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"Communities will design systems to perform various functions — intellectual, economic and social — and the systems in turn undoubtedly will have profound effects in shaping the pattern of human life."

Robert Fano and Fernando Corbató

Power Tools of Our Times

With this issue of the *Amateur Computerist* we will begin the examination of how the Net and Netizens are changing our world. Two decades ago, the pioneers of time-sharing recognized that the computer was an intellectual tool that would help humans to think and do mental labor in ways similar to how power tools, created during the early industrial revolution, helped humans to do physical labor. They felt that the computer would have a profound impact on the future much as mechanical tools had a profound impact on the past. However, to make such intellectual tools available to all posed a difficult problem as computers at that time were large and expensive and operated in batch mode. To begin to solve this problem, the pioneers recognized the need to create a new form of computer organization, that of the time-sharing of computers. Through the linking of individuals and computers via a time-sharing operating system, the vision of the networking of computers came into view. From that vision and experimentation, a global computer network grew up and spread around the world. The Net and those contributing to the development of the Net, the Netizens, are today a reality.

With this reality, however, come new challenges for our time. In this issue of the *Amateur Computerist*, we begin to explore the impact that the Net and Netizens are having on society today. This impact raises the question of what are the challenges that these developments bring to the fore.

Two important events helped to suggest this topic for our issue: the first was the passage in February 1996 of the Telecommunications Act by the U.S. Congress including the Communications Decency Act (CDA) which provided means for the U.S. government to censor content on the Internet. That development, akin in ways to the Stamp Act passed by the British Parliament to censor independent thought and printing in the U.S. colonies in the middle of the 18th Century, was met with an active resistance, both on the Internet and off. On June 13, 1996, the federal district court of Philadelphia wrote a decision granting an injunction against enforcement of the CDA. In its decision, the court wrote an eloquent statement about the impact of the Internet as an important new means of mass communication.

The second important event precipitating this issue of the *Amateur Computerist* was the conference of the Internet Society held in Montreal, Canada, in June, 1996. The topic of INET'96 was "Internet: Transforming Our Society Now." A number of papers were presented at the conference, and in general there was discussion among those who attended, examining and recognizing the social impact of the Internet.

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This issue of the *Amateur Computerist* gathers a series of articles which report on these important events, and which examine various aspects of this social development. We welcome comments on any of the articles or on the topic for future issues. From these events and articles we hope to demonstrate how the Net and Netizens are an important development of our time. For a future issue, we would like to take up the challenges this new development poses and welcome articles and contributions on that subject.

The Effect of the Net on the Professional News Media: The USENET News Collective – The Man-Computer News Symbiosis

by Michael Hauben
hauben@columbia.edu

"The archdeacon contemplated the gigantic cathedral for a time in silence, then he sighed and stretched out his right hand towards the printed book lying open on his table and his left hand towards Notre Dame, and he looked sadly from the book to the church: 'Alas,' he said, 'this will kill that.'"

Victor Hugo, *Notre Dame de Paris*

I. Media criticism

Will this kill that? Will the new online forms of discourse dethrone the professional news media?

The French writer Victor Hugo observed that the printed book rose to replace the cathedral and the church as the conveyor of important ideas in the 15th century. Will Usenet and other young online discussion forums develop to replace the current news media? Various people throughout society are currently discussing this question.

The role of modern journalism is being reconsidered in a variety of ways. There are journalists and media critics, like the late Professor Christopher Lasch, who have challenged the fundamental premises of professional journalism. There are other journalists like *Wall Street Journal* reporter Jared Sandberg, who cover an online beat, and are learning quickly about the growing online public forums. These two approaches are beginning to converge to make it possible to understand the changes in the role of the media in our society brought about by the development of the Internet and Usenet.

Media critics like Christopher Lasch have established a theoretical foundation that makes it possible to critique the news media and challenge the current practice of these media. In "Journalism, Publicity, and the Lost Art of Argument," Lasch argued: "What democracy requires is public debate, and not information. Of course, it needs information, too, but the kind of information it needs can be generated only by vigorous popular debate."(1)

Applying his critique to the press, Lasch wrote: "From these considerations it follows the job of the press is to encourage debate, not to supply the public with information. But as things now stand the press generates information in abundance, and nobody pays any attention."(2)

Lasch explained that more and more people are getting less and less interested in the press because, "Much of the press … now delivers an abundance of useless, indigestible information that nobody wants, most of which ends up as unread waste."(3)

Reporters like Jared Sandberg of the *Wall Street Journal*, on the other hand, recognize that more and more of the information that the public is interested in, is starting to come from people other than professional journalists. In an article about the April 1995 Oklahoma Federal Building explosion, Sandberg writes: "In times of crisis, the Internet has become the medium of choice for users to learn more about breaking news, often faster than many news organizations can deliver it."(4)

People curious and concerned about relatives and others present on the scene turned to the Net to find out timely information about survivors and to discuss the questions raised by the event. Soon after the explosion, it was reported and discussed live on Internet Relay Chat, in newsgroups on Usenet such as **alt.current-events.amfb-explosion** and on various Web sites. Sandberg noted that many logged onto the Internet to get news from first-hand observers rather than turning on the TV to CNN or comparable news sources.

Along with the broader strata of the population that has begun to report and discuss the news via the Internet and Usenet, a definition of who is a media critic is developing. Journalists and media critics like Martha Fitzsimon and Lawrence T. McGill present such a broader definition of media critics when they

write, "Everyone who watches television, listens to a radio or reads… passes judgment on what they see, hear or read."(5) Acknowledging the public's discontent with the traditional forms of the media, they note that, "the evaluations of the media put forward by the public are grim and getting worse."(6)

Other journalists have written about public criticism of the news media. In his article, "Encounters Online", Thomas Valovic recognizes some of the advantages inherent in the new online form of criticism. Unlike old criticism, the new type "fosters dialogue between reporters and readers."(7) He observes how this dialogue "can subject reporters to interrogations by experts that undermine journalists' claim to speak with authority."(8)

Changes are taking place in the field of journalism, and these changes are apparent to some, but not all journalists and media critics. Tom Goldstein, Dean of the University of California at Berkeley Journalism School, observes that change is occurring, but the results are not fully understood.(9)

II. Examining the role of Internet/Usenet and the press

There are discussions online about the role of the press and the role of online discussion forums. The debate is active. There are those who believe the printed press is here to stay, while others contend that interactive discussion forums are likely to replace the authority of the print news media. Those who argue for the dominance of the online media present impassioned arguments. Their comments are much more persuasive than those who defend the traditional role of the print media as something that is handy to read over breakfast or on the train. In a newsgroup thread discussing the future of print journalism, Gloria Stern stated: "My experience is that I have garnered more information from the Internet than I ever could from any newspaper. Topical or not, it has given me community that I never had before. I touch base with more informed kindred souls than any tonnage of paper could ever bring me."(10)

Regularly, people are commenting on how they have stopped reading newspapers. Even those who continue to read printed newspapers note that Usenet has become one of the important sources for their news. For example, a user wrote: "I do get the *NY Times* every day, and the *Post* and the *Washington Times* and the *Wall Street Journal* (along with about 100 other hard-copy publications), and I still find Usenet a valuable source of in-depth news reporting."(11)

More and more people on Usenet have announced their discontent with the traditional one-way media, often leading to their refusal to seriously read newspapers again. In a discussion about a *Time* magazine article about the Internet and Usenet, Elizabeth Fischer wrote: "The point of the whole exercise is that for us, most of us, paper media is a dead issue (so to speak)." (12)

In the same thread, Jim Zoes stated the challenge posed by the online media for reporters: "This writer believes that you (the traditional press) face the same challenge that the monks in the monastery faced when Gutenberg started printing Bibles."(13)

Describing why the new media represent such a formidable foe, Zoes continued: "Your top-down model of journalism allows traditional media to control the debate, and even if you provide opportunity for opposing views, the editor always had the last word.… In the new paradigm, not only do you not necessarily have the last word, you no longer even control the flow of the debate."(14)

He concludes with his understanding of the value of Usenet to society: "The growth and acceptance of e-mail, coupled with discussion groups (Usenet) and mail lists provide for a 'market place of ideas' hitherto not possible since perhaps the days of the classic Athenians."(15)

Others present their views on a more personal level. One poster writes: "I will not purchase another issue of *Newsweek*. I won't even glance through their magazine if it's lying around now given what a shoddy job they did on that article."(16)

Another explains: "My husband brought [the article] home… for me to read and [I] said, 'Where is that damn follow up key? ARGH!' I've pretty much quit reading mainstream media except when someone puts something in front of me or I'm riding the bus to work. …"(17)

These responses are just some of the recent examples of people voicing their discontent with the professional news media. The online forum provides a public way of sharing this discontent with others. It is in sharing ideas and understandings with others with similar views that grassroots efforts begin to attempt to change society.

While some Net users have stopped reading the professional news media, others are interested in influencing the media to more accurately portray the Net.

Many are critical of the news media's reporting of the Internet, and other events. Users of the Internet are interested in protecting the Internet. They do this by watch-dogging politicians and journalists. Concern with the coverage of the Internet in the press comes from first-hand experience with the Internet. One Net-user expressing such dissatisfaction writes: "The Net is a special problem for reporters, because bad reporting in other areas is protected by distance. If someone reports to the *Times* from Croatia, you're not going to have a better source unless you've been there (imagine how many people in that part of the world could correct the reports we read). All points of Usenet are equidistant from the user and the reporter — we can check their accuracy at every move. And what do we notice? Not the parts that the reporter gets right, just the errors. And Usenet is such a complete culture that no reporter, absent some form of formal training or total immersion in the Net, is going to get it all right."(18)

Another online critic writes: "It's scary when you actually are familiar with what a journalist is writing about. Kinda punches a whole bunch of holes in the 'facts'. Unfortunately it's been going on for a looong time … we, the general viewing public, just aren't up to speed on the majority of issues. That whole 'faith in media' thing. Yick. I can't even trust the damn AP wire anymore after reading an enormous amount of total crap on it during the first few hours of the Oklahoma bombing."(19)

In Usenet's formation of a community, that community has developed the self-awareness to respond to and reject an outside description of the Net. If the Net was just the telephone lines and computer infrastructure making up a machine, that very machine could not object and scold journalists for describing it as a spreader of pornography or a bomb-production press. Wesley Howard believes that the critical online commentary is having a healthy effect on the press: "The coverage has become more accurate and less sloppy in its coverage of the Net because it (the Net) has become more defined itself from a cultural point of view. Partly because of growth and partly because of what the media was saying fed debates and caused a firmer definition within itself. This does not mean the print media was in any way responsible for the Net's self definition, but was one influence of many."(20)

Another person, writing from Japan, believed that journalists should be more responsible, urging that "all journalists should be forced to have an e-mail address." He explained: "Journalists usually have a much bigger audience than their critics. I often feel a sense of helplessness in trying to counter the damage they cause when they abuse their privilege. Often it is impossible even to get the attention of the persons responsible for the lies and distortions."(21)

Usenet newsgroups and mailing lists provide a media where people are in control. People who are online understand the value of this control and are trying to articulate their understandings. Some of this discussion is being carried on on Usenet. Having the ability to control the mass media also encourages people to try to affect other media. The proposal to require print journalists to acquire and publicize an e-mail address is an example of how online users are trying to apply the lessons learned from the online media to change the print media.

III. People as critics: the role the Net is playing and will play in the future

People online are excited, and this is not an exaggeration. The various discussion forums connected to the global computer communications network (or the Net) are the prototype for a new public form of communication. This new form of human communication will either supplement the current forms of news or replace them. One person on a newsgroup succinctly stated: "The real news is right here. And it can't get any newer because I watch it as it happens."(22)

The very concept of news is being reinvented as people come to realize that they can provide the news about the environment they live in; that people can contribute their real-life conditions and this information proves worthwhile for others. The post continued: "As other segments of society come online, we will have less and less need for some commercially driven entity that gathers the news for me, filters it, and then delivers it to me, hoping fervently that I'll find enough of interest to keep paying for it."(23)

Such sentiment represents a fundamental challenge to the professional creation and dissemination of news. The online discussion forums allow open and free discourse. Individuals outside of the traditional power structures are finding a forum in which to contribute, where those contributions are welcomed. Describing the importance of the open forum available on the Net, Dolores Dege wrote: "The most important and eventually most powerful aspect of the Net will be the effect(s) of having access to alternative viewpoints to

the published and usually (although not always either intentionally or consciously) biased local news media. This access to differing 'truths' is similar to the communication revolution which occurred when the first printing presses made knowledge available to the common populace, instead of held in the tight fists of the clergy and ruling classes."(24)

This change in who makes the news is also apparent to Keith Cowing: "How one becomes a 'provider' and 'receiver' of information is being totally revamped. The status quo hasn't quite noticed S yet S this is what is so interesting."(25)

While this openness also encourages different conspiracy theorists and crackpots to write messages, their contributions are scrutinized as much as any other posting. This uncensored environment leads to a sorting out of mis-truths from thoughtful convictions. Many people online keep their wits about them and seek to refute half-truths and lies. A post from Australia notes that it is common to post refutations of inaccurate posts: "One of the good things about Usenet is the propensity of people to post refutations of false information that others have posted."(26)

As the online media are in the control of many people, no one person can come online and drastically alter the flow or quality of discussion. The multiplicity of ideas and opinions make Usenet and mailing lists the opposite of a free-for-all.

IV. Qualities of this new medium

A common assumption of the ethic of individualism is that the individual is in control and is the prime mover of society. Others believe that it is not the individual who is in control, but that society is being controlled by people organized around the various large corporations that own so much of our society — whether those corporations are the media, manufacturers, etc. The global computer communications networks currently allow uncensored expression from the individual at a bottom rung of society. The grassroots connection of people around the world and in local communities based on common interests is an important step in bringing people more control over their lives. Lisa Pease wrote in **alt.journalism**: "The net… requires no permissions, no groveling to authority, no editors to deal with — no one basically to say 'no don't say that.' As a result, far more has been said here publicly than has probably been said in a hundred years about issues that really matter — political prisoners, democratic uprisings, exposure of disinformation — this is what makes the net more valuable than any other news source."(27)

Similar views are expressed by others about the power of the Internet to work in favor of people rather than commercial conglomerates: "The Internet is our last hope for a medium that will enable individuals to combat the overpowering influence of the commercial media to shape public opinion, voter attitudes, select candidates, influence legislation, etc.…" (28)

People are beginning to be empowered by the open communications the online media provide. This empowerment is beginning to lead toward more active involvement by people in the societal issues they care about.

V. The Pentium story

In discussions about the future of the online media, people have observed how Usenet makes it possible to challenge the privileges inherent in the traditional news media. John Pike started a thread describing the challenge the Net presents to the former content providers: "To me this is the really exciting opportunity for Usenet, namely that the professional content providers will be directly confronted with and by their audience. The prevailing info-structure privileges certain individuals by virtue of institutional affiliation. But cyberspace is a far more meritocractic environment — the free exchange of ideas can take place regardless of institutional affiliation."(29)

Pike continues by arguing that online forums are becoming a place where "news" is both made and reported, and thus traditional sources are often scooped. He writes: "This has tremendously exciting possibilities for democratizing the info-structure, as the 'official' hardcopy implementations are increasingly lagging cyberspace in breaking news."(30)

An example of news being made online occurred when Intel, the computer chip manufacturer, was forced to recall faulty Pentium chips because of the online pressure and the effect of that pressure on computer manufacturers such as IBM and Gateway. These companies put pressure on Intel because people using Usenet discovered problems with the Pentium. The online discussion led to people becoming active and getting the manufacturers of their computers, and Intel to fix the problems.

