network. The "The on-line hacker Jargon File, version 2.9.4, July 1991" defines them as follows:

emoticon: /ee-moh'ti-kon/ n. An ASCII glyph used to indicate an emotional state in email or news. Hundreds have been proposed, but only a few are in common use. These include:

:-) `smiley face' (for humor, laughter, friendliness, occasionally sarcasm)
:-(`frowney face' (for sadness, anger, or upset)
,-) `half-smiley' ({ha ha only serious}), also known as `semi-smiley' or `winkey face'.
:-/ `wry face'

(These may become more comprehensible if you tilt your head sideways, to the left.)

The first 2 listed are by far the most frequently encountered. Hyphenless forms of them are common on CompuServe, GEnie, and BIX, see also {bixie}. On {USENET}, `smiley' is often used as a generic term synonymous with {emoticon}, as well as specifically for the happy-face emoticon. It appears that the emoticon was invented by one Scott Fahlman on the CMU {bboard} systems around 1980. He later wrote: "I wish I had saved the original post, or at least recorded the date for posterity, but I had no idea that I was starting something that would soon pollute all the world's communication channels."

Note that CompuServe, GEnie, and BIX are computer networks.

[13] Note that the setting of an 'away message' causes all private messages sent to someone who is /away to appear on their screen with the date and time at which they were received shown. The sender receives the 'away message' - this function is mostly used when a person must be away from their terminal for a while, but does not wish to leave IRC.

LadyJay What's the matter Miri? <Tue Aug 27 00:37>

IRC users regard their electronic world with a great deal of seriousness, and generally with a sense of responsibility for their fellows. The degree of trust in the supportive nature of the community that is shown in the above example, and the degree to which that trust was justified, demonstrates this. Hiltz and Turoff have described this syndrome of empathetic community arising amongst groups of people participating in CMC systems. They have "observed very overt attempts to be personal and friendly" and note that "strong feelings of friendship" arise between computer-mediated interlocutors who have never met face-to-face. IRC may encourage participants to play with the conventions of social interaction, but the games are not always funny. The threads holding IRC together as a community are made up of shared modes of understanding, and the concepts shared range from the light-hearted and fanciful to the personal and anguished. The success of this is dependant upon the degree to which users can trust that the issues that they communicate will be well received - they depend on the *integrity* of users.

This expectation of personal integrity and sincerity is both upheld by convention and enforced by structure.

Social Sanctions

One of the most sensitive issues amongst users is the question of nicknames. The IRC program demands that users offer a unique name to the system, to be used in their interaction with other users. These aliases are chosen as the primary method by which a user is known to other users, and thus generally reflect some aspect of the user's personality or interests. It is common for users to prefer and consistently use one nickname. Members of the IRC community have developed a service, known as 'Nickserv', which enables IRC users to register nicknames as belonging to a specific user accessing the IRC system from a specific computer on the Internet. Any other user who chooses to use a nickname thus registered is sent a message from Nickserv telling him or her that the chosen nickname is registered, and advising them to choose an alternate name. Furthermore, the IRC program will not allow two users to adopt the same nickname simultaneously. The program design is so structured as to refuse a user access to the system should he or she attempt to use the nickname of another user who is online, regardless of whether their nickname is registered. The user must choose a unique nickname before being able to interact within IRC. Names, then, as the primary personal interface on IRC, are of great importance. One of the greatest taboos, one that is upheld by the basic software design, is the use of another's chosen nickname.

The illegitimate use of nicknames can cause anger on the part of their rightful users and sometimes deep feelings of guilt on the part of the perpetrators. This public announcement was made by a male IRC user to the newsgroup alt.irc, a forum for asynchronous discussion of IRC:[14]

> I admit to having used the nickname "allison" on several occasions,the name of an acquaintance and "virtual" friend at another university.Under this nick, I talked on channels +hottub and +gblf[15], as well as witha few individuals privately. This was a deceptive, immature thing to do,and I am both embarrassed and ashamed of myself. I wish to apologizeto everyone I misled, particularly users 'badping' and 'kired'...
>
> I am truly sorry for what I have done, and regret ever having usedIRC, though I think it has the potential to be a wonderful forum and meansof communication. It certainly makes the world seem a small place.I shall never invade IRC with a false nick or username again.[16]

The physical aspect of IRC may be only virtual, but the emotional aspect is actual. IRC is not a 'game' in any light-hearted sense - it can inspire deep feelings of guilt and responsibility. It is also clear that users' acceptance of IRC's potential for the deconstruction of social boundaries is limited by their reliance on the construction of communities. Experimentation ceases to be acceptable when it threatens the delicate balance of trust that holds IRC together. The uniqueness of names, their consistent use, and respect for - and expectation of - their integrity, is crucial to the development of online communities. As previously noted, should a user find him or herself unwelcome in a particular channel all he or she need do is adopt another nickname to be unrecognizable. The idea of community, however, does demand that members be recognizable to each other. Were they not so, it would be impossible for a coherent community to emerge.

The sanctions available to the IRC community for use against errant members are both social and structural. The degree to which members feel, as 'Allison' did, a sense of shame for actions which abuse the systems of meaning devised by the IRC community, is related to the degree to which they participate in the deconstruction of traditional social conventions. By being uninhibited, by experimenting with cultural norms of gender and reciprocity in relationships, 'Allison' became a part of a social network that encourages self-exposure by simulating anonymity and therefore invulnerability. In this case, the systems of meaning created by the users of IRC have become conventions with a terrorizing authority over those who participate in their use. As I shall describe, users of IRC who flout the conventions of the medium are ostracised, banished from the community. The way to redemption for such erring members is through a process of guilt and redemption; through, in 'Allison's' case, a 'public' ritual of self-accusation, confession, repentance and atonement.

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[14] The news service carried by the Internet, known as Usenet News, contains many hundreds of groups, which are organised into divisions according to their application. Each division will contain many newsgroups, further divided into smaller subdivisions. These divisions and their subdivisions are known as hierarchies. Examples of major newsgroup divisions are the 'alt', 'rec' and 'sci' hierarchies, which contain such newsgroups as alt.irc, rec.humour, rec.society.greek, rec.society.italian and sci.physics.fusion.edward. teller.boom.boom.boom.

[15] See Footnote 20 in Part One regarding channels +hottub and +gblf.

[16] Newsgroup alt.irc 28.9.91. I have omitted the name and Internet address of the poster at his request.

IRC supports mechanisms for the enforcement of acceptable behaviour on IRC. Channel operators - 'chanops' or 'chops' - have access to the /kick command, which throws a specified user out of the given channel. IRC operators - 'opers' - have the ability to 'kill' users, to break the network link that connects them to IRC. The code of etiquette for doing so is outlined in the documentation that is part of the IRC program:

> Obnoxious users had best beware the operator who's fast on the /kill command. "/kill nickname" blows any given nickname completely out of the chat system. Obnoxiousness is not to be tolerated. But operators do not use /kill lightly.[17]

There is a curious paradox in the concomitant usage of the words 'obnoxious' and 'kill'. Obnoxiousness seems a somewhat trivial term to warrant the use of such textually violent commands such as /kick and /kill. The word trivialises the degree to which abusive behaviour, deceit, and shame can play a part in interaction on Internet Relay Chat. The existence of such negative behaviour and emotions is played down, denigrated - what is stressed is the measures that can be taken by the 'authorities' - the chanops and opers - on IRC. Violators of the integrity of the IRC system are marginalised, outcast, described so as to seem insignificant, but their potential for disrupting the IRC community is suggested by the emotive strength of the words with which they are punished. The terms 'killing' and 'kicking' substitute for their physical counterparts - IRC users may be safe from physical threat, but the community sanctions of violence and restraint are there, albeit in textualised form.

Operators have adopted their own code of etiquette regarding /kills. It is the general rule that an operator issuing such a command should let other operators, and the victim, know the reason for his or her action by adding a comment to the '/kill message' that fellow operators will receive:

> *** Notice -- Received KILL message for I4982784 from MaryD (Obscene Dumps!!!)
> *** Notice -- Received KILL message for mic from mgp (massive abusive channel dumping involving lots of ctrl-gs and gaybashing, amongst other almost as obnoxious stuff)
> *** Notice -- Received KILL message for JP from Cyberman ((repeatedely ignorning warnings to stop nickname abuse))[18]

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[17] Internet Relay Chat, documentation file 'MANUAL.' Copyright (C) 1990, Karl Kleinpaste (Author: Karl Kleinpaste; email karl@cis.ohio-state.edu; Date: 04 Apr 1989; Last modification: 05 Oct 1990).