In the article "Online Snits Fomenting Public Storms," *Wall Street Journal* reporters Bart Ziegler and

Jared Sandberg commented: "Some industry insiders say that had the Pentium flub occurred five years ago, before the Internet got hot and the media caught on, Intel might have escaped a public flogging and avoided a costly recall."(31)

Buried in the report is the acknowledgment that the traditional press would not have caught the defect in the Pentium chip, but that the online media forced the traditional media to respond. The original reporting about the problem was done in the Usenet newsgroup **comp.sys.intel** and further online discussion took place in that newsgroup and other newsgroups and on Internet mailing lists. The *Wall Street Journal* reporters recognized their debt to news that people were posting online to come up with a story that dealt with a major computer company and with the real-world role that Usenet played.

In another article in the *Wall Street Journal*, reporter Fara Warner focused on the impact of the online news on Intel. "[Intel] offered consumers a promise of reliability and quality, and now that promise has been called into question," she writes, quoting the CEO of a consulting firm.(32) The people who did this questioning were the users of the computers with the faulty chips. Communicating about the problem online, these users were able to have an impact not otherwise possible. Ziegler and Sandberg noted that the discussions were online rather than in "traditional public forums like trade journals, newspapers or the electronic media."(33) Online users were able to work together to deal with a problem, instead of depending on other forums traditionally associated with reporting dissatisfaction with consumer goods. After all of the criticisms, Intel had to replace faulty chips to keep their reputation viable. The *Wall Street Journal*, *New York Times* and other newspapers and magazines played second fiddle to what was happening online. In their article, Ziegler and Sandberg quote Dean Tom Goldstein: "It's absolutely changing how journalism is practiced in ways that aren't fully developed."(34)

These journalists acknowledge that the field of journalism is changing as a result of the existence of the online complaints. The online connection of people is forming a large and important social force.

An Australian reporter, John Hilvert, commented on the value of being online: "[Usenet] can be a great source of leads about the mood of the Net. The recent GIF-Unisys-CompuServe row and the Intel Pentium bug are examples of Usenet taking an activist and educative role."(35)

Although it is hard to rely on any single piece of information, Usenet is not about ideas in a vacuum. Usenet is about discussion and discourse. The great number and range of the unedited posts on Usenet bring up the question of whether editors are needed to deal with the amount of information. Discussing the need to take time to deal with the growing amount of information, a post on **alt.internet.media-coverage** explained, "The difference being that for the first time in human history, the general populace has the ability to determine what it finds important, rather than relying on the whims of those who knew how to write, or controlled the printing presses. It means that we as individuals are going to have to deal with sifting through a lot of information on our own, but in the end I believe that we will all benefit from it."(36)

Such posts lead to the question of what is meant by the notion of the general populace and a popular press. The point is important, as those who are on the Net make up but a small percentage of the total population of either the United States or the world. However, that online population makes up a significant body of people connecting to each other online.(37) The fast rate of growth also makes one take note of the trends and developments. Defining what is meant by 'general populace and a popular press' the post continues: "By general populace, I mean those who can actually afford a computer, and a connection to the Net, or have access to a public terminal. As computer prices go down, the amount of people who fit this description will increase. At any rate, comparing the 5S10 million people with Usenet access, to the handful who control the mass media shows that even in a nascent stage, Usenet is far more the 'people's voice' than any media conglomerate could ever be."(38)

Computer pioneers like Norbert Wiener, J.C.R. Licklider and John Kemeny discussed the need for man-computer symbiosis to help humans deal with the growing problems of our times.(39) The online discussion forums provide a new form of man-computer symbiosis. They are helpful intellectual exercises. It is healthy for society if all members think and make active use of their brains — and Usenet is conducive to thinking. It is not the role of journalists to provide answers. Even if everybody's life is busy, what happens when they come to depend on the opinions and summaries of others as their own? Usenet is helping to create a mass community that works communally to aid

the individual to come to his or her own opinions.

Usenet works via the active involvement and thoughtful contributions of each user. The Usenet software facilitates the creation of a community whose thought processes can accumulate and benefit the entire community. The creation of the printed book helped to increase the speed of the accumulation of ideas. Usenet now speeds up that process to help accumulate the thoughts of the moment. The resulting discussion seen on Usenet could not have been produced beforehand as the work of one individual. The bias or the point of view of any one individual or group is no longer presented as the whole truth.

Karl Krueger describes some of the value of Usenet in a post: "Over time, Usenetters get better at being parts of the Usenet matrix — because their own condensations support Usenet's, and this helps other users. In a way, Usenet is a 'meta-symbiont' with each user — the user is a part of Usenet and benefits Usenet (with a few exceptions …), and Usenet includes the user and benefits him/her."(40)

Krueger points out how experienced Usenet users contribute to the Usenet community. He writes: "As time increases normally, the experienced Usenet user uses Usenet to make himself more knowledgeable and successful. Experienced users also contribute back to Usenet, primarily in the forms of conveying knowledge (answering questions, compiling FAQs), conveying experience (being part of the environment a newbie interacts with), and protecting Usenet (upholding responsible and non-destructive use, canceling potentially damaging SPAMs, fighting 'newsgroup invasions', etc.)."(41)

As each new user connects to Usenet, and learns from others, the Usenet collective grows and becomes one person richer. Krueger continues: "Provided that all users are willing to spend the minimal amount of effort to gain some basic Usenet experience then they can be added to this loop. In Usenet, old users gain their benefits from other old users, while simultaneously bringing new users into the old-users group to gain benefits."(42)

The collective body of people, assisted by the Usenet software, has grown larger than any individual newspaper. As people continue to connect to Usenet and other discussion forums, the collective global population will contribute back to the human community in this new form of news.

VI. Conclusion

Newspapers and magazines are a convenient form for dealing with information transfer. People have grown accustomed to reading newspapers and magazines wherever and whenever they please. The growing dissatisfaction with the print media is more with the content than with the form. There is a significant criticism that the current print media do not allow for a dynamic response or follow-up to the articles in hand. One possible direction would be toward online distribution and home or on-site printing of online discussion groups. This would allow for the convenience of the traditional newspaper and magazine form to be connected to the dynamic conversation that online Netnews allows. The reader could choose at what point in the conversation or how much of the discussion to make a part of the printed form. But this leaves out the element of interactivity. Still, it could be a temporary solution until the time when ubiquitous slate computers with mobile networks would allow the combination of a light, easy to handle screen, with a continuous connection with the Internet from any location.

Newspapers could continue to provide entertainment in the form of crossword puzzles, comics, classified ads, and entertainment sections (e.g., entertainment, lifestyles, sports, fashion, gossip, reviews, coupons, and so on). However, the real challenge comes in what is traditionally known as news, or information and newly breaking events from around the world. Citizen, or now Netizen reporters are challenging the premise that authoritative professional reporters are the only possible reporters of the news. The news of the day is biased and opinionated no matter how many claims for objectivity exist in the world of the reporter. In addition, the choice of what becomes news is clearly subjective. Now that more people are gaining a voice on the open public electronic discussion forums, previously unheard "news" is being made available. The current professional news reporting is not really reporting the news, rather it is reporting the news as decided by a certain set of economic or political interests. Todd Masco contrasts the two contending forms of the news media: "Free communication is essential to the proper functioning of an open, free society such as ours. In recent years, the functioning of this society has been impaired by the monolithic control of our means of communication and news gathering (through television and conglomerate-owned newspapers). This monolithic control allows issues to be talked about only re-

ally in terms that only the people who control the media and access to same can frame. Usenet, and [online] News in general, changes this: it allows real debate on issues, allowing perspectives from all sides to be seen."(43)

Journalists may survive, but they will be secondary to the symbiosis that the combination of the Usenet software and computers with the Usenet community produces. Karl Krueger observes how the Usenet collective is evolving to join man and machine into a news-gathering, sorting and disseminating body. He writes: "There is no need for Official Summarizers (a.k.a. journalists) on Usenet, because everyone does it — by cross-posting, following-up, forwarding relevant articles to other places, maintaining ftp archives and WWW indexes of Usenet articles."(44)

He continues: "Journalists will never replace software. The purpose of journalists is similar to scribes in medieval times: to provide an information service when there is insufficient technology or insufficient general skill at using it. I'm not insulting journalism; it is a respectable profession and useful. But you won't need a journalist when you have a good enough newsreader/browser and know how to use it."(45)

These online commentators echo Victor Hugo's description of how the printed book grew up to replace the authority that architecture had held in earlier times. Hugo writes: "This was the presentiment that as human ideas changed their form they would change their mode of expression, that the crucial idea of each generation would no longer be written in the same material or in the same way, that the book of stone, so solid and durable, would give way to the book of paper, which was more solid and durable still."(46)

Today, similarly, the need for a broader, and more cooperative gathering and reporting of the news has helped to create the new online media that are gradually supplanting the traditional forms of journalism. Professional media critics writing in the *Freedom Forum Media Studies Journal* acknowledge that online critics and news gatherers are presenting a challenge to the professional news media that can lead to their overthrow when they write: "News organizations can weather the blasts of professional media critics, but their credibility cannot survive if they lose the trust of the multitude of citizens critics throughout the United States."(47)

As more and more people come online, and realize the grassroots power of becoming a Netizen reporter, the professional news media must evolve a new role or will be increasingly marginalized.

Endnotes

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Subject: Re: Future of print journalism
Newsgroups: **alt.journalism**
11. From: John Pike
Date: 24 April 1995
Subject: Re: Usenet's political power (was Re: Content Providers — Professionals versus Amateurs on Usenet)
Newsgroups: **alt.culture.usenet**
12. From: Elizabeth Fischer
Date: 20 July 1994
Subject: Re: TIME Cover Story: pipeline to editors
Newsgroups: **alt.internet.media-coverage**
13. From: Jim Zoes
Date: 22 July, 1994
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17. From: Abby Franquemont-Guillory
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18. From: The Nutty Professor
Date: Mon, 16 Jan 1995 13:35:34 GMT
Subject: Re: Reporter Seeking Net-Abuse Comments
Newsgroups: **alt.internet.media-coverage**
19. From: Mikez
Date: Tue, 25 Apr 95 03:58:55 GMT
Subject: Re: Mass media exploiting 'cyberspace' for ratings
Newsgroups: **alt.journalism.criticism**
20. From: Wesley Howard
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Newsgroups: **alt.culture.internet**
26. From: William Logan Lee
Subject: Re: Is hobby computing dead? (was Creative
Newsgroups: **alt.folklore.computers**
27. From: Lisa Pease
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28. From: Norman
Date: 20 Mar 1995 21:05:54 -0500
Subject: Re: Impact of the Net on Society
Newsgroups: **alt.culture.internet**
29. From: John Pike
Date: 17 Apr 1995 12:21:49 GMT
Subject: Content Providers — Professionals versus Amateurs on Usenet
30. ibid.
31. Bart Ziegler and Jared Sandberg.
32. Fara Warner, "Experts Surprised Intel Isn't Reaching Out To Consumers More," *Wall Street Journal*, 14 December 1994.
33. Bart Ziegler and Jared Sandberg.
34. ibid.
35. From: John Hilvert
Date: Wed, 5 Apr 1995 03:40:57 GMT
Subject: Re: Does Usenet have an effect on the print news media?
Newsgroups: **alt.culture.usenet**
36. From: Miskatonic Gryn.
Date: 17 Apr 1995 15:31:22 -0400
Subject: Re: Cliff Stoll
Newsgroups: **alt.internet.media-coverage**
37. The number of people accessible via e-mail was placed at 27.5 million as of October 1994 according to John Quarterman and MIDS at **http://www.tic.com/mids/howbig.html**
38. From: Miskatonic Gryn.
39. See John Kemeny, *Man and the Computer*, J.C.R. Licklider, "Man Computer Symbiosis," Norbert Wiener, *God & Golem*, Inc.
40. From: Karl A. Krueger
Date: Mon, 27 Mar 1995 08:58:33 GMT
Subject: Re: Special Issue of *Time*: Welcome to Cyberspace
Newsgroups: **alt.internet.media-coverage**
41. ibid.
42. ibid.
43. From: L. Todd Masco
Newsgroups: **news.future, comp.society.futures, ny.general** (No subject line)
44. Karl A. Krueger.
45. ibid.
46. Victor Hugo, *Notre Dame de Paris*, translated by John Sturrock, Penguin Books, London, 1978, p. 189.
47. Fitzsimon and McGill, p. 201.

Report from INET'96 Part I

by Ronda Hauben
rh120@columbia.edu

"One of the striking dimensions of the Internet is that it uncannily manages to crystallize the aspirations and hopes of nearly all human beings, whatever their social identity or orientation. This simply marks the fact that the Internet turns out to be a generalized empowering device, a true amplifier of humanity itself, with all its contradictions, conflicts, ambiguities, but also with all its creativity, intelligence and inherent splendor. The program committee of INET'96 has tried to capture this rich, complex and ultimately exalting reality: all the way from technical progress to human ambiguity." (INET'96 Final Program, p.6)

I spent a fascinating week in Montreal, Canada in June, 19 where I attended INET'96 held by the Internet Society. What became clear at the conference was that this is an important time in the development of the Internet. People from around the world attended. Though an emphasis of the conference was on business uses of the Internet, there was a great concern among many of the people I spoke with and heard speak that the Internet be made more available for educational, government, scientific and community purposes.

Hitherto, it seemed that the emphasis was on technical or commercial issues at Internet Society conferences, but at INET'96 a broader focus was introduced. The theme of the conference was "The Internet is Transforming Our Society Now." And the conference demonstrated this was true. The contributions of Canadians to the conference which was held in Montreal, Canada established a focus that set a standard for the conference. Canadian speakers like Garth Graham, of Telecommunities Canada, Leslie Shade, and Andrew Clement from the University of Toronto, and Marita Moll from the Canadian Teachers' Federation, gave talks challenging the American efforts to establish hegemonic dominance and a commercialized Internet.

Unlike the prevalent activity in the U.S. to get a piece of the pie, as commercial entities are doing or as some of the libraries and non-profits are doing to abandon universal service for the home users,* the Canadians are in battle at the provincial and federal levels, pressuring government officials to help to make univer-

sal access to the Net available to all Canadians.

This was evident when Keith Spicer, the retiring chairman of the Canadian CRTC, spoke at the conference. He began by saying that Canadian businesses had made a serious mistake. When first trying to profit from the Internet as an entertainment medium, they didn't make the profits expected from the Internet. It was subsequently recognized that the Internet is an education medium. As such, Canadians asked what was being done to make the Internet available to all Canadians. When Spicer commented that among Canadians there was a sense that wherever one lived, they were entitled to the same access to the same communications media, one Canadian in the audience corrected him, observing, "It's in our Constitution."

The Conference provided the occasion for a variety of Canadian government officials to announce special initiatives to support the spread of the Internet in Canada. Not only did government officials attend and speak, but other public officials came and presented the variety of projects they are involved with. Educators outlined the need for educational policy in Canada emphasizing the importance of the Internet for reforming and improving education. They described interesting projects with students exploring how the Internet could be helpful in their education. Health care workers presented how the Internet was being used to support more efficient and less expensive health care efforts. Foreign aid workers described how they were using the Internet in their efforts. High school students attended and spoke up at sessions explaining how students in high schools are eager to have more access to the Internet, etc.

Not only was Canada well represented at the conference, but French Canada was also well represented. Several Canadian government officials from French speaking Canada indicated new initiatives to spread the Internet among French speaking Canadians, and to increase French language content on the Internet.

Along with significant contributions by Canadians, there were contributions by people from Japan, Australia, Malta, and other countries around the world describing government supported initiatives.