[18] IRC log, Sunday July 7th, 18.36. This log was taken by an irc operator - these lines consist of 'notices' sent by operators to all other operators online. They are read as follows: the first 'notice' announces that a user named '14982784' has been banished from the IRC system by an operator named 'MaryD', the second that a user named 'mic' was 'killed' by an operator named 'mgp.' 'Dumping' denotes the sending of long strings of text to the IRC environment. This is frowned upon since it prevents other users from being able to converse, and because it can cause the IRC server connections to malfunction. 'ctrl-gs' refers to the combination of the [control] and [g] keys on a computer keyboard which, when pressed together, will cause the computer to sound a 'beep'. If many 'ctrl-gs' are sent to an IRC channel then the terminals of all the channel participants will 'beep', which can be extremely annoying to those users. '/kill notices' are accompanied by technical information regarding the details of the 'path' over the computer network that the command travelled - these details, being lengthy and irrelevant to my purpose, I have omitted. Note that there is nothing to stop 'killed' users from reconnecting to IRC.

There is no technical reason why such comments or excuses should be given - they are purely a 'courtesy'. Those in authority on IRC have self-imposed codes of behaviour which supposedly serve to ensure that operator privileges are not abused.

Operators have considerable power within IRC. They can control not only an individual's access to IRC, but are also responsible for maintaining the network connections that enable IRC programs at widely geographically separated sites to 'see' each other. The issue of whether or not operators have too much power is a contentious one. While operators are careful to present their /killings as justifiable in the eyes of their peers, this is often not felt to be the case by their victims. Accusations of prejudice and injustice abound. IRC operators answer user's complaints and charges with self-justifications - often the debates are reduced to 'flame-wars', abusive arguments between opponents who are more concerned to insult and defeat rather than reason with each other:

> !JP! fucking stupid op cybman /killd me - think ya some kind of net.god? WHy not _ask_ people in the channle i'm in if I'm annoying them before blazing away????
> *** Notice -- Received KILL message for JP from Cyberman (abusive wallops)[19]

'Kills' can also be seen as unjustified by other operators, and the operator whose actions are questioned by his peers is likely to be 'killed' himself:

> *** Notice -- Received KILL message for Alfred from Kamikaze (public insults are not appreciated)
> *** Notice -- Received KILL message for Kamikaze from dave (yes, but they are allowed.)[20]

The potential for tension between operators of IRC is often diffused into a game. 'Killwars', episodes in which opers will kill each other, often happen. There is rarely overt hostility in these 'wars' - the attitude taken is one of ironic realisation of the responsibilities and powers that opers have, mixed with bravado and humour - an effort to parody those same powers and responsibilities:

> !puppy*! ok! one frivolous kill coming up! :D
> !Maryd*! Go puppy! :*)
> *** Notice -- Received KILL message for puppy from Glee (and here it IS! :)
> !Chas*! HAHA :)
> *** Notice -- Received KILL message for Glee from Maryd (and here's another)
> *** Notice -- Received KILL message for Maryd from Chas (and another)
> *** Notice -- Received KILL message for Chas from blopam (chain reaction - john farnham here I come)
> *** Notice -- Received KILL message for blopam from dave (you must be next.)
> !Chas*! HA HA HA :)
> *** Notice -- Received KILL message for Chas from Maryd (Only family is allowed to kill me!!!)
> *** Notice -- Received KILL message for Maryd from dave (am I still family?)

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[19] IRC log, Sunday July 7th, 18.36.

[20] IRC log, Sunday September 22nd, 08.22. Again, I have deleted all information pertaining to the IRC network routes from these messages.

> *** Notice -- Received KILL message for Glee from puppy (just returning the favor ;D)
> *** Notice -- Received KILL message for Maryd from Chas (Oh yeah?? Oh my brother !!)
> *** Notice -- Received KILL message for dave from Maryd (yep, you sure are :))
> *** Notice -- Received KILL message for Chas from Maryd (8 now)
> *** Notice -- Received KILL message for Maryd from Chas (Oh yah ?)
> !Alfred! thank you for a marvellously refreshing kill war; this completes my intro into the rarified and solemn IRCop godhood.[21]

The ideas of authority and freedom are often in opposition on IRC, as the newly invented social conventions of the IRC community attempt to deal with emotions and actions in ways that emulate the often violent social sanctions of the 'real world.' The potential for tension and hostility between users and opers arising over the latter's use of power can erupt into anger and abuse. Disagreement between operators over their implementation of power can result in the use of operators' powers against each other. The games that opers play with 'killing' express their realisation of the existence of these elements in the hierarchical nature of IRC culture and serve to diffuse that tension - at least among opers - and to unite them as an authoritative class. But it does not fully resolve these conflicts - the tensions that are expressed regarding the oper/user power segregation system point to the nexus point between the deconstruction of boundaries and the construction of communities on IRC.

The IRC Community

The emergent culture of IRC is essentially heterogeneous. Users access the system from all over the world, and - within the constraints of language compatibility - interact with people from cultures that they might not have the chance to learn about through any other direct means. The melting pot of the IRC 'electropolis', as Hiltz and Turoff term computer-mediated communication networks, serves to break down, yet valorise, the differences between cultures.[22] It is not uncommon for IRC channels to contain no two people from the same country. With the encouragement of intimacy between users and the tendency for conventional social mores to be ignored on IRC, it becomes possible for people to investigate the differences between their cultures. No matter on how superficial a level that might be, the encouragement of what can only be called friendship between people of disparate cultural backgrounds helps to destroy any sense of intolerance that each may have for the other's culture and to foster a sense of cross-cultural community:[23]

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[21] IRC log, Sunday September 22nd, 08.22. Note that Chas's 'laughter', and Alfred's final comment, are wallop messages, that is, a message *w*ritten to *all op*erators.

[22] HILTZ, S. R., and TUROFF, M., "Structuring computer-mediated communication systems to avoid information overload", *Communications of the ACM,*Volume 28, Number 7, July 1985, p. 688.

[23] Apparently, Kuwait had just purchased an Internet link some few weeks before the Iraq invasion, and, while radio and television broadcasts out of the country were quickly stifled, almost a week passed before the Internet link was disabled. A number of Kuwaiti students were able to use IRC during this time and gave on-the-spot reports. Israel is also on the Internet, and I am told that users from the two countries often interacted with very few disagreements and mostly with sympathy for each other's position and outlook. A similar pattern was followed during the attempted Russian coup. At times of such international crisis, IRC users will form a channel named +report in which news or eyewitness reports from around the world will be shared.

<Corwyn> Eldi: London, Paris, Waterloo, Dublin, Exeter, are all in Ontario
<eldi> Ontarior!!! haha! Paris, France, London, England, Dublin, Irelang are all better than SF, CA, US
<yarly> the coffeeshops! :-)
<Corwyn> Eldi: Don't you like San Francisco?
<eldi> well, it's like anything else. if you're around it too much, there's no novelty in it.
<Corwyn> Eldi: I guess so
<eldi> I'm going to Paris in a few days. I'm gonna this that's the greatest thing I've ever seen, I'm sure
<Corwyn> Eldi: never been further west than Hannibal, MO I am afraid
<eldi> but i'm gonna be living with a host family(studenmt echa exchange) history and philosophy
<eldi> at thier summer home.
<Corwyn> Eldi: parlez-vous francais?
<eldi> Thier regular home is in the suburbs of Paris. I'm sureParis wouldn't be as exciting to THEM,. and me! see what i mean?
<yarly> francais!@
<eldi> BIEN SUR! j'espere que je puisse communiquer en (a) Paris!!!
<eldi> of course! I hope thatI will be able to commin (communicate) in paris,
<yarly> translation please eldi!
<yarly> je ne parle pas francias
<eldi> in french, in paris all@
<eldi> of course there is one phrease that is most important for americans abraoad
<Corwyn> Eldi: what is that? Parlez-vous anglais?
<eldi> "Ne tirer pas! Je suis Canadaien" "Don't shoot! I'm a canadian"
<eldi> why bother to kill a canadaien? There goverment never does anything you can protest against! ;-)? [24]

Irreverent, and ironic, this kind of exchange exhibits the cosmopolitan nature of IRC. Cultural differences are celebrated, are made the object of curiosity and excitement, while the interlocutors remain aware of the relativity of their remarks. The ability to appreciate cultural differences and to welcome immersion in them, while retaining a sense of ironic distance from both that visited culture and one's native culture, is the object of interest.

Community on IRC is "created through symbolic strategies and collective beliefs."[25] IRC users share a common language, a shared web of verbal and textual significances that are substitutes for, and yet distinct from, the shared networks of meaning of the wider community. Users of IRC share a vocabulary and a system of understanding that is unique and therefore defines them as constituting a distinct culture. This community is self-regulating, having systems of hierarchy and power that allow for the punishment of transgressors of those systems of behaviour and meaning. Members of the community feel a sense of responsibility for IRC - most respect the conventions of their subculture, and those who don't are either marginalised or reclaimed through guilt and atonement. The symbolic identity - the virtual

[24] IRC log, Sunday June 30th, 17.12

[25] MEYER, GORDON and JIM THOMAS, "The Baudy World of the Byte Bandit: A Postmodernist Interpretation of the Computer Underground" electronic manuscript (also published in SCHMALLEGER, F. (ed.), *Computers in Criminal Justice,* Wyndham Hall: Bristol, Indiana, 1990) lines 1145-1146.

reality - of the world of computer-mediated communication is a rich and diverse culture comprised of highly specialised skills, language and unifying symbolic meanings.