U.S. government officials, however, who spoke, like George Strawn from the U.S. National Science Foundation (NSF Division of Networking, Communications Research and Infrastructure), stood out in stark contrast. Strawn described how as a U.S. government official, he had decided to call a meeting of 130 service providers to tell them to figure out how to have governance of the Internet. When asked a question as to how he as a government official determined why to call such a meeting and whom to invite to discuss how to govern the Internet, he answered that since the NSF was privatizing the Internet, he thought calling such a meeting was a "good" idea. Such statements by U.S. government officials like Strawn, and Blair Levin, the FCC official who spoke at a keynote session in place of the scheduled speaker Reed Hundt, stood out in contrast to those of the Canadians and their government officials who were working to make access more broadly available. U.S. government officials like Strawn and Levin have demonstrated how the U.S. executive or legislative branches have failed to carry out enlightened or democratic policy regarding the future development of the Internet in the U.S.

Early on at a press conference, Internet officials were asked what they were doing to build on the history and principles that had helped create the Internet. The new President and CEO of the Internet Society, George M. Heath, responded that that was something they would try to include in future programs.

The theme of whether the future development of the Internet will build on the past principles, continued to be a concern of those in the audience during subsequent sessions. At the Thursday Plenary Session, Vint Cerf chaired a session about "Will the Internet Survive?" Mike Roberts was added to the panel announced in the program. Roberts spoke about how people from the scientific and educational communities felt disenfranchised by the growing commercialization of the Internet. The question was raised as to whether the Internet would be the victim of the tragedy of the commons.

Questioning him, Rolf Nordhagen, a Professor from the University of Oslo in Norway, and an Internet pioneer, asked what the Internet Society was doing to prevent the tragedy from occurring. Some commentators spoke about how this was one of the first conferences where people were openly challenging and questioning the Internet Society.

At the first press conference, a press representative from Malaysia, which is to host INET'97, asked the Internet Society to realize that there was a need to have people other than company representatives go around to countries to represent the Internet, as company representatives were trying to sell something and thus could not be trusted.

Other memorable events included a talk by Dave Sutherland, of National Capital Freenet, describing how Freenets provide a helpful and low cost model for connecting the schools in a community to the Internet; Marita Moll's workshop where people broke into groups to discuss their experiences and observations about how the Internet was being introduced in the schools; the discussion in the last session of Track E "Internet and Social Transformation" where people began to grapple with the need for universal access to the Net if it is to truly fulfill its promise; the conversation with Nicholas Luca of the Chilean press about the importance of the Internet because it offers something gratuitous; seeing Internet pioneers Larry Landwebber and Jon Postel talking at the conference and recognizing all the work they along with many other pioneers have done to make the Internet a reality; and wishing I had a camera to take their photo. I met several Internet Society members from Japan and had several long conversation on how to spread the Internet and concerning the problem of having the Internet connect people who speak different languages. It was helpful to hear the efforts of a teacher in rural Wisconsin to introduce the Internet to his students, only to have his principal ask if he was covering the curriculum. Such discussions helped to put in perspective the battles in New York City we have had trying to extend Internet access to all. The story of how a student from a middle school in rural Wisconsin who got access to a fan club newsgroup and was able to interview a prominent musician for a school newspaper article helped to clarify the empowering nature of the Internet. He explained the surprise of some in the newsgroup to the fact that he was only a middle school student and yet had done a substantial interview. Also, I met someone I had exchanged e-mail with three years earlier, talked at lunch with a university librarian who'd come to the conference from Malta to learn how the Internet was going to change the world, etc. During the session on Empowerment, the paper presented by Michael Hauben "The Effect of the Net on the Professional News Media: The Man-Computer News Symbiosis" (See page 2 of this issue), led to the question of whether the effects of the Net are being experienced in political situations off the Net. Those in the session agreed that this was an important question that it would be good to discuss further, and one participant took the names of people at the session promising to set up a mailing list.

The Internet Society had originally announced that the conference would provide an opportunity to raise and discuss the hard questions and disagreements among those concerned with the future of the Internet. The conference did indeed provide that opportunity, especially in the discussions one had with people during and outside of formal sessions.

One of the frustrations of the conference was the fact that at several sessions speakers announced others not in the program who they then gave the microphone to to give a talk not provided for in the official program. Those who had come to hear the talks listed on the program found themselves in a situation where they were forced to listen to other talks and speakers they hadn't planned or determined they wanted to hear.

Another weakness was the process of choosing papers. A number of those whose papers had been accepted for presentation didn't appear at the conference to give their papers, nor were any arrangements made for others to substitute. And sometimes even the session chairpersons didn't know whether particular speakers on the program were going to be present. At least one abstract of a proposed paper was submitted, with no formal acceptance or rejection ever being received about the submission. There is now the request the Internet Society examine how this happened so that it not reoccur. Also, the conference failed to include any papers or discussions providing perspective from the history and development of the Internet so that there could be discussion of the principles that the Internet was built on and how to continue to build on those principles. Instead there was a commercial model of development presented, as in the keynote talk given by John P. Mogridge, Chairman of Cisco Systems, making it seem as if the Internet should and did develop as a corporation and should just continue in that line of development. No comments or questions or discussion were allowed after his talk. While several papers criticizing the Internet were accepted for presentation, other papers documenting the important new development represented by the Internet weren't accepted. And there was a decidedly pro-"commercialize the Internet" focus in a number of the papers or panels, especially in the keynote talks.

The high cost of attending the conference excluded many who wanted to attend and who could have broadened the discussion. Also, many whose papers were accepted couldn't afford the price of conference attendance and so couldn't attend the receptions or other events of the conference. Papers on the history and

development of the Internet were excluded, while papers documenting the history of other media like cable and public access TV were included, thus denying the importance of an examination of the unique factors of Internet development. The result was that too much of the proceedings presented a pessimistic view of the future of the Internet as a liberating media, and proposed instead a plan for a commercialization of the Internet.

Despite these weaknesses, this reporter wants to extend a grateful thank you to the organizers from the Internet Society in particular, and to those who attended from around the world, in general for making the conference such a memorable occasion. The conference demonstrated that the Internet has been produced and is producing a community of Netizens around the world. Though there are battles and difficulties along the way, there are many working to find a helpful path forward for the Net. Next year, the conference will be in Kuala Lumpur, Malaysia and one can only envy those who will be able to attend. Many of the papers presented at the conference are available online at: **http://www.isoc.org/inet96/proceedings/**

* The US Telecommunications Act of 1996 promises libraries and non-profits low cost access as replacement for universal service provisions to homes.

Communications Decency Act Decision (Excerpts)

[Editor's Note: In February, 1996, the U.S. Congress amended the Communications Act of 1934 governing U.S. telecommunications. The revision included a provision known as the Communications Decency Act (CDA). The CDA mandated criminal penalties for certain kinds of speech on the Internet. The law was rushed through Congress and voted on before many of those voting had even read the language. Censorship provisions included in the CDA were regarded, even by some of the Congresspersons voting for it, as being contrary to the U.S. Constitution. The law also outlined a strict procedure for anyone who wanted to challenge the its constitutionality. Several Lawsuits requesting an injunction against the enforcement of the CDA were initiated. One such lawsuit (ACLU vs. Reno) was filed in the Federal District Court in Philadelphia. The lawsuit was executed in an expedited fashion in accord with the procedures mandated in the CDA and on June 13, 1996, the Court announced its decision. The decision granted a permanent injunction against the enforcement of the CDA, and went on to note the importance of the Internet as a new means of mass communication. Following are some of the comments mostly made by one of the three Judges in the case, Judge Dalzell. The Federal court decision is available at: **http://www.vtw.org/speech/**]

>From the Findings of Fact:
"The Internet is...a unique and wholly new medium of worldwide communication."
"Internet technology necessarily gives a speaker a potential worldwide audience."

>From Judge Dalzell's Opinion:

The Internet is a new medium of mass communication. As such, the Supreme Court's First amendment jurisprudence compels us to consider the special qualities of this new medium in determining whether the CDA is a constitutional exercise of governmental power. Relying on these special qualities, which we have described at length in our Findings of fact above, I conclude that the CDA is unconstitutional....

Since much of the communication on the Internet is participatory, i.e. is a form of dialogue, a decrease in the number of speakers, speech fora, and permissible topics will diminish the worldwide dialogue that is the strength and signal achievement of the medium.

4. Diversity and Access on the Internet

Nearly eighty years ago, Justice Holmes, in dissent, wrote of the ultimate constitutional importance of the "free trade in ideas":

> [W]hen men have realized that time has upset many fighting faiths, they may come to believe even more than they believe the very foundations of their own conduct that the ultimate good desired is better reached by free trade in ideas S that the best test of truth is the power of the thought to get itself accepted in the competition of the market ….

Abrams v. United States, 250 U.S. 616, 630 (1919)

(Holmes, J., dissenting).

For nearly as long, critics have attacked this much-maligned "marketplace" theory of First Amendment jurisprudence as inconsistent with economic and practical reality. Most marketplaces of mass speech, they charge, are dominated by a few wealthy voices. Miami Herald Publishing Co. v. Tornillo, 418 U.S. 241, 248-50 (1974). These voices dominate S and to an extent, create S the national debate. Id. Individual citizens' participation is, for the most part, passive. Id. at 251. Because most people lack the money and time to buy a broadcast station or create a newspaper, they are limited to the role of listeners, i.e., as watchers of television or subscribers to newspapers. Id. (citation omitted)

Economic realities limit the number of speakers even further. Newspapers competing with each other and with (free) broadcast tend toward extinction, as fixed costs drive competitors either to consolidate or leave the marketplace. Id. at 249-50. As a result, people receive information from relatively few sources:

> The elimination of competing newspapers in most of our large cities, and the concentration of control of media that results from the only newspapers being owned by the same interests which own a television station and a radio station, are important components of this trend toward concentration of control of outlets to inform the public.
>
> The result of these vast changes has been to place in a few hands the power to inform the American people and shape public opinion
>
> Id. at 249.

The Supreme Court has also recognized that the advent of cable television has not offered significant relief from this problem. Although the number of cable channels is exponentially greater than broadcast, Turner, 114 S. Ct. at 2452, cable imposes relatively high entry costs, Id. at 2451–52 (noting that the creation of a cable system requires "[t]he construction of [a] physical infrastructure").

Nevertheless, the Supreme Court has resisted governmental efforts to alleviate these market dysfunctions. In Tornillo, the Supreme Court held that market failure simply could not justify the regulation of print, 418 U.S. at 258, regardless of the validity of the criticisms of that medium, Id. at 251. Tornillo invalidated a state "right-of-reply" statute, which required a newspaper critical of a political candidate to give that candidate equal time to reply to the charges. Id. at 244. The Court held that the statute would be invalid even if it imposed no cost on a newspaper, because of the statute's intrusion into editorial discretion:

> A newspaper is more than a passive receptacle or conduit for news, comment, and advertising. The choice of material to go into a newspaper, and the decisions made as to limitations on the size and content of the paper, and treatment of public issues and public officials S whether fair or unfair S constitute the exercise of editorial control and judgment.
>
> Id. at 258.

Similarly, in Turner, the Supreme Court rejected the Government's argument that market dysfunction justified deferential review of speech regulations for cable television. Even recognizing that the cable market "suffers certain structural impediments", Turner, 114 S. Ct. at 2457, the Court could not accept the Government's conclusion that this dysfunction justified broadcast-type standards of review, since "the mere assertion of dysfunction or failure in a speech market, without more, is not sufficient to shield a speech regulation from the First Amendment standards applicable to non-broadcast media." Id. at 2458. "[L]aws that single out the press, or certain elements thereof, for special treatment 'pose a particular danger of abuse by the State,' and so are always subject to at least some degree of heightened First Amendment scrutiny." Id. (citation omitted). The Court then eloquently reiterated that government-imposed, content-based speech regulations are generally inconsistent with "[o]ur political system and cultural life":

> At the heart of the First Amendment lies the principle that each person should decide for him or herself the ideas and beliefs deserving of expression, consideration, and adherence. Our political system and cultural life rest upon this

> ideal. Government action that stifles speech on account of its message, or that requires the utterance of a particular message favored by the Government, contravenes this essential right. Laws of this sort pose the inherent risk that the Government seeks not to advance a legitimate regulatory goal, but to suppress unpopular ideas or information or manipulate the public debate through coercion rather than persuasion. These restrictions "rais[e] the specter that the Government may effectively drive certain ideas or viewpoints from the marketplace."
>
> Id. (citation omitted).

Both Tornillo and Turner recognize, in essence, that the cure for market dysfunction (government-imposed, content-based speech restrictions) will almost always be worse than the disease. Here, however, I am hard-pressed even to identify the disease. It is no exaggeration to conclude that the Internet has achieved, and continues to achieve, the most participatory marketplace of mass speech that this country S and indeed the world S has yet seen. The plaintiffs in these actions correctly describe the "democratizing" effects of Internet communication: individual citizens of limited means can speak to a worldwide audience on issues of concern to them. Federalists and Anti-Federalists may debate the structure of their government nightly, but these debates occur in newsgroups or chat rooms rather than in pamphlets. Modern-day Luthers still post their theses, but to electronic bulletin boards rather than the door of the Wittenberg Schlosskirche. More mundane (but from a constitutional perspective, equally important) dialogue occurs between aspiring artists, or French cooks, or dog lovers, or fly fishermen.

Indeed, the Government's asserted "failure" of the Internet rests on the implicit premise that too much speech occurs in that medium, and that speech there is too available to the participants. This is exactly the benefit of Internet communication, however. The Government, therefore, implicitly asks this court to limit both the amount of speech on the Internet and the availability of that speech. This argument is profoundly repugnant to First Amendment principles.

My examination of the special characteristics of Internet communication, and review of the Supreme Court's medium-specific First Amendment jurisprudence, lead me to conclude that the Internet deserves the broadest possible protection from government-imposed, content-based regulation. If "the First Amendment erects a virtually insurmountable barrier between government and the print media", Tornillo, 418 U.S. at 259 (White, J., concurring), even though the print medium fails to achieve the hoped-for diversity in the marketplace of ideas, then that "insurmountable barrier" must also exist for a medium that succeeds in achieving that diversity. If our Constitution "prefer[s] 'the power of reason as applied through public discussion'", Id. (citation omitted), "[r]egardless of how beneficent-sounding the purposes of controlling the press might be", Id., even though "occasionally debate on vital matters will not be comprehensive and… all viewpoints may not be expressed", Id. at 260, a medium that does capture comprehensive debate and does allow for the expression of all viewpoints should receive at least the same protection from intrusion.

Finally, if the goal of our First Amendment jurisprudence is the "individual dignity and choice" that arises from "putting the decision as to what views shall be voiced largely into the hands of each of us," Leathers v. Medlock, 499 U.S. 439, 448–49 (1991) (citing Cohen v. California, 403 U.S. 15, 24 (1971)), then we should be especially vigilant in preventing content-based regulation of a medium that every minute allows individual citizens actually to make those decisions. Any content-based regulation of the Internet, no matter how benign the purpose, could burn the global village to roast the pig. Cf. Butler, 352 U.S. at 383.

The Internet is a far more speech-enhancing medium than print, the village green, or the mails. Because it would necessarily affect the Internet itself, the CDA would necessarily reduce the speech available for adults on the medium. This is a constitutionally intolerable result.

Some of the dialogue on the Internet surely tests the limits of conventional discourse. Speech on the Internet can be unfiltered, unpolished, and unconventional, even emotionally charged, sexually explicit, and vulgar S in a word, "indecent" in many communities. But we should expect such speech to occur in a medium in which citizens from all walks of life have a voice. We should also protect the autonomy that such a medium confers to ordinary people as well as media magnates.

Moreover, the CDA will almost certainly fail to accomplish the Government's interest in shielding children from pornography on the Internet. Nearly half of Internet communications originate outside the United States, and some percentage of that figure represents pornography. Pornography from, say, Amsterdam will be no less appealing to a child on the Internet than pornography from New York City, and residents of Amsterdam have little incentive to comply with the CDA.

My analysis does not deprive the Government of all means of protecting children from the dangers of Internet communication. The Government can continue to protect children from pornography on the Internet through vigorous enforcement of existing laws criminalizing obscenity and child pornography. See United States v. Thomas, 74 F.3d 701, 704–05 (6th Cir. 1995). As we learned at the hearing, there is also a compelling need for public education about the benefits and dangers of this new medium, and the Government can fill that role as well.

Conclusion

Cutting through the acronyms and argot that littered the hearing testimony, the Internet may fairly be regarded as a never-ending worldwide conversation. The Government may not, through the CDA, interrupt that conversation. As the most participatory form of mass speech yet developed, the Internet deserves the highest protection from governmental intrusion.

True it is that many find some of the speech on the Internet to be offensive, and amid the din of cyberspace many hear discordant voices that they regard as indecent. The absence of governmental regulation of Internet content has unquestionably produced a kind of chaos, but as one of plaintiffs' experts put it with such resonance at the hearing: "What achieved success was the very chaos that the Internet is. The strength of the Internet is that chaos."

Just as the strength of the Internet is chaos, so the strength of our liberty depends upon the chaos and cacophony of the unfettered speech the First Amendment protects.

For these reasons, I without hesitation hold that the CDA is unconstitutional on its face.

[Editor's note: The US Department of Justice has appealed the federal court decision to the Supreme Court. The Supreme Court's decision is expected by Summer 1997.]

Reflections of an E-mail Evangeladdict

by Charles 'Chuck' A. James
chazza@imssys.imssys.com

My name is Chuck James. I am an e-mail addict.
My name is Chuck James. I am an e-mail evangelist

If you think this is a contradiction, then it illustrates the promise and the problem of e-mail. Words are symbols which can be interpreted quite differently from person to person. In our culture "addict" is usually pejorative, particularly, if it is associated with abuse as in drugs, alcohol or television. We are talking habit-forming to the extent that cessation of the activity causes trauma or withdrawal symptoms. Is all addiction bad? "Evangelist" may be pejorative or high praise, depending upon one's persuasion and the context in which it is used. It all depends on the reader's interpretation of the symbol. Most would agree that an evangelist advances a cause with missionary zeal. I can do that.

How do these terms apply to me? Well suffice it to say I am happily hooked. Until a few years ago I had accepted my well deserved reputation for outrageous, if benign, neglect of faithful correspondents. I did not write letters. I always intended to answer the wonderful letters from friends, relatives and acquaintance. My intentions were good enough to pave a six lane highway to hell.. I thoroughly enjoyed receiving letters but over the years they mysteriously stopped coming. I was notoriously inconsiderate, especially with close friends and family. Lincoln Steffens description of Philadelphia at the turn of the century, fit me like a glove. I was corrupt and contented. Then along came electronic mail (e-mail) and I had a miraculous conversion. I am reminded of the Biblical account of Saul of Tarsus on his way to Damascus when his conversion occurred. I was on my way to utter damnation for my sins of omission, when a bolt of e-mail shocked my psyche and I was never the same again. Well — almost. I still tend to disregard snail mail but now this is motivated more by compassion than negligence. Even I refuse to read my handwriting. In school nuns tried for years of forceful ruler-on-the-knuckle persuasion to transform my hieroglyphics into legible script. Finally they were reduced to tearful pleas for relief from frustration. The nuns made heroic efforts to teach me the

beautiful cursive of the Palmer method. In grateful memory of that sweet dedication, I refuse to expose their failure with my writing. In my last semester of high school I learned to type.

Years later, I acquired my first modem (necessary for communication over the telephone lines). It was a 300 baud device. It is sufficient for this article to define "baud" as the rate at which data is transmitted over telephone lines. A more precise explanation is beyond the purview of this article. It is hard to imagine now, but I accepted that 300 baud modem as heaven sent. I could now communicate with the world. I subscribed to CompuServe and I discovered e-mail. I began to exchange messages with friends and online acquaintances who had e-mail addresses. It was so easy! Much later I subscribed to America Online and acquired a new modem with what was then the unbelievable new baud rate of 2400. E-mail became even easier. Today, I have the fastest modem made. It is more than ten times faster than that 2400. The experts say that modems cannot become any faster. But faster access speeds are possible with some changes in the transmission technology. I am impatiently licking my lips thinking about the tremendous increase in speed that will come with full digital service.

When I started e-mail, I found it difficult to get up from my chair if one message required a response. Now, it is close to impossible to leave an unanswered message. The ease, the speed of e-mail was electrifying (no pun intended). There were times when I would force myself to think about my reply for at least a few minutes before replying and once or twice I even left a message unanswered for a full day, but that caused unbearable pangs of a strange guilt. Neglecting snail mail had never troubled me.

Will e-mail affect postal service? Could e-mail ultimately replace a substantial portion of postal traffic. I say "yes" to both questions. Our postal service is already taking steps to embrace this revolution. Consider this excerpt from an online article that appeared December, 1994: "WORLD'S FIRST INTERACTIVE ELECTRONIC POST OFFICE DEBUTS IN ORLANDO, Fla., (Dec. 13 PRNewswire) — Imagine some day in the future being able to cruise the Information Superhighway to do business with your post office without ever leaving home. Imagine no more — the future is closer than you think."

A caveat emptor (buyer beware) is in order. The undeniably seductive characteristics of e-mail have dangers. One of the reasons that I was slow to answer letters was a felt need to craft a thoughtful, long, witty letter that could someday document my time, insight and philosophy. That takes time. I seldom succeeded. One does not feel that heavy burden with e-mail. E-mail takes little time. Unfortunately, I respond without thinking of the message that may be conveyed to the recipient. The danger is that this message may not be the message I intend to convey.

A friend who was doing e-mail for the first time, replied to my message with profuse apologies for having offended me. Ironically, my message was intended to convey subtle self-deprecating humor not offense. The laugh was on me. Now she refuses to write another e-mail message. However, she will write letters (snail mail) to me and I painfully respond with wordprocessor letters. She is too good a friend to torture with my handwriting. I am not noble enough to disguise my pain.

During a number of years serving abroad in Foreign Service with Peace Corps Agency for International Development and Department of State, daily cables were a fact. Without knowing it I was being conditioned for the e-mail revolution to come. Now I am passionate without apology for e-mail. I know its promise and problems. Give me an e-mail address and I will write.

E-mail brought me very close to a number of people. Many of them I have never met in person. If I fail to reply to a message my correspondents become alarmed because of my habit of instant reply. On more than one occasion, friends have called to see if I am all right. On occasion, my computer would go down, leaving messages unanswered for more than a day. A message that I do not answer is a silent alarm. "Has chuck fallen and can't get up — to his computer?"

There are those who argue that the computer, e-mail and preoccupation with the Internet and World Wide Web is dehumanizing and contributes to antisocial behavior. That is hogwash! In fact just the opposite occurs.

A year ago in late April, 1994 my friend, Richard who lives in California, needed to get information to his friend, Graham who teaches at a college in Wolverhampton, England. Richard does e-mail but he was in Washington, so he asked me to transmit the message through James Quirke, a colleague of Graham. I sent the message and on the 3rd of May, 1994, James and I started a daily correspondence which continues until

this day. We have exchanged more than four hundred messages. He shared my messages with Janet who reluctantly decided to send me an e-mail message. It was her who felt that she had offended me with a comment in her message. In June, his college-age daughter, Hannah, started writing to me and our correspondence continued until she visited me in August. That was her first trip to the United States. I know the family very well but Hannah is the only one that I have met in person. James and his wife, Janet are my closest friends. We have never met in person.

In addition to our friendly exchange, James serves as the e-mail conduit for Graham who is e-mail disadvantaged. Graham, in addition to his music and teaching, is writing a book and has an insatiable appetite for information. James transmits Graham's requests for information to me and Richard. Often we have been able to get the information to him within 24 hours, thanks to Internet, America Online, CompuServe and e-mail.

Richard of California has connected me with an ever expanding group of new friends thousands of miles away through e-mail. As a result, I have five regular correspondents in England and Luxembourg. Although we have exchanged almost a thousand messages, we have not licked a single stamp nor had a long distance phone bill. However, James has called to find out if I am well. My computer had been down for several days.

It does not end there. Several months ago while reading the messages on a list to which I subscribe, I saw the name 'Jane James'. That is the name of my ex wife. Up to that point I had never known another 'Jane James' so I sent a message to this second Jane James at the prestigious small college where she is the computer coordinator. I remarked on this coincidence of names. She replied that she was struck by still another coincidence. Her husband is 'Chuck James'. When I recovered from this, I wrote back to ask if there is the possibility that he and I could be related. She replied that she doubted that we would be related because her husband is African American. Then I had to reveal my true colors.

Jane and I have never met in person nor have we exchanged photographs but I continue to enjoy her interesting and often informative e-mail that she manages to slip into her killing schedule.

I think that the most seductive feature of e-mail is its immediacy. To me this "instant communication" is the most attractive feature of our "instant society". Fast food I can do without S most of the time. Instant coffee can never replace the smell-as-it's-brewing original. But I embrace instant communication. Post it in the morning and have a reply in the afternoon.

Like the computer itself the inhuman speed of execution can be a fatal attraction. Mistakes are made faster than a speeding bullet train and leaps all boundaries, spanning the globe.

Quick responses can produce immediate confusion. Speed is the temptress and often meaning becomes the victim. Words can have several meanings. In personal contact we communicate not only with words but with demeanor, tone and expression. A barking dog with a wagging tail is less of a threat than the slinking, silent dog with tail tucked between legs and head lowered. So too a word with a smile, a wink or a wagging finger (tail if you like) conveys a different message than the same word accompanied by a menacing scowl or tight lips and a frown.

It is not easy to know what is communicated to the recipient, especially if the recipient is in another region, country and/or culture. The word symbols may convey unintended meaning to the recipient. The greatest communicators are those who are able to give readers or listeners the exact message that they wish to convey. E-mail is transmitted without the body language, the smile, the wink or a quiet tone to soften or embellish the words. Thus emoticons or smileys have evolved as a sometimes inadequate e-mail effort to simulate emotional context. This is one aspect of virtual reality. The words: "You are crazy! ;-)" with the "smiley" will not be taken literally. (hopefully) :-()

What is it about e-mail? For me, it is the relief from the self-destructive tedium of handwriting. The pen may be mightier than the sword but only if you have the skill to use the pen. I am script(urally) disadvantaged. I can't write. I know how but the failure is in the execution.

On the other hand, it seems that my fingers have a symbiotic relationship with keyboards. I type much faster than I write and I feel that I think better when I am typing. (I can say that with impunity because who can prove otherwise). I can compose much easier on a keyboard than on a writing pad. If you doubt that then just dare me to write a letter to you. I will not be responsible for the consequences.

When I cannot get online to do e-mail, I suffer. I need to communicate! I am an addict.

I think everyone needs to communicate — with e-mail. I am an evangelist.

With e-mail one can reach out and touch someone in real time (almost) without stamps and without a phone bill. With e-mail, the someone you touch may be a continent away or a world away. You can establish a relationship with that someone even though you may never see your correspondent in person. E-mail can expand your horizon and your world, not only with new friends but with new information, new insights and new understanding. It is possible to link minds and even hearts with new worlds.

Marshall McLuhan was right. E-mail is the medium and the message.

Culture and Communication The Interplay in the New Public Commons — Usenet and Community Networks

by Michael Hauben
hauben@columbia.edu

*"Any document that attempts to cover an emerging culture is doomed to be incomplete. Even more so if the culture has no overt identity (at least none outside virtual space). But the other side of that coin presents us with the opportunity to document the ebb and flow, the moments of growth and defeat, the development of this young culture." (*John Frost, *Cyberpoet's Guide to Virtual Culture)*

As we approach the new millennium, social relationships are changing radically. In 1978, the anthropologist Margaret Mead wrote of an "approaching world-wide culture" (p. 3). While she wrote of a global culture made possible by the mass media of her day, her words actually foresaw fundamental changes made by computer communication networks that were just beginning. A new culture is being formed out of a desire for communication (Graham, 1995). This culture is partially formed and formulated by new technology and by social desires (Jones, 1989; Woodbury, 1994). People are dissatisfied with the modern condition, and much of the new communication technology facilitates new global connections (*Uncapher,* 1992). This article will explore the effect of new communication forms on human culture and of human culture on these new communication forms.

The development of transportation and communication technologies has linked the world together in ways which make it simple to travel or communicate with peoples and cultures around the world. The daily exposure to various cultures makes it impossible for an individual to envision the world consisting of only his or her culture (Mead). We really are moving into a new global age which affects most aspects of human life, for example, economics, language, politics, and entertainment. The exposure to media and forms of communication help spread many of these cultural elements. Television and radio connect people with the rest of the world in a rather impersonal fashion, whereas computer networks are increasingly bringing people of various cultures together in a much more intimate and grassroots manner.

Historically, culture has changed slowly and been passed on from generation to generation. In the last half of the twentieth century, culture is a living dynamic part of people's lives. Mead writes that while in the past culture was transmitted from the older generation to the younger, today the younger generation learn from their peers and teach their elders. Human culture gets set by how people live their lives (Graham). Culture is created and re-enforced through how that person lives in context of society and social movements. One is taught the culture of his or her society while growing up, but those perceptions change as he or she matures, develops and lives an adult life. Culture is no longer statically defined. Rather a person grows up into a culture and then changes it as that life progresses through time.

As people increasingly live a more global lifestyle, whether mediated through media or actual experience, culture is changing. This global experience is facilitated by the ability of the individual to interact with people from other cultures and countries on a personal level. Images and thoughts available via mass media show these cultures exist, but when people get a chance to talk and interact, then the differences become less of an oddity and more of an opportunity (Uncapher).

There are critics (Appadurai, 1990; etc.) who claim this global culture, or mass culture is snuffing out individual differences for a pre-packaged culture. These critics call for the isolation of communities from each other so that the uniqueness can be preserved. This criticism misses that human culture is a dynamic ele-

ment of society, and freezing it would produce a museum of human society. Uncapher correctly points out that what these critics do not recognize is that more and more these various cultures are understanding the power of the new communication technologies. More and more people are reacting against the mass media and corporate dominance and calling for a chance to express their views and contribute their culture into the global culture. Margaret Mead tells a story (pp. 5–6) of returning to a village in New Guinea which originally requested medicine and trade goods. On this later visit, rather than asking for more contributions of western civilization, the villagers requested their songs be recorded via tape recorder in order to contribute their own culture to the outside world. The presence of radios made the villagers aware of others' music, and they wanted a part of their culture broadcast around the world.

The new media of Usenet news, electronic mail and the Internet facilitate the growth of global interactive communities. These forums are made available through community networks, universities, the work place, Internet access providers, and other public access locations (Hauben & Hauben, 1994). Human culture is ever evolving and developing, and the new public commons are of a global nature. People are coming together and living more of their daily lives with people from around the world. Through the sharing of these moments by people, their cultures are coming to encompass more of the world not before immediately available.

Usenet newsgroups are a relatively young medium of human discourse and communication.(1) Studies are just being completed on the global online culture. A recent thesis by Tim North (1994) asked the question "is there an online culture and society on Usenet?" His conclusion was that there is a definite Usenet culture, but that Usenet can not be considered a separate society. Rather Usenet is "a super-structural society that spans many main-stream societies and is dependent upon them for its continued existence." (North, chap. 4.2.2, p. 4) Others (Avis, 1995; Graham; Jones; etc.) are studying the online culture and the connection to the growing global culture.