As I have suggested, this community is essentially postmodern. The IRC community shares a concern for diversity, for care in nuances of language and symbolism, a realisation of the power of language and the importance of social context cues, that are hallmarks of postmodern culture. IRC culture fulfils Denzin's prescription that the identity and activity of postmodern culture should "make fun of the past [and of past cultural rituals] while keeping it alive, and search for new ways to present the unpresentable in order to break down the barriers that keep the profane out of the everyday."[26]

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26 Quoted in MEYER and THOMAS, lines 1158-1161.

CONCLUSION: DISCOURSE AND MORAL JUDGEMENT

It is tempting to view IRC in moral terms. I have sought to show that IRC provides a medium in which behaviour that is both outside of and in opposition to accepted social norms is accepted and even encouraged. I have demonstrated the ways in which the IRC community has developed its own distinctive system of significant signs and symbols. But this is not to imply that the IRC community is democratic or liberating. This freedom - from old conventions and to create new ones - can be both positive and negative. 'Positive' forms of human interaction exist on IRC - there is friendship, tolerance, humour, even love. There is also hatred, violence, shame and guilt. The 'freedom' of computer mediated communication is expressed in a lack of conventional social controls, not in any utopian implication.

I feel that it would be a mistake to project future societal effects from the kinds of phenomena that I have described as happening on IRC. But the temptation is there. On this issue, Johansen, Vallee and Spangler say:

> Whenever a new technology emerges, it is tempting to predict that it will lead to a new and better form of society. The technology for electronic meetings is no exception. The new media invite a look at alternative organizations and alternative societies. Combined with current social concerns, they also encourage utopian visions... In this vision, electronic media create a sense of community and commonalty among all people of the world...[1]

Such a wide-ranging conclusion is unjustifiable. As I have shown, IRC users can share a sense of community and commonalty, but they can also exhibit alienation and hostility. It is impossible to say which, if either, will prevail in IRC's future.

Nevertheless, the cultural play that occurs on IRC does have implications for *individual* players beyond the scope of the virtuality of the computer network. If, as Hiltz and Turoff have said, users of CMC systems can come to feel that their most highly emotional relationships are with fellow users whom they rarely or never see, then this indicates the potential for computer-mediated communication systems to influence the lives of their users. Certainly for 'Lori' and 'Daniel', and for 'Allison', the virtual reality of Internet Relay Chat has strongly affected their relationships with others and their view of themselves. For them, and others, 'virtuality' is reality.

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[1] JOHANSEN, ROBERT, JACQUES VALLEE and KATHLEEN SPANGLER, *Electronic Meetings: Technical Alternatives and Social Choices*, Addison-Wesley Publishing Company, Inc.: Reading, Mass., 1979, pp.117-118.

IRC has the potential to affect users of the system in many and often opposing ways. For the shy and socially ill-at-ease, computer mediated communication can provide a way of learning social skills in a non-threatening environment. It may also provide a crutch and an excuse *not* to develop social skills that can be implemented in the 'real world'. Relationships formed on IRC may be supportive, deeply felt and may give users much happiness. They may also lead to a reluctance to form relationships outside the electronic medium, and may be in themselves painful due to the lack of possibilities for the expression of more conventional forms of affection. The cross-cultural, international nature of IRC can create a sense of empathy and tolerance for differing cultures. It can also provide a medium for the uninhibited expression of racial hatred. Little is as yet known about the potential psychological and social effects of computer-mediated communication. At present we have, as Hiltz and Turoff admit, "only the skimpiest of insights" into what those effects might be, and which might predominate.[2]

It would be easy to gloss over the less attractive aspects of IRC and to stress the more positive side. IRC is, after all - as it was intended to be - *fun*. Nevertheless, those unattractive aspects cannot be ignored. IRC, in common with other examples of computer mediated communication, has no intrinsic moral implications. It is a cultural tool, of a kind whose specific discursive background I have located in postmodernism, that can be used in a number of differing and contradictory ways.

Moral judgement of IRC is fruitless, since the possibilities are so balanced that it is unclear which aspects of IRC might be dominant - if any are. IRC is essentially postmodern, and as such its cultural subversion can be as effectively channelled at egalitarianism as at racism, at feminism as at sexism. IRC cannot be made to serve a moral point - but it can be used to problematise the discourses of many academic disciplines.