The Usenet technology was developed by graduate students in the late 1970s as a way to promote the sharing of information and to spread communication between university campuses. This design highlights the importance of the contribution by individuals to the community. Thus the content of Usenet is produced by elements of the community for the whole of the community. In forming of this public space, or commons, people are encouraged to share their views, thoughts, and questions with others (Hauben & Hauben). The chance to contribute and interact with other people spread Usenet to become a truly global community of people hooking their computers together to communicate. People both desire to talk and to communicate with other people (Graham; Woodbury).

Both the technological design of opening one's computer up to accept contributions of others and the desire to communicate led to the creation of an egalitarian culture (Jones; North; Woodbury). People have both a chance to introduce and share their own culture and a chance to broaden themselves through exposures to these various cultures. As such, the Usenet culture is an example of a global culture which is not a reflection of purely one culture. Instead, Usenet both incorporates cultural elements from many nations and builds a new online culture (North).

Community networks provide a way for citizens of a locality to hook into these global communities for little or no cost (Graham). Community networks also provide a way for communities to truly represent themselves to others connected online (Graham; Weston). Without access made available through community networks, through publicly available computer terminals or local dial-in phone numbers, only those who could afford the monthly charges or who have access through work or school would represent themselves (Avis). Particular portraits of various cultures would thus be only partially represented. Also, when access is available and open to all, a greater wealth of contributions can be made. There is a strong push in Canada and Canadian communities to get online. A lot of grass-roots community network building is taking place. A grass-roots organization, Telecommunities Canada, stresses the importance of contributing Canada's various cultures to the online community and in this way make a contribution to the whole community (Graham, Weston). In a similar way, Izumi Aizu (1995, p. 6) says that Japan has "an opportunity to bring its own cultural value to the open world." He continues, "It also opens the possibility of changing Japan into a less rigid, more decentralized society, following the network paradigm exercised by the distributed nature of the Internet itself" (ibid.).

There's something to be said about the attraction of

representing one's self to the greater community. The many-to-many form of communication where an individual can broadcast to the community and get responses back from other individuals is an empowering experience. No longer do you have to be rich and powerful to communicate broadly to others and to represent yourself and your own views. This power is making it possible for individuals to communicate with others with similar interests (and different interests) around the world. Grassroots organization is boosted and even the formation of local community groups is accelerated. Development of the commons to the exclusion of the big media representations makes this a grassroots medium, or a new enlarged public commons (Felsenstein, 1993).

The online culture is primarily a written one, although much of the text is written generally in a non-formal almost off the cuff type of nature. While people will post papers and well thought out ideas, much of the conversation is generated in an immediate response to others' messages. This text can feel like a conversation, or a written version of oral culture. Stories akin to the great stories of the pre-history come about. Legends and urban myths circulate and are disseminated (Jones). Pictures and other non-text items can be sent in Usenet messages, but these non-text items are primarily transferred and not modified, thought upon or communally worked on as are the textual ideas. The common shared online language is English (Azumi). However, other languages exist in country hierarchies and newsgroups and in mailing lists. Along with IRC channels, gopher sites and World Wide Web pages.

Text also means that body language and other non-verbal clues need to be spelled out. Extra-sensory emoticons (2) have been invented (e.g., <grin>, <laugh>, etc.) along with smileys. Smileys are textual drawings of a person's face with a smile or grin rotated 90 degrees counter-clockwise to be typeable and printable on computer text screens and printouts (3).

North writes on how there is a distinct Usenet culture, and that this culture is opening and welcoming of new-comers. He also notes when there is unfriendliness to "newbies", but focuses on how the online culture is documented and available for people to learn from documents available online(4). This definition of culture and Netiquette (the online word for net etiquette) is available to learn from and open for discussion. Bruce Jones sums up the net culture, "…the Usenet network of computers and users constitutes a community and a culture, bounded by its own set of norms and conventions, marked by its own linguistic jargon and sense of humor and accumulating its own folklore." (p. 2)

Both North and Jones elaborate on what they see to be an egalitarian tendency or tendency to contribute to the community's benefit. Jones writes, "… the people of the net owe something to each other. While not bound by formal, written agreements, people nevertheless are required by convention to observe certain amenities because they serve the greater common interest of the net. These aspects of voluntary association are the elements of culture and community that bind the people of Usenet together." (p. 4)

The global culture is formed in several ways, none of which is a generic corporate rubber stamp. People are taking charge. They are bringing their own cultures into the global culture and spreading this new culture around the world. This is taking on a general form and an online form. The online form provides a strong means by which people can spread their ideas and culture which in turn affects the broader global culture. This broader global culture also affects newsgroups or online media. The ability to express oneself to the rest of the world is addictive and the rapid increase of new people joining the online global community makes that manifest. "The voiceless and the oppressed in every part of the world have begun to demand more power.… The secure belief that those who knew had authority over those who did not has been shaken" (Mead, p.5).

NOTES

1) Usenet was initiated in 1979.

2) Emoticons are "icons" which are used to include emotion and other meta-messages otherwise not transmittable in written online communication forms.

3) Examples include :-) traditional smile ;-) wink, etc. See Sanderson, 1992 for more examples.

4) The online culture is described and written about in FAQ (frequently asked question) files in various newsgroups, the various **news.newuser** newsgroups and in other readily available files (North).

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Online Education

by Kerry Miller
astingsh@ksu.edu

In *Computer Underground Digest*, 6 March 96, Mike Godwin wrote, "Telephones work best as one-to-one media. And there's no greater proof of this than to try to participate in a conference call. Conference calls are attempts to use telephones as many-to-many media and they're always exasperating. For even longer, we've had one-to-many media, from one central source to large audiences. These include the newspaper, a couple of centuries-old technology, movies, broadcasting." He might have added that Education, as the charge to the paradigmatic schoolmaster or mistress at the blackboard to bring her students to the light (even as they sit in ordered rows of desks) has been known, is an example of misplaced one-to-many techniques, trying to simulate what used to be the one-to-one relationship of guru and chela.

Historically, natural limitations on human capacities made a messenger or mediator necessary for any broader interaction with the world than one's own immediate experience. By the same token, they also provided channels for power. Against hearsay, it was the *king's* messenger; against royal dictum, it was the clerical scribe copying books one at a time. Against the church, it was movable type; against the press tycoons, "mass media" broadcasting. And now we have an Internet, and once again the powers that be are feeling threatened, as Mike Godwin goes on to elaborate.

Not accidentally, the historical use of power has been to maintain the status quo ante, to keep power in the hands of those who had it to start with. Thus, although each technological advance at first seemed to be a liberating development, later it was subordinated, becoming a controlled and controlling part of ever more extensive "administrative services." Under the layers of mediated interaction, personal experience had become almost an irrelevancy. Competence in one's field of endeavor gave way to "competitiveness," while the vocabulary of "communication" itself lost almost all connection to community. And education, once the collective cultivation of new citizens, became entrenched in the overarching power structure; institutionalized into a hierarchical series of assessments, certificates, and qualifications to the point that the word no longer refers primarily to a subjective process of learning but to the objective process of instruction by "educators." (I argue only against the exclusivity of this descriptor; not against anyone presently using it S God knows, they're trying.)

"The Net," Godwin points out, "has changed all this. It is the first many-to-many medium. It is the first medium that combines all the powers to reach a large audience that you see in broadcasting and newspapers with all the intimacy and multi-directional flow of information that you see in telephone calls. It is both intimate and powerful."

Access to online books and to governmental acts is certainly part of the Net advantage, but access to each other is the revolution. No longer students (or teachers) defined by our obedience to the regime, we are suddenly displaced people struggling to make a community from scratch. As we discover that it's not easy to be

Netizens, we also realize that together, collectively, we can learn, and that learning to be is what community is all about. We are all educators. In Net-space, we all carry the charge.

Simply put, institutionalization preserves only the form S not the spirit S of a society. Whether cast as the King's law or the Church's Bull, static structures do not work for consciousness. Thus, Michael Hauben writes in *The Netizens and the Wonderful World of the Net*, ch. 16, "Both the printing revolution and the Net revolution have been a catalyst for increased intellectual activity. Such activity tends to provide pressure for more democracy. When people have the chance and the means to start thinking, ideas of self-rule appear…. This increased accessibility of people to each other means we can all gain and learn from the interests and knowledge of others, more so than from any single teacher." **(www.columbia.edu/~hauben/netbook/)**

Suddenly democracy means more than pretending that a delegate to the power structure represents one's interest. It means each of us must take the responsibility of understanding what our interests actually are, and learning to locate it in the panoply of interests of all of us, to value it not absolutely but relatively, to give it quality. This never-ending process is what education should be, but our antecedent schooling has sadly ill-prepared us for the exercise. More sadly still, laws like the Communications Decency Act (passed for the purpose of protecting the public from the risk of Net access, but reflecting the awareness that our learning to qualify ourselves constitutes a *structural* threat) reinforce the idea that access is not to be thought of as a right, but as a privilege, to be administered (surprise, surprise) by authorized, certified, credentialed and "qualified" establishmentarians.

The Haubens continue, "Netizens are not just anyone who comes online, and they are especially not people who come online for isolated gain or profit. They are not people who come to the Net thinking it is a service. Rather they are people who understand it takes effort and action on each and everyone's part to make the Net a regenerative and vibrant community and resource. Netizens are people who decide to devote time and effort into making the Net, this new part of our world, a better place."

Currently, a "blue ribbon campaign" protests against the infringement of free expression which the CDA represents. ASCII Lambda Cy (ALCy), is the next step: an honorary association of Netizens who believe that communication is something more than expression. Leaving the metaphors of "coming of age" or "growing up," for the perverted and/or censorious, the viability or vibrancy of a community S whether in cyberspace or on the ground S lies in its ability to transcend itself; that is, to learn from its gurus, to teach its newbies S *and vice versa*. In this belief, ALCy collectively advances the public's right not only to do its thing, but to do better; not only to open its eyes, but to have something of quality to look at.