Interaction on IRC presents many anomalies that cannot be understood in the light of present discourse. Its mode of communication is synchronous, yet interlocutors are neither proximate nor necessarily known to each other. There is a lack of conventional social and emotive context cues - yet conversation can be highly personalised, and a social structure has emerged. IRC is a social phenomena, yet its existence is in the nowhere of electron states and its artifacts in magnetic recordings. If IRC, and computer-mediated communication in general, is to be fully understood and analysed, then the conventions of many disciplines must be deconstructed. Linguistics, communication theory, sociology, anthropology - and history - are challenged by the culture shared by the users of IRC. The divisions between spoken and written, and synchronous and asynchronous forms of language, are broken down. The idea that as the communication bandwidth narrows interaction should become increasingly

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[2] HILTZ, STARR ROXANNE and MURRAY TUROFF, *The Network Nation: Human Communication via Computer,* Addison-Wesley Publishing Company, Inc.: Reading, Mass., 1978, p.102.

impersonal does not hold true for IRC. Understandings of cultural significances as relying on physical display are challenged. Factors of authority, hierarchy and social control are reconstructed. IRC deconstructs and reconstructs not only its own structure but also the conventions of the discourses that might address it.

If these disciplines are to be able to address postindustrial, postmodern phenomena, they must be able to incorporate the challenges that those phenomena offer them. IRC is only one example of the kinds of interaction that are increasingly common in media utilising high-tech, computerised technology. As it becomes more common - as more corporations take to electronic mail and news systems to facilitate communication, as more academics from non-science disciplines begin to utilise the facilities offered by the Internet, as more people come to rely on the styles of communication, community and culture that have developed on Internet Relay Chat - discourse, and therefore disciplines, must alter to encompass these media.

Appendix A: IRC Commands

The IRC user interface consists of a status line on the second line from the bottom of the user's screen, and a command line on the bottom of the screen on which typed input from the user can be seen. The remainder of the screen shows the activity of other users, results of input to the command line, or the results of information requests of the IRC program. From this interface a number of commands can be issued. The syntax for a command is:

/<command-name> <command-modifiers>

There are three sets of commands, available to three sets of users. 'User commands' are available to all users of IRC; 'chanop commands' are available to the initiators of a channel; and 'oper commands' are available to IRC server operators.

User commands:

Away: */away <some-string-of-text>* is used when a user does not wish to leave IRC, but can't attend to the screen for a while. Anyone who */msg*'s or */whois*'s that user will be sent a message saying that he is away, with his explanatory text string attached. Msg's sent to him will be there for him to read when he, say, gets back from lunch, and he will not have given the senders the impression that he is ignoring them. Msg's sent will be displayed to the recipient with the time and date received shown.

Bye: */bye* quits IRC.

Clear: */clear* clears the screen.

Help: */help <command-name>* will give the user detailed instructions on how to use a specific command.

Ignore: */ignore <nickname> <message-type>* makes the messages of a specified type, from a given user, invisible to the issuer. The use of 'all' for 'message-type' makes the specified user invisible.

Join: */join <channel-name>* joins a channel of that name, or creates one if a channel of that name does not exist. There are four types of channel:

Null channel: when the user initially enters IRC he will be placed in channel 0, which is the null channel - he cannot see the activity of any other users on that channel, but he can issue commands, and receive and send private messages. This null channel is a necessity considering that there are usually over two hundred people using IRC at any one time.

Numeric channels: these channels can be of three types - public channels (that show up on a */list* or */names*), secret channels (which don't show up on */list* etc., but the users on them are listed as being on the null channel) and hidden channels (neither channel name nor users on it will be shown by any user command). Public channels are numbers 1-999, secret channels are numbers 1000 and up, and hidden channels are negative numbers.

+channels: these channels have a text name, prefixed by a '+' (ie. +mychannel, +hottub and +gblf). The status of the channel can be selected by the channel operator (see */mode* command).

#channels: these channels have a text name, prefixed by a '#' (ie. #twilight_ or #report). As with +channels, the channel status can be set by the channel operator. Unlike '+' channels and numeric channels, a user may be on more than one, and up to ten, #channels at one time, in addition to being on one +channel or numeric channel.

Note that */join* will, if issued from a +channel or a numeric channel, automatically exit the user from that channel before he can join another + or numeric channel.

Leave: */leave <channel-name>* leaves that channel. If the user is not on any other channels, he is placed in the null channel.

Links: */links* lists the currently active set of IRC servers.