An Oath for Online Educators

```
    I vow to involve /\  myself only in projects
     which, through  \ \  conscientious exercise, I
believe contribute  \ \ /  to the continuing
     education of  \ \ / /  all beings in peace,
dignity and self- / \/ \/ /\ fulfillment.  I vow
to work through  / /     / /  my communication
to reduce noise, \/ /\ /\ /  stress or invasion of
   privacy of any  / / \ \  individual, minimise
  pollution of the  / \ \  earth, air and water,
 and avoid destruc-  \ \  tion of the natural
     beat and beauty  \/ of the noosphere.
          Ascii Lambda Cy
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(Text after M W Thring, "The Engineers Conscience.")

Report from INET'96 Part II

by Ronda Hauben
au329@cleveland.freenet.edu

[Editor's Note: Following is an account of the final plenary at INET'96 held by the Internet Society in Montreal in June, 1996. A report on the conference as a whole appears in an article elsewhere in this issue.]

The final talk was to be given by Reed Hundt of the U.S. Federal Communications Commission. He didn't attend however, and instead the talk was given by Blair Levin, Chief of Staff at the FCC.(1)

The talk was a surprise as it seemed uninformed both about the history and importance of the Internet and of the important public policy considerations that need to be taken into account when making any rules for regulating the Internet.(2)

At the beginning of the talk, there was the statement that Reed Hundt was the first FCC Chairman to have a computer on his desk, and that he asked his staff to explain how the Internet works. Instead of a commitment to learn about how the Internet developed and the significant impact it is having on the world, Levin presented us with the statement "the Internet gives us

the opportunity to change all our communications policies."

The FCC is taking license to start from scratch, throwing out all the lessons that have helped the Internet grow and develop, and instead, creating its own models.

In his talk, Blair Levin listed five principles:

1. How can public policy promote expansion of bandwidth?
2. What rules can we get rid of or keep?
3. What should be the pricing mechanism?
4. How to make sure it reaches everyone, especially kids in schools.
5. How to make sure it reaches across the globe.

Levin's principles put universal service as the fourth point, and then substituted access for kids in schools for the principle of universal service.

During the talk, Levin described how the NTIA (the National Telecommunications Information Administration) had submitted an important paper to the FCC on the issue of voice over the Internet. This made it clear that the NTIA had not submitted any paper to the FCC on the issue of universal service, despite the fact that they had held an online hearing on several issues, including universal service and the Internet, in November 1994. The NTIA has done nothing to act on the broad expression of sentiment for universal service that was expressed during that online public meeting.(3)

When asked about the NTIA online meeting, Blair said that the FCC knew of the meeting. However, it has had no effect on their deliberations, nor on the request of people that the FCC open up their decision-making process so that the people who are being penalized by their decisions can have a means of providing input into those decisions.

In response to a question about the need for universal service, Blair responded that that was the obligation of other branches of the U.S. government like the Department of Education. He said this despite the fact the FCC is charged with making rules to provide for the universal service provisions of the Telecommunications Act passed by the U.S. Congress in February 1996.

Blair also claimed to welcome submissions into their process. But I found it would cost over $50 to pay postage costs for a submission since there were over 35 people who had to receive a copy (and postage on a minimal submission was $1.45).(4) In response to a complaint about this cost, Blair said to see Kevin Werbach, a lawyer at the FCC, who had come with him. Kevin Werbach offered no means of dealing with the high cost of making a submission.

Many people at the Internet Society Conference applauded in response to the question about the lack of concern by the FCC for the principle of universal service to the Internet. At the Internet Society conference, many people spoke up about the need in their countries, whether that be Canada, or Norway, or Ghana, etc. for the Net to be more widespread and available to the public for educational and community purposes. Many were concerned about the inability of the so called "market forces" to provide networking access to other than corporate or well-to-do users. Yet, Levin's talk, being given in the name of Reed Hundt, the Chairman of the regulatory body in the U.S. charged with making the rules to provide for universal service, was unconcerned about the important issues and problems that providing universal service to the Internet raises.

It is unfortunate that Reed Hundt did not come to the conference and take up the challenge to learn what the real concerns of people around the world are with regard to access to the Internet. Isolated in Washington, with no access to him possible for most people (though someone from one company told me that he was told to send him e-mail whenever he had a concern), it seems difficult for the rules process to be able to produce any helpful outcome. There need to be open meetings and sessions where people who are concerned with these issues are invited to be heard and to discuss these issues with the FCC. Instead the FCC process is being carried out in a manner similar to the non public process carried on behind closed doors which was used by the U.S. Congress to craft the Telecommunications Act of 1996.

It is a tribute to the Internet Society that they did make an effort to invite government officials like Reed Hundt to the conference. The FCC will be setting an example for the rest of the world by the telecommunications policy rules it creates. Will the policy be one that recognizes that the so called "market" cannot provide the free or low cost access to the Internet that is necessary to make universal service a reality? Will the rules created be based on looking back at how time-sharing and then the ARPAnet and the Internet developed so they can build on those lessons?

To create rules that are based on firm lessons from the past and firm principles so they will be fruitful, it is necessary that the FCC process creating those rules be much more open than it is at present. If the FCC could

learn from the experience of the Internet and set up newsgroups and real e-mail access to the officials involved, that would demonstrate a commitment to more equitable access to the Internet and to the FCC rulemaking process that is needed to make the Internet available to all. But from the recent talk presented by the FCC official at INET'96 there seems little indication that the need for an open process and a many-to-many means of communication is recognized among those at the FCC. There is even less evidence that the FCC is capable of making rules for universal service in order to make Internet access available to all.

[Editor's note: Shortly after this report from INET'96 was posted on Usenet, the FCC supported an online forum to gather input into its rule making process on universal access. However, the forum was moderated and only posts about access to schools, libraries, non-profit organizations, etc. were encouraged. Those concerned with access for the home users were told their input was not appropriate for this online forum. The FCC has actively discouraged the interest of home users of the Internet to be presented at its hearings.]

Notes

(1) A version of the talk is available at **http://www.fcc.gov/Speeches/Hundt/spreh629.txt**

(2) This is particularly surprising in light of the "Notice of Inquiry" issued by the Federal Communications Commission, Ben F. Waple, Secretary, Docket No. 16979, November 10, 1966. In this inquiry the FCC noted the growing convergence of computers and communications and recognized these would raise a number of regulatory and policy questions that the FCC would be obligated to address. The Commission acknowledged its obligation under the Telecommunications Act to respond to these questions by "timely and informed resolution...so as to serve the needs of the public effectively, efficiently, and economically." A copy of this inquiry is available in *Conversational Computers*, edited by William D. Orr, New York, 1968, p. 177-186.

(3) For a summary of the discussion during the online meeting about the need for universal service, see "The NTIA Conference on the Future of the Net: Creating a Prototype for a Democratic Decision Making Process" by Ronda Hauben http://www.columbia.edu/~rh120/ch106.x11 and "The Net and the Future of Politics: The Ascendency of the Commons," by Michael Hauben http://www.columbia.edu/~rh120/ch106.x14

(4) I personally made the effort to make a submission. In the process, I learned the high cost of having to serve 35 parties by mail in addition to providing several copies to the FCC itself. Such costly postage and copying requirements effectively bar many interested people who will be affected by the rules from participating in the proceedings determining the rules.

How Does the Internet Impact Our Daily Lives?

by Richard Nichols
nichols@hermes.stetson.law.edu

The available information on the Internet in the form of data, researchable data, text on myriads of subjects into one's computer whether it be at work or home has reached the mind-boggling stage. There is probably no subject matter that cannot be found on the "net."

Recently, I needed to find out about whether companies I was going to contract with, were licenced in our state. I called the regulatory agency and obtained the information. As an afterthought, I inquired whether this information was available on the "net." The response was, "I don't know what you are talking about." This is the sad part of this great "information highway."

There are many people who still are unaware of the Internet and its far reaching abilities. Well, after I hung up, I started to search the state government sites and lo and behold I found a site for Professional Business Regulation. It turned out to be a searchable database. I was able to find out what I needed about the companies I was considering doing business with.

My hobby is genealogy, the tracing of one's ancestry. It is one of the largest hobbies in the world. The information available to people interested in this hobby is growing by leaps and bounds on the Internet. More and more searchable databases are being created. Eventually organizations like the National Census Bureau, National Archives, Church of the Latter Day Saints, etc will make available on the Internet their databases to search. Most of the searchable material now is being done by average people to complete projects to make this hobby more easily researched from their home. The State of Virginia has a library where one can download "actual" documents on Civil War pension applications. There you will see the actual document in the person's own handwriting. WOW! What a concept!

At my job, which is at a medium sized academic law library, the Internet has become part of our daily lives. Legal information can be researched via many different facets on the Internet; via federal, state and local governments, various searchable databases, vendors, etc.

The Internet, in my opinion, is here to stay. It will change over time. It brings people together via e-mail,

'chat' lines, newsgroups, etc. It allows one to explore almost anything that he or she can think of. I am still a novice in this world of rapidly expanding and changing cyberspace. I will never master it to its fullest. I will bump and chug along the information highway finding myself turning off here and there to visit museums, play games, learn the latest sports news, update myself on the latest changes in a certain law or just continue plodding along finding answers to my genealogy questions. In any case, I have found this new world of technology and information to be a dramatic change in our lives for the better.

FCC Submission in Universal Service Rule-setting Proceedings

by Ronda Hauben
rh120@columbia.edu
ronda@panix.com

[Editor's Note: The following was submitted to the FCC as input into the Universal Service Proceedings in CC Docket No. 9 6-45 before the May 7, 1996 deadline. The U.S. Congress has mandated a set of deadlines for the FCC to create rules that will radically restructure the telecommunications infrastructure in the U.S. and with it the provisions for universal service for the home user. This submission into the FCC proceedings was to protest these radical changes in the definition and implementation of universal service without the participation or input of the many home users.]

I - Introduction

Following is a response to some of the discussion initiated by the Benton Foundation regarding how to look at the question of Universal Service toward the FCC proceedings on input for the Universal Service definition to function under the Telecommunications Act of 1996.

The following is from a post on the Netizens Association Mailing List. Kerry Miller posted the Benton Foundation excerpts which are indicated by the > and I responded to them.

May 7 was the deadline for FCC comments on the comments previously submitted to them and I am submitting this and also posting it as a way to try to open up the discussion on the principles that should guide a definition of universal service regarding online access.

Also, after several efforts to try to determine if comments could be submitted via email, I was told that comments could be submitted to ssegal@fcc.gov via e-mail, but they would be considered informal comments. I am submitting these comments to the FCC via e-mail, but hope that they will be considered as part of proceedings, as there isn't much point in saying one can submit something via e-mail if they aren't taken seriously.

II - Comments

On Fri, 3 May 1996, Kerry Miller posted the following from the Benton Foundation postings about universal service: [My comments follow -RH]

> http://www.benton.org/Goingon/advocates.html
> Public Interest advocates, universal service, and
> the Telecommunications Act of 1996
>
> The questions public interest advocates should be
> asking themselves and the FCC include:
> * How should the discussion of Universal Service
> be framed? Is Universal Service about connecting
> phones? Connecting people with phones? Or
> connecting people with people? How can the
> discussion center around the people who need to
> benefit from the policy most?

This is worth considering. But it is hard to understand how the question can be framed adequately if the folks for whom this is important have no way to be part of the discussion.

That is why there is a need for universal access to Usenet newsgroups and e-mail so folks can have a chance to speak about what the real problems and needs are.

> * How is the value of a network-any network,
> phone or computer-diminished as fewer and fewer
> people have access to it?

The question seems as if it is phrased backwards. The issue is how does the value of any network increase as more and more people have access to it and are able to contribute to it. The ability to contribute is crucial with regard to a network like the Internet and Usenet.

> What can be done to identify the communities and
> individuals most at risk of falling off the networks
> that will make up the National Information
> Infrastructure?

Again the questions seems backwards. First there is NO National Information Infrastructure (at least not in the U.S.).

There is an Internet that people have built over a period of several decades. The work has often been funded by research institutions or government, but people have contributed to the content and technical needs and development.

The question that needed to be raised was What was the value of this development and how to extend access to it?

Since this development was not the result of commercial enterprises, but of people contributing, made possible by academic and government support and sometimes also support from companies who benefitted from their participation, it has been inappropriate to set commercialization and privatization as the first goals of the policy, without allowing public discussion into what the policy should be and why.

> What strategies can be employed to add people to
> the networks and keep them on? How can the
> voices of the people who have fallen off
> the networks be included in the rule-making?

It is good to see that the question is being raised of how to have the voices of people included in the rule-making.

The problem right now is that the voices of those on or off the Internet are basically excluded from being heard in the rule-making procedure since the deadlines have been so quick and the means of even getting the law or the submissions have been basically beyond most people (one has to be able to download things that are in WordPerfect it seems). In any case, it has been made very difficult to even access the material at the FCC's WWW site and it has been made virtually impossible to have any contact with anyone at the FCC to ask about the process or get help in knowing how to deal with it all.

Thus though business interests and self appointed "public service advocates" may have access to the process, the public is denied access and thus has no way of making the crucial input that the FCC needs to make regulations that can be helpful.

> * What telecommunications services should be
> "universal" in the information age?

On the Netizens Association list we have discussed the need for the Net to be a means for communication. Thus we have identified text based e-mail, Usenet, and lynx as a basic need to have universally available. It is interesting that the Nov. 1994 NTIA online conference on the future of the Net which included discussion of universal service and access identified a similar set of needs.

That is the basic set of what would make it possible for the public to be able to participate in the FCC process if that process was an open and participatory one, rather than an exclusive and closed one.

> What flexibility should people have in picking the
> services they need? How might Universal Service
> be defined so that recipients of the services do not
> have to pay to protect certain rights (such as
> privacy)? What good is a wire without connections
> to the hardware, training, and support that are
> essential for effective use?

I don't see privacy as a crucial right. I see access as the crucial right, and as someone early on on the Netizens list said, that e-mail is a basic right.

The Freenets and community networks that have developed around universities and libraries in some areas made a beginning of offering a minimal kind of access and having the help needed for people to utilize this access. Yet these examples have been left out of the Telecommunications Act of 1996. Also, universities often have established a way of having computer centers with some staff who are available to help people who come to the centers, and they often have some minimum set of classes available to introduce those new to the technology to how to use it.

Thus again, there are models that could be examined. But in the process of this it would also be important to examine the problems that these models have had or that people have had trying to get some basic services in these situations.

There is a way to get real information about the problems and needs, but once again the FCC process doesn't seem to provide any mechanism for this to happen.

> * What role can nonprofit organizations and

> other community-based institutions play in
> delivering access to basic and advanced
> services?

It's not clear to me who these nonprofit organizations and other community-based institutions are that are being proposed here. This leaves out the community networks that have developed. It also leaves out academic institutions, such as universities and colleges and community colleges. And it leaves out the experience of the NSF in helping to connect these institutions.

So instead of building on what has been developed and learning from it, it is substituting a new set of institutions.

In NYC these institutions have not been helpful in promoting e-mail for all and thus to rely on such as the mechanism for the future seems to ignore what the obstacles are.

> How could centralized delivery centers reduce the
> costs of providing basic and advanced services in
> both urban and rural areas? What role could
> existing community-based organizations,
> schools, libraries, community centers, and so
> on, play in managing these new telecommunica-
> tions centers?

I don't understand why this is discussing "basic and advanced services". It seems there is a need for basic communication media to be available such as email and Usenet and lynx, in addition to basic phone service, at a low or minimal cost.

Some of the problem with all this is that these questions seem to be proposing relying on these organizations to do something, rather than looking at what has been able to extend access to the online world and build on the lessons.

> Also a more complex technological environment
> with numerous carriers, providing universal access
> may not be enough to facilitate widespread use of
> telecommunications.

One of the problems with the Telecommunications Act of 1996 is that it is fundamentally changing the way basic telephone service is to be provided from a way that has proven to function in the past in the U.S., i.e. a regulated utility, to one that has never proven to work, i.e. the so called "market", a.k.a. the corporate monopolies being given unfettered right to fleece the public for basic telephone service.

> The public may need ongoing consumer education
> so that individuals and organizations are aware of
> the options available to them, are able to make in
> formed decisions about these options, understand
> the pricing of the services, and know how to get
> assistance if they have difficulties with service
> reliability, bills, privacy, and other problems.

The public doesn't need "consumer education". We need regulation of the monopolies. This is saying the corporate big boys can do whatever they want and we the public need education so we know how to pick among them.

We can't pick among them. The whole experiment with monopolies over many years has shown that the public is hurt by them and that is why there is a need for government to regulate the monopolies, not to provide so called "consumer education".

> How might nonprofit organizations provide
> these educational services as well?

So the corporate horror is to be unleashed and the non-profits are to be given a piece of the action?

Instead of the so called "non-profits" opposing the unleashing of the corporate fury, they are being encouraged to line up for their share of the pie.

Meanwhile the public is to be the victim of both the unfettered corporate grab of our communications infrastructure, and of the "non-profits" reaching for their share.

This is what the closed process creating these laws and regulations results in.