List: */list* will give the user a list of all active chat channels, the number of users on each, and the topics associated with each channel.

Lusers: */lusers* will tell the user how many people are on IRC, how many "have a connection to the twilight zone" (are IRC operators) and how many channels there are.

Msg: */msg <nickname or channel-name>* sends a private message to another user, or to all users on a specific channel.

Names: */names* will list all channels and the nicks of people attached to them. Chanops will be marked by an '@' sign prefixing their nick.

Nick: */nick <some-string-of-text>* changes the user's IRC nickname. Note that IRC nicks can only be up to nine characters long.

Query: */query <nickname>* opens a private conversation with another user. Until a second query command, without an argument, is issued, everything that the user types will be by default sent only to the specified user instead of to a channel.

Time: */time <servername>* will display the time and date local to that IRC server. If a servername is not specified then the time and date local to the user's server will be shown.

Topic: */topic <some-string-of-text>* will set or change the topic of the channel the user is on to the string specified.

Wallops: */wallops <some-string-of-text>* sends a message to all IRC operators online. This is useful if, for instance, special help is needed with IRC.

Who: */who* will return a list of the users currently on IRC, giving their IRC nicknames and host addresses. This command can be modified to list only users on particular servers, or particular hosts. For instance. '*/who -server *.au*' would return a list of all the people on Australian servers; '*/who **' returns a list of the users is on the same channel as the issuer of the command; '*/who <channel-name>*' lists users on a particular channel.

Whois: */whois <nickname>* gives detailed information about a user on IRC.

Whowas: */whowas <nickname>* gives detailed information about a user who has recently logged off the system or recently changed nicknames.

Chanop Commands

Invite: */invite <nickname>* invites a user to the channel that the issuer of the command is on. Note that this command can be used by non-chanops *if* the channel is *not* invite-only.

Kick: */kick <channel-name> <nickname>* throws a specified user off that channel and places them in the null channel.

Mode: this command is used by channel operators, who are the people who initially invoked a channel name or have had chanop status given them by a chanop. The syntax is: */mode <channel-name> <modifier> <parameter>*. Modifiers are

p - Private channel. Users who are not on the channel will not see the channel name on a /names or /who list - the members of the channel will appear to be on the null channel.

s - Secret channel. Users who are not on the channel will not see the channel name on a /names or /who list, nor will the names of the people who are on the channel appear on any listing. The channel and users on it are invisible.

m - Moderated channel. Only chanops can 'speak'.

o - Operator privilege. This bestows chanop status and privileges to the person (parameter) given. That person then has access to these chanop commands.

t - Only operators can change the topic of the channel.

l - Limited channel. The number of people in this channel is limited to the number (parameter) given.

i - Invite-only channel. Users cannot join the channel unless invited to do so by a chanop.

note that all these modifiers must be used with either '+' or '-' to add or remove a specification from the channel's status.

Oper Commands

Kill: */kill <nickname>* breaks the specified user's connection to the IRC network.

Oper: */oper <nickname> <password>* users who have the potential for operator privileges initially invoke those privileges with this command, where nickname is the nickname under which operation is intended, and password is the password known to the chat system for that nickname.

Wall: */wall <some-string-of-text>* is used to send a broadcast message to everyone connected to IRC.

There are a number of other commands available to IRC operators - */trace*, */connect*, */squit*, */stats* for example - pertaining to the technical operation of IRC, controlling the network connections and so forth. These commands are numerous and not strictly relevant to my essay so I have chosen to exclude them from this list.

Message and Command Formats

The IRC screen appears as follows:

```
Pub: #Kills     @MarkBot
Pub: #Wallops   @MarkBot
Pub: +hottub    Snoop juggler luci Daedraug Beethoven sexie @Bismarck
+    @FistFuck @ModeHead @CountZero norp rucki @lilithe HardDrive scooter
+    Neuro ChiaGizmo Chetnik Taffy Fizz Shag @benn Coatl Unique camjo @THOR
+    @Odyssey ninian Crusher crotale
Pub: #twilight> @tzoper Heiki mta @SodaPop @Waftam geggle Kristine @poxaV
+    LumberJak HulkHogan @Avalon
Prv: *          kitten WarsawG lee_p slutslave me Evil T1000 grio JangMi utb
+    NickServ NoteServ Ellrond Elmar deTVserv Framstag IRCIIHelp fup th ELLY
+    LinkServ Dude AmigaServ WebServ ArchieSrv NameServ MsgServ ConvServ Kirsi
+    Edward meLazy Uranus2 kumbghe karlht
Prv: *          Alf Eldad macker BRUCE swtl Lancelot JHON keeper Zak penis
+    jayster Llama Uranus M-Dayan Horse humpf is79212 Chucki d Mack Snacker
+    Jetta willie _Flash Ireshi smg7 Alys Condo cj muz MacKenzie tiny sqirrel
+    Brian sal LesServ Demi-Urge Schubert Holly
Prv: *          Ennui hoav Siggi Conan Tce beh leah ksr2r Rhemus CN repo
+    daredevil ChetServ manuel HermServ Lescaut dmag HelpServ Sherry DingDong
+    InsultSrv SteveJack insight IRC_Stats turned-on Tas shim ozfuzzy
*** There are 298 users on 77 servers
*** 41 users have connection to the twilight zone
*** There are 73 channels.
*** munagin.ee.mu.OZ.AU : Thursday September 26 1991 -- 09:33 EST (from
+   munagin.ee.mu.OZ.AU)
*** Ireshi has joined channel +anarres
*** Mode change "+i " on channel +anarres by Ireshi
*** Inviting Waftam to channel +anarres
*** Waftam has joined channel +anarres
<Waftam> Hi!
> Hello.

 *1* IRCII: /HELP for help  Ireshi  Chn: +anarres (+i) (O) ***
/msg schubert Hi!!  how are you today?
```

IRC messages appear as follows:

Private /msgs to a person:	are seen by the sender as:	->*recipient* <text>
	are seen by the recipient as:	*sender* <text>
Private /msgs to a channel:	are seen by the sender as:	>channel> test
	are seen by the recipient as:	<sender/channel> text
Public messages:	are seen by the sender as:	> text
	are seen by the recipient/s as:	<sender> text

Walls:	are seen by the sender as:	#sender# text
	are seen by the recipient/s as:	#sender# text
Wallops:	are seen by the sender as:	!sender! text
	are seen by the recipient as:	!sender! text

The results of IRC commands appear as follows:[1]

/invite commands produce:
as seen by the inviter:
*** Inviting Waftam to channel +anarres
as seen by the invited person:
*** Ireshi invites you to channel +anarres
/join commands produce:
*** Ireshi has joined channel +anarres

/kill commands produce:
as seen by IRC operators:
*** Notice -- Received KILL message for Ireshi. Path:
munagin.ee.mu.OZ.AU!Waftam (You don't know how much this
hurts me..)
as seen by the 'victim':
*** You have been killed by Waftam at munagin.ee.mu.OZ.AU!Waftam
(You don't know how much this hurts me..)
*** Use /SERVER to reconnect to a server

/kick commands produce:
as seen by the kicker and other members of the channel:
*** Waftam has been kicked off channel +anarres by Ireshi
as seen by the person kicked:
*** You have been kicked off channel +anarres by Ireshi

/lists commands produce the following:

*** Channel	Users	Topic
*** +Vikz!	1	
*** +Hulk	1	
*** +anarres	2	Tests
*** +ricker	1	
*** +hottub	5	Computers no bubbles.
*** +hack	1	
*** #twilight_	5	

/mode commands produce:
*** Mode change "+i " on channel +anarres by Ireshi

/names commands produce:

Pub: +Vikz!	@Vikz
Pub: +Hulk	@HulkHogan
Pub: +anarres	Waftam @Ireshi
Pub: +ricker	@CandyMan
Pub: +hottub	Glenn ozfuzzy Chetnik GA spewbabe
Pub: +hack	sachz
Pub: #twilight_	Troy spewbabe Glenn @Avalon @Waftam
Prv: *	titus dean ktpham DNA McAdder Amphiuma Titan ThreeAM darling Xen

/nick commands produce:

[1] These examples are taken from a sample session of IRC. The results of /names and /list have been shortened.

*** Ireshi is now known as Test

/query commands produce:

- with an argument: *** Starting conversation with waftam
- without arguments: *** Ending conversation with waftam

/time commands produce:

*** munagin.ee.mu.OZ.AU : Thursday September 26 1991 -- 09:33 EST (from munagin.ee.mu.OZ.AU)

/topic commands produce:

*** Ireshi has changed the topic to "Test"

/whois or /whowas commands produce:

*** Waftam is/was danielce@munagin.ee.mu.OZ.AU (Daniel Carosone)
*** on channels: Waftam :+anarres #twilight_zone
*** on irc via server munagin.ee.mu.OZ.AU (University of Melbourne, Australia)
*** Waftam is away: busy working
*** Waftam has a connection to the twilight zone (is an IRC operator)

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