It isn't that the e-mail, Usenet and lynx are being provided on a universal basis, but that basic telephone service has been removed from being a public right to being a corporate right to make profit.

One of the important issues left out in the above discussion of Universal Service from a posting by the Benton Foundation is that the Internet and Usenet arose from a technical and social need. That need was that as computers develop people need to have a means of remote support to get the technology to function. As computers play an increasingly important role in our society, it will be necessary for an ever growing number of people to be able to deal with computers.

The technical problems haven't been solved. Those who are working at university or community sites where e-mail or Usenet or WWW are being provided to 30,000 or plus people notice that there are difficulties in making this all work.

As the Net is to be spread there needs to be the technical support to make this all function. Since it isn't that the commercial world has made this all work to begin with, it isn't that they can be relied upon to build the future.

Thus there is a need for the Net to spread to make it possible for computer use to spread, and there is a need for a social policy and program to guide how this is done.

The Telecommunications '96 Law fails to provide for any of this and even fails to safeguard the telephone system in the U.S.

It seems there is a need for the discussion of these issues to be opened up among people on the Net, which is one of the reasons for the Netizens Association Mailing list.…

This process was not designed, it seems, to encourage input into it. And if it is so hard to get some clarification about how to make submissions, it is clear that that is another stumbling block in having any input from the folks that the FCC needs to hear from if they are to have the information and feedback needed to make decisions that will be able to be helpful toward making some form of worthwhile universal service regarding both phone and Internet access possible. It does seem that the FCC internal structures, as well as the rush required by the mandates of the law, make the forming of any meaningful regulation providing for universal service basically impossible. A comment on the Netizens list that the whole process needs to be stopped and some form of public process like town meetings around the country set up to take input into the process, is helpful. Responding to the Benton Foundation question posted to the Netizens Association list by Kerry Miller, about "How can the discussion center around the people who need to benefit from the policy most," Peter Moulding wrote, "(My two cents worth) By widespread public meetings in every town hall each with links to the Internet, so that people can raise their hands and their question or viewpoint will be keyed in to the discussion. This is the first step and will take time and organization, so it is vital that the discussion on universal service is not rushed through." (Netizens Association Mailing List, May 5, 1996) I would add that a process like the NTIA online conference on the future of the Net, such as was held in Nov. 1994 about the questions of universal service, and of access, needs to be examined and learned from by the FCC and Congress so that they can structure a process appropriate to the problem.…

Also, I am sending, as an appendix, a summary I did of the NTIA online Nov. 1994 conference, which was presented as a talk at the N.Y. Public Library and in Canada at the Telecommunities '95 conference and included in their conference proceedings.…

Appendix: Summary Paper on the NTIA Online Conference [See Issue 7-1]

Letter to the Editor

[Editor's note: Louis Dequesada suggested in a letter in our last issue that Apple, IBM and/or Compaq make an economy model computer for people of limited income. There were a few responses to Lou's suggestion. One response was that for the time being the Volkscomputer Lou called for is only available as a used 486 or 386 computer. Another response was that Lou had no reason for complaint since there are many computers for between $2000 and $3000 and surely there are no Americans who can't afford that. The following is Lou's response.]

Hello,

Too bad my suggestion didn't catch on. I mean it's ok with me if they feel fine paying Apple, Compaq, IBM, etc. $2000-$3000 for a computer that's going to be obsolete in less than 6 months. But I am sorry, I don't pay that kind of money for something that cost them $250 to put together.

It's amazing how this country has changed. I remember when Ford & Chevrolet used to be called "the poor man's cars", now a "half-ass" Chevy will cost you $15,000 stripped, no frills. And some people seem to be happy with that. It won't last though. I think at some point in the near future, the "yuppies" will go out of style, in fact the process is all ready underway and they don't even know it.

Louis Dequesada
dequesa@library1.cpmc.columbia.edu

Freenets and the Politics of Community in Electronic Networks [1]

Garth Graham,
Telecommunities Canada [2]

[Editor's note: The following article provides some of the perspective of the Canadian Community Networks movement about how the Internet is helping to change the world.]

Talking About What People Do In The Information Society: A Problem Of Vocabulary

The transition to an information society is not about technology. It's about social change. In making that point, I sound as if I'm about to present a radical social manifesto. But that's not my intention. I'm reporting on how the information society looks and feels based on the experiences emerging from electronic community networks. I'm really just another traveler coming back from cyberspace. I have some experience of the birth and growth of one type of community network, Freenets. This essay is a reflection on what we can learn from them about how life will actually be lived in the communities of cyberspace. I'm trained in the politics of neighborhoods, and I've always found that the neighbors understood the consequences of development better than city hall.

Cabinet Minister Jon Gerrard referred to Freenets, in his address to the Information Technology Association of Canada (ITAC) conference, Toronto, February 2, 1994, as one of the important building blocks of the Canadian information highway. This was the first acknowledgment of their role by a senior political leader in Canada. We don't yet know how this awareness will translate into action in public policy.

In Freenet, I believe that Canada already has a concrete example of how the public will behave in the information society. I think we should be promoting community networks as keys to self-governance, to revitalizing communities and to meeting the public interest in universal network access. But, through my own involvement in the National Capital Freenet, I have become quite concerned that the Canadian policy agenda regarding information and communications infrastructure is ignoring this opportunity.

In fact we all now do live in an information society, and the Canadian information and communications "infrastructure" is not just technology. It represents the essential fabric that organizes and connects our social and economic institutions. The level of public participation in a variety of recent TV and radio phone-in programs on the information highway is evidence that Canadians generally are aware of this. But, in a public policy debate that should allow us to understand how our society is changing, social policy issues and very real grass-roots agendas are being ignored. In particular, the words "community" and "citizenship" have been totally submerged by the word "consumer" in the debates framed by Canadian high-tech business. This is entirely in keeping with business purposes, but the same economic vocabulary also dominates government discussions of public policy.

We need to know much more about the social, political and economic consequences of the choices we make in our transition to an information society. But, metaphors that describe the new social interactions of an information society in terms of building "things" misrepresent their purposes. The vocabulary of "constructed" superhighways, electronic "infrastructure" and "reinventing" government evokes images of technology rather than human possibility in people's minds. It seems to me that the language used to articulate the "vision" of a privately constructed electronic superhighway is quite deliberate, quite consciously chosen, and quite wrong. These words obscure the public interest.

I feel privileged to be present at the formation of a new dream in national mythology. Never-the-less, a myth is a myth. An "electronic superhighway" is more of an idea than a physical reality. Whatever "it" is, it isn't "infrastructure." We are not "building" a new national dream of a railroad to the Pacific of the imagination. Presently, there is no capacity within Canada to address the consequences of new forms of social integration occurring in networks. And there is great danger in viewing citizens as mere consumers of electronically delivered products and services. In this case, describing the unfamiliar in familiar terms does not really clarify its significance.

In the name of economic necessity, these expressions depersonalize actions that have profoundly personal consequences. Some of those consequences are exciting, some are appalling. But we are using them to translate the practice of citizenship into the art of shopping. The public needs to take back the language of

discourse. An "electronic superhighway" sounds both high-tech engineering and also imaginary. It sounds like a concept we can safely ignore. But this concept, however described, is having a socioeconomic impact on physical geography and spatial relationships that far exceeds all the hydro dams, pipelines or roads to resources that we've ever built. Where's the socioeconomic impact statement? It's far past time that we knew who benefits and who pays.

Cyberspace As Virtual Economic Geography

When the public decides to define its own frames of reference, the concept of community should be moved to the top of the agenda. Of course, electronic communities have no more physical reality than electronic highways. We can anticipate the ways that virtual communities are changing our experience of the real world. But to discuss how we will inhabit both virtual communities and the physical communities, I too have to resort to spatial metaphors.

Think of cyberspace as public space, not "infrastructure." The gateways into it are the function of information technology, and therefore have a price. But the metaphor of "infrastructure" as used in the U.S. National Information Infrastructure and the Canadian Information and Communications Infrastructure suggests that cyberspace is not a place but a thing that we build. By the use of this metaphor, business is enclosing a public common for private gain. They are occupying the transit lounges and shoreline properties on the oceans of imagination.

Consider the historic "backbones" of Toronto's "infrastructure" development. Its geography has continually changed to reflect its primary economic transportation corridor. In its early days, when transportation was by water, its geography had a shoreline orientation. Then, in the 1850s, it began to reshape itself, oriented toward the railroad. Then, in the Twentieth Century as we became a car culture, the economics and systems of truck transportation steadily improved. Today Toronto is oriented to Highway 401.

But what are the social-geographic consequences of an electronic mind way as the nervous system of our connections? If there is a partial orientation it will be multidimensional, like brain cell organization. In subsistence-hunting cultures, people can carry all the tools they need for living with them. Then they can move to where the food is. In a knowledge-based economy, people will carry all the tools they need for thinking and connecting others with them. Then they can move in cyberspace to where the ideas are. But I don't think any of us has a very clear idea of where they will move in the physical landscape they actually inhabit. My best guess is, don't invest in office buildings.

What Is A Freenet?

In the *Ottawa Citizen*, 25 January 1994, there was an article with the title, "High-tech Highway Gathers Speed: Quebec Project To Link 34,000 Homes To Electronic Networks By Next Year." The article states this is, the first test-run on Canada's electronic superhighway, which will cost $750 million over the next decade. I'd suggest that this Videotron Group project is not really the first test-run. National Capital Freenet was, and it isn't going to cost $750 million per decade. It's going to cost $4 million per decade. Information technology managers call the National Capital Freenet an "application," but the people who are in them see community networks as a social movement. We think that support for community networks has the biggest social and political payoff of any strategy for transition to the information society.

There are at least twenty-nine community-based Freenet committees in existence in Canada. A national association of Canadian community networks, called Telecommunities Canada, is currently organizing. By the time Toronto, Montreal and Vancouver join Ottawa, seven million Canadians will have access to a Freenet.

Tom Grundner, founder of the community networks movement and head of the U.S. National Public Telecomputing Network, recently summarized the goals of Freenets. He said, "A Freenet is not something that you do for the community; it is something the community does for itself. I do not believe America's progress into the Information Age will be measured by the number of people we can make dependent upon the Internet. I believe that, if we enter this age with equity at all, it will be because of people, building local systems, to meet local needs. That's you, building Freenets, in cities and towns all over the country. That is how we will enter this new age with equity!"

Our understanding that community computer networks must somehow be primarily "information" systems is also blocking an awareness of their true social potential. Of course people do go to Freenets to "retrieve information." But the essence of Freenets is interactive computer mediated communications, not information provision. It's definitely not a passive broad-

cast medium. It has a connectivity that makes it unique. But this sense of connection that we feel also makes it difficult to describe Freenets to those with no hands-on experience of telecomputing networks. In fact, while demonstrating Freenet online is always exciting, talking about it to the unconverted is a sure recipe for glazed eyeballs. If we are to accelerate progress in bringing communities online, somehow we have to find better words to express its qualitative difference from traditional communications media.

David Sutherland, President of National Capital Freenet, has verbally outlined its objectives. He summarized these as, "If you like the information highway, let people use it." Here is what he said:

+ Use connections to make community work better;
+ Provide for contact and dialogue among organizations that provide services;
+ Educate people in the community about the utility of telecommunications services;
+ Educate kids, not just in "computer" skills but in access skills;
+ Educate for universal computer literacy so that Canada doesn't fall behind;
+ Act as a model for future systems nation wide.

Freenets have become comfortable with using a "public library of the 21st century" analogy to explain their purpose. But again a familiar metaphor contains conceptual problems. The library is about externalized community memory. It's a repository of selected knowledge, organized for retrieval. Its organizers rarely enter into direct mediation of the value of those stored memories when they are retrieved for use. A network is about conversations, and there is really very little distinction between those who provide information and those who use it. Everybody talks all the time. Everybody sends and receives. The joy of the medium comes when you want to really listen. With digitalized dialogue you can go offline and think about your reply.

All of this is to say that the payoff for navigating the networks is more in the learning that occurs, than it is in the informing. Learning is particular to the individual, and it comes from risking your ideas in conversations with others. There is an National Capital Freenet draft document for information providers that implies the best contact person to connect an organization to the community via Freenet is probably in the "communications staff." Frankly I doubt that there is a best person. John Coates, conference manager for The Well, has referred to the role of "cyberspace innkeeper." When organizations really do become learning organizations perhaps there will be appropriate connectors. But I don't think most organizations are ready for cyberspace innkeepers yet. Organizations expect communicators to get messages out. They don't expect them to meddle to any significant degree in channeling incoming messages and in the sort of internal learning that will change the purpose of the organization. Maybe they should.

Access To The Tools Of Community Connection

For those of you committed to action in the service of Freenets, Howard Rheingold's *The Virtual Community: Homesteading on the Electronic Frontier*, (3) is a must-read. He finds a consistent pattern in the development of Net tools such as electronic mail, packet switching, TCP/IP, BBSs, Usenet, Internet Relay Chat, and MUDS. That pattern is spelled out in the following two quotes: "The essential elements of what became the Net were created by people who believed in, wanted and therefore invented ways of using computers to amplify human thinking and communications. And many of them wanted to provide it to as many people as possible, at the lowest possible cost. Driven by the excitement of creating their own special subculture below the crust of the mass-media mainstream, they worked with what was at hand. Again and again, the most important parts of the Net piggybacked on technologies that were created for very different purposes."(4)

"As big government and big business line up to argue about which information infrastructure would be better for citizens, it is the right of the citizens to remind elected policy makers that these technologies were created by people who believed that the power of computer technology can and should be made available to the entire population, not just to a priesthood. The future of the Net cannot be intelligently designed without paying attention to the intentions of those who originated it."(5)

The act of putting software into the public domain makes the technology self-propagating and prevents anybody from trying to establish exclusive ownership of the tools. It is the active participation of thousands upon thousands of communities in designing and maintaining their own spaces on the Net that will sustain its rich potential for shared experience, and its characteristics as the defining institution of an information society.

The magic of the Internet is a product of its organic and uncontrollable growth. The initiative to use computer mediated communications to build communities, and to integrate smoothly with the Net as it evolves, should be readily and cheaply available to anyone who wants to try.

But the CANARIE project, an intermediate upgrade of the conduits for Canada's Information and Communications Infrastructure, recently refused a proposal to rewrite the FreePort software, the platform sustaining Freenets, because it wasn't "commercial."

The Significance Of Computer Mediated Communications

Universal access includes the freedom to communicate. Interactivity, or computer mediated communications (CMC) is about human connections. It's about talking. It serves a society that is egalitarian and decentralized. It serves individuals and communities, not mass audiences.

We've got the bizarre notion that access to information is somehow about access to a bunch of value neutral facts. Nothing could be further from the truth. Let's take the example of a teacher who has just got access to the Internet via SchoolNet. She's fought with the Board and principal for a phone jack in the classroom. She thought that the big problem was connecting, but now she knows that over 1000 schools have done that already. It's late at night, and she's out surfing the Internet, and suddenly she realizes that the Internet is not what she thought.

It's not a universe of facts. There's too much raw human imagination there, too much beliefs, opinions, perversions, darkness, cynicism and bright shining passions to think about it in terms of passive facts. Anyone can and does imagine and express anything to anyone anywhere. And then she thinks of those thirty kids in her crowded class. Without parental authority, she's going to give them this window into every recess of the human mind! Suddenly, they too can know anything they want to know, imagine any possibility, but also find someone somewhere that wants to talk about it. And she knows that the institution she represents is consciously designed to channel and control children's thinking. She knows its present purpose is to socialize them in the direction of acceptable social behavior.

Now here, through the interface, is the entire panoply of possible human behavior. Here are ideas that, in the old social order, we'd never in our wildest flights of fancy imagine were possible. Some so dark they plunge you into despair. Some so exciting they change the direction of your life.… WHAT IS SHE GOING TO DO? Teachers call this the "content" problem, and they are terrified.

The recent National Capital Freenet online annual general meeting (a risky demonstration of faith in electronic democracy) actually had a teachers' motion on the table to allow for group memberships. It was defeated. The intention of the motion was to mediate access in order to sustain the group nature of classrooms. This intention evoked a defensive response from the open access spirit of individual responsibility inherent in Freenets. But the problem of balancing individual expression and social integration that the teachers' motion identifies is real and will continue to assert itself.

Virtual Community and the Social Structure of Text

Do networks develop community? If, as Tip O'Neil said, "All politics is local," how will we govern in a society where anyone can connect to anyone else, anywhere on earth? What dimension of locality will you use to define your politics? On the Internet, there are communities of "interest" that are located in the mix of ideas, conflicts and issues surrounding specific social concerns. The people that belong to them feel that virtual communities of common interests are communities. Net-based discussion groups are inherently political arenas where the exercise of politics lies in being able to shift opinion in the context of the conversation.

Does a sustained online discussion build a community? It sure feels like it. A community that communicates only by text still has lots of social structure. As outlined below, social actions at the levels of *metatext*, *surface text* and *subtext* are all different, and they therefore mediate the shape of outcomes in different ways. Every concern or alarm in the discussion, every thread, has its expression in nested shells of significance:

Metatext

Everybody is somebody's subsystem. The metatext is where the SYSOPs and moderators plot their exploitations of the locals.

Surface text

Dialogues and diatribes that create factions of opinion, as the threads of conversation knit and unravel. I like

the idea of topics or issues as "strange attractors" of conversational pattern.

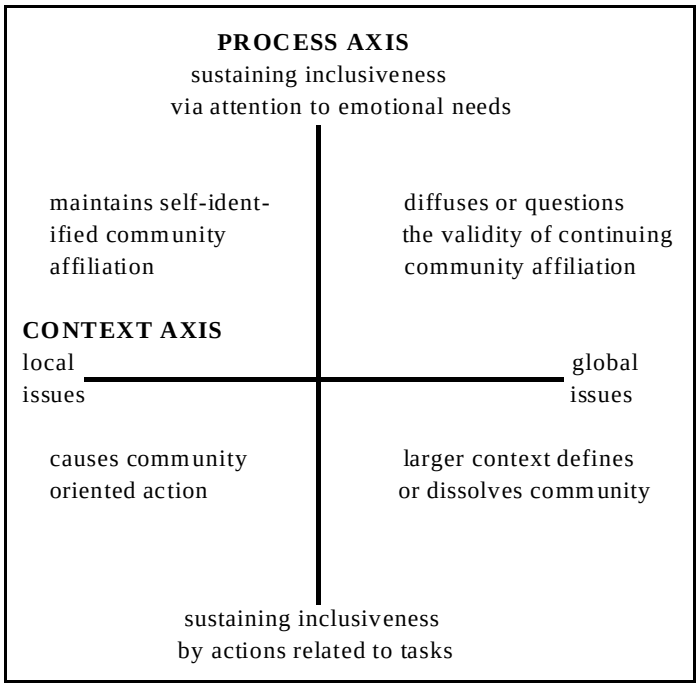
Subtext

Where gossip, the real glue of social control, operates by e-mail to reinforce factions.

When you go to new places you learn things, especially about yourself. When you participate in online discussions, you confront strange people in a strange place, cyberspace. In effect, you are opting in and out of many communities, with many different norms and values. Occupying each of them requires personal adjustments similar to those experienced by immigrants and travelers. This process of adjustment is called acculturation.

For example, the word "newbie," describes those new to the Internet. In small town meetings, speakers often state, "I've been here ten years and I say… " The next speaker will begin with, "I've been here twenty years…" These are value statements. They qualify the expressed opinion as authoritative. Posting the word "newbie" implies an assumption by the poster of agreement on the inclusive value of experience in defining a community structure of insiders and outsiders. The poster expects the newbie to acculturate to the norms and values of the discussion before saying the right words in the right way. But, on the Internet, the open season on authority figures is longer than the one for newbies.

Does computer mediated communications qualify the process of acculturation in any way? It does allow for a wider latitude in social experiment because the culture of a network community evolves rapidly and is more readily subject to manipulation. The persona, the face we prepare to meet the faces that we meet, is not the only dimension of social presence that is optional. To some degree, so is the emergent social structure of any online discussion. The values that set the limits of inclusion and exclusion become explicit in the three levels of the text. Everyone there has chosen to participate. But now, because they can see what happens as a consequence of their participation, they also have more choice over how the structure of discussion evolves. Choices, perhaps unconsciously, are made about the shape of the group. In other words, even how it feels, its physicality, is, to a certain degree, self-selected. One model of how computer mediated communications structures community might look is as follows:



"Local" means both geographic neighborhoods and virtual communities of interest. The context continuum of local to global issues is concerned with questions of defining and maintaining the boundaries of a related set of concepts. Some issues are within the context of the conceptual set and are therefore local. Some issues transcend the conceptual set, and therefore establish the context that situates the local set. The process continuum measures whether time is spent on maintaining social dynamics or performing tasks. The point where the two axes intersect is an attractor, or equilibrium point around which the dynamics of the discussion oscillate. If there's no equilibrium then the discussion threads diminish and community starts to dissolve.

Of course this model describes any informal discussion. How does locating it in cyberspace make a difference? Computer mediated conversations are self-referential. There's the discussion itself. Then there's the embedded model of the discussion that emerges as it unfolds. We all see what's going on. The dynamic nature of the structure of a self-organizing community becomes explicit. It is shared as common knowledge as it occurs. As Terry Winograd and Fernando Flores said, "networks of recurrent conversations are the core of organization."(6) The difference between hosting an online discussion and hosting a cocktail party with intense conversation is that the level of feedback in the online discussion is substantially more available for

analysis before response. Also everyone supplies their own beer.

It's Not Just the Technology That's Converging

It is commonly understood that change in information technology is a cause and consequence of a convergence in the electronic tools that create our communications media. What is not commonly understood is that this convergence on the technical level is paralleled by a similar convergence on the social level. Dichotomies, not convergences, are often the basis of our current understanding of organizational behavior. We objectify and classify abstract concepts, expecting them to be either one thing or another. When we are able to connect anyone's workspace with anyone else's workspace, suddenly we can associate any idea with any other idea. Then all the distinctions we make between senders and receivers of messages, between talking in conversation and informing, between the content of a message and its carrier, between public and private life, all these conceptual compartments dissolve into each other.

CMC Converges Senders and Receivers

In computer mediated communications, the distinction between senders and receivers is almost meaningless. The community is the system, not its user. As the Net evolves, the software becomes the primary component of the communications media that sustains community within it. A bit of grammar may help to illustrate this:

The active voice is the Internet voice. It would say, "The community uses the technology."

The passive voice is the voice of traditional system design. It would say, "The technology is delivered (by someone who owns it) to the community as end-user."

In the dialogue among communities and central government that the Net now makes possible, the power must come from the community. In an information society, we can no longer say that government is "delivered" to the people. Assuming "delivery" as the basis of a relation of governors and governed misses a fundamental difference between network culture and the assumptions that underlie our present organizations. Whatever the theory of democratic government, our present reality is that "the government" and "the people" are separate. In networked information systems, these distinctions between senders and receivers of information, between providers and users of services, begin to disappear. It is perfectly reasonable to expect that computer mediated communications can integrate service deliverers and service receivers so that the power to govern a system of services and the responsibility for the system's performance can shift to the system's beneficiaries.

CMC Converges Conversation and Information

There is one quality we can maintain in community networks that will contribute to the goal of enhancing local community life. One sure route to success lies in always remembering the concept "conversation."

"In a conversation, you always expect a reply. And if you honor the other party to the conversation, if you honor the OTHERNESS of the other party, you understand that you must not expect always to receive a reply that you foresee or a reply that you will like. A conversation is imminently two-sided and always to some degree mysterious; it requires faith."(7)

But we've begun to merge conversation and information into the same milieu, without a clear idea of what that means or how the relation of conversation and information might be enhanced. What is the meaning of face-to-face via the interface? How does medium and message interact to alter the fundamental rules of the "conversation"? In fact, if we restate the problem of access as a problem of integrating information and conversation, this takes us beyond confrontation between experienced CMC users and beginners, or between technoids and social activists. It gives us a different design specification to stimulate the thinking of the community network builders. In fact, I see this as a critical problem for the information society, not just community networks. It's just that, in community networks, we bump into it faster.

CMC Converges Conduit and Content

In regulating telecommunications, a distinction is made between the carrier of a signal and the content of a signal. The telephone company is a utility that allows me to talk but it does not ordinarily interfere with what I say. In the same sense, the hardware and software of a community network is the utility, the conduit, that allows for connections among people and organizations, whereas the volunteer subcommittees and huge group of information providers is the catalyst for the content that is discussed. Does the separation of carrier and content in the telephone analogy still hold? Is there a need to ensure a greater separation of conduit and

content than the governing structures of Freenets have anticipated? I think not.

Community networks provide conduits for individuals, social groups, and government services in a community to interconnect with each other in a new way. The service they provide is access to interactive, computer mediated communications channels. Community networks do not and must not "represent" anybody. They are neither elected, nor appointed, nor employed to act with authority on behalf of any agency or person. Community networks provide a
powerful medium for the structuring of dialogue in the service of whatever ends their members define for themselves. It is essential that, in both perception and reality, community networks are broadly based and member driven. If this isn't a medium that can sustain direct participation, what is?

What works best in computer mediated communications is the absence of power based relationships. It is mutual interdependence that defines community, not hierarchy. Participation is a matter of individual choice. The levels of participation in a successful online dialogue are very much related to an expectation that participation will result in a shared experience. We should build our local and national structure on our emerging understanding of the medium's advantages. We should not rely on previously owned assumptions of what "organization" requires to make it work.

CMC Converges Public and Private Identities

When everyone both sends and receives, we will need to sharpen our skills in constructing personas. When someone abusively flames someone else in a global online discussion, they are actually confusing their public and private selves. Isolated by the computer screen, they are applying learned private discourse behaviors in a space that is entirely public. Since they are physically at home, they feel at home. They are not accepting the also present virtual reality of being on stage before an audience of thousands. When someone e-mails President Clinton directly and he replies, even though they know about the analytical filters and artificial intelligence preparing the response, they imagine that they are talking with Clinton's private self and not a constructed public image. We know that Prime Minister Jean Chritien does not do this now, but he will soon.

True access to the electronic mind ways will depend, not so much on technological awareness, but on learning behaviors that are appropriate to the presentation of the self in an everyday life that is electronically mediated. In the political economy of knowledge, the only scarce resource is attention. When everybody sends as well as receives, a critical decision each person makes is about audience. When everyone broadcasts, consciousness of the theater required for the public presentation of self intensifies.

Citizens, Not Consumers: Responsibility and Community

Majid Thracian wrote: "The crucial test of the [Telecommunities] movement will be in whether or not this new combination of forces will be able to overcome the present techno-structures of domination. The movement may do so by giving a new lease on life to the representative and corporate institutions of democracy as well as by creating some new institutions for direct democratic expression."(8)

Whatever the socioeconomic purpose of community networks is, it is not primarily to deliver "community" as a consumer of network products and services. CANARIE does not show any commitment to "give public access to the information super-highway," because, so far, it has very little comprehension of what a "knowledge-based society" or true public access represents. We must not sell community networks on the basis of their potential to train consumers of network based products and thereby increase demand for commercially supplied network services. How will we ever comprehend the differences between an information-based economy and a market-based economy, if one of the vital instruments of change, community networks, is perverted into an instrument of the declining paradigm?

From the experience of Freenets, there are four assumptions about the public interest in the information society that I find important, but very difficult to communicate. An awareness of their significance doesn't really occur until you've wandered into cyberspace. That is to say, they are reports from the other side. They represent important choices for everyone, but choices that are more apparent to those who have already made a conscious transition to an information society. These truths about cyberspace I hold to be self-evident:

+ We can develop "community" with information technology;
+ Networks are more about conversations mediated

by computer communications than they are about access to information;

+ To make the networks function as the neurons of social connection, it is essential that the technologies be designed to place all of the power to connect and to communicate into the hands of the individual;
+ In the view of economics, all that is left of our social role in public life is our duty to consume. In an information society, there is a very real possibility of regaining the role of citizen.

My own vision of the information society includes a positive push toward social change in the direction of communities that are less "representative" and more participative, based on individual responsibility.

I'm not in Freenet to gain access to more electronic toys, and in the process give my hard earned money to those who already have more than I do. I'm in it because of the potential to discuss, understand and act on common problems with my real and virtual neighbors.

If our emerging "knowledge society" merely defines everybody as "consumers" of information then we fail. There's much more at stake in cultural survival than the success of markets. Universal access to that new global conversation means universal participation in shaping its content. That's the mission and purpose of community networks. I think we can develop virtual communities that help geographic communities work better. But, if we don't make the idea of community our central purpose in developing the Canadian Information and Communications Infrastructure, we can certainly cause real communities to disappear.

I don't think that we can tell our stories of traveling in cyberspace if we've no solid understanding of the points of departure. Knowing our place in the world is essential to knowing our place in the story. In fact there's a word for local awareness in the field of development. It's called indigenous knowledge. A Freenet is a mere gateway. One that did not create a rich texture of universally shared local expertise, would be strip mining the Internet.

I think that we can catch the attention of Canadians with the message of community networking as the self-governance they've been looking for. I think we can promote community networks as significant in terms of the information age; providing computing power to the people and meeting the public interest in universal access to national and international high-speed networks. I even think, given the evidence of demand for National Capital Freenet's services, there will be support for community networking projects that help create an expanded vision of a vital noncommercial and non-governmental sector in the new electronic environment.

The federal government has stated three strategic objectives for the information highway: jobs, cultural identity and universal access. I would submit that Freenets address these objectives head on. And they do so in a manner that is compatible with the excitement generated by that prototype of information society institutions, the Internet. In Freenets, the volunteers that participate in bringing a community online are investing their own time in learning new skills and roles. Freenets intensively collate community knowledge and experience, leading to a bottom-up global sharing of Canadian identity on a neighborhood by neighborhood basis. And Freenets provide a powerful model of how universal access to the information highway can actually be used. They don't create a society of consumers. They do support citizens in sustaining communities that better meet their needs. Whatever process Canada uses to decide its response to an information society, it must take into account the transformable power of Freenets.

Notes:

1) May be cited as: Garth Graham, "Freenets and the Politics of Community in Electronic Networks," *Government Information in Canada*, 1, No. 1.6 (1994).

2) Garth Graham, Telecommunities Canada, NGL/CANIS (Community Access Network Information Services), Box 86, Ashton, Ontario, K0A 1B0, aa127@freenet.carleton.ca (613) 253 3497

3) Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier* (Reading, Mass.: Addison-Wesley, 1993).

4) op. cit, p 67.

5) op. cit., p. 70.

6) Terry Winograd and Fernando Flores, *Understanding Computers and Cognition* (Norwood, N.J.: Ablex, 1986) p. 158.

7) Wendell Berry, *What Are People For*? Essays (San Francisco: North Point Press, 1990).

8) Majid Thracian, *Technologies of Power* (Norwood, N.J.: Ablex, 1990).

Creating the Broadsides for Our Day Conversations on Early Usenet

by Ronda Hauben
au329@cleveland.freenet.edu

[Editor's Note: The following is part of a longer article that will be serialized in the next few issues of the newsletter.]

"Democracy requires a vigorous exchange of ideas and opinions....Newspapers might have served as extensions of the town meeting. Instead they embraced a misguided ideal of objectivity and defined their goal as the circulation of reliable informationSthe kind of information, that is, that tends not to promote debate but to circumvent it."

Christopher Lasch, *The Revolt of the Elites*

"Forms grow out of principles and operate to continue the principles they grow from." Thomas Paine, *The Rights of Man*

"They've shown me clearly that electronic communication will change the shape of our world, and that we'll see its effects in our lifetime." Richard Brodie, Post 5/10/81, sf-lovers list

I - Joining Usenet

In August 1981, the message "Hello Usenet" was broadcast to the sites then on the Usenet network. With this introduction, the Department of Computer Engineering and Science at Case Western Reserve University (CWRU) in Cleveland, Ohio, joined the online network of computer sites that were exploring the potential of online communication. The introductory message proclaimed: "We would like to announce our connection to Usenet." After describing Case Western University and the computer facilities of the Computer Engineering and Science Department, the message explained that once the department got an auto-dialer modem, "We would be interested in increasing the number of nodes we communicate with, and would like to take a more active part in Usenet communication."

When CWRU connected to Usenet, there were already over 70 sites connected via both hard links and telephone lines so computer users at those sites could share news and views with each other via this new form of computer facilitated communication.(1)

Usenet was begun in Fall 1979 through the efforts of graduate students Tom Truscott and Jim Ellis at Duke University, in Durham North Carolina, and Steve Bellovin, a graduate student at the University of North Carolina in Chapel Hill. The original vision that gave birth to Usenet was of a computer network linking together computer users working with the Unix operating system at University and research sites. Unix was a programming environment created by research programmers in 1969 at Bell Labs. By the mid 1970s, university and research sites learned of this powerful computer programming environment and were able to get copies from Bell Labs to use at their sites. Unix, however, came with little documentation and no promise of technical support. During this period, a Unix users group developed with members at various academic and research sites which came to be called USENIX. By 1979 USENIX was having semi annual meetings to make it possible for users to share their problems and their accomplishments. The graduate students who created Usenet had hoped that it would become an electronic newsletter linking the various Unix sites so they could maintain communication in between USENIX meetings.

In summer of 1980, a graduate student, Mark Horton, brought his site at the University of California in Berkeley onto Usenet. He began to send some of the discussion groups that were available as mailing lists on the ARPAnet, onto Usenet. Through a gradual process, those on Usenet also began to be able to post and to contribute to these mailing lists.(2)

In a post on Usenet dated Dec. 31, 1981, Mark Horton lists the various sites on Usenet.(3) A large number of these sites were university computer science departments or computer centers. Others were various AT&T Bell Labs research sites around the U.S., or research departments of computer related companies like Microsoft, Intel, Digital Equipment Corporation, Tektronics, etc.

During this early period, Usenet was distributed without charge by the cooperative efforts of those at the participating sites. Several posts on Usenet explained Usenet was considered as a form of network newsletter. There were different subject areas that were discussed as part of a variety of topical newsgroups. There were newsgroups to discuss Unix, like FA.unix-wizards, other computer related categories, like FA.micro, newsgroups about the Usenet network itself, like NET.news, NET.general, NET.misc. And there were newsgroups on a wide ranging set of other interests like NET.foods, NET.space, NET.rec.birds, etc.(4)

Reviewing the posts on Usenet during this early period (1981S82) helps to identify the principles that shaped its early development. A post on Usenet from the early 1980s estimated that 80% of the traffic on Usenet was from ARPAnet mailing lists.(5) Thus it will be helpful to look at some of the discussion on the ARPAnet mailing lists made available on Usenet to see the foundation these discussions helped set for Usenet.

II - FA.unix-wizards and the principles of Unix

One of the most popular newsgroups on Usenet during this early period was the newsgroup FA.unix-

wizards. This newsgroup was primarily distributed on the ARPAnet as a mailing list (hence the prefix FA meaning “From ARPAnet”). The description of the mailing list explained: “ARPAnet mailing list for Unix Wizards. Anything and everything relating to Unix is discussed here. This list is gatewayed to the ARPAnet mailing list but appears like a regular newsgroup to USENET.”

Since the Unix operating system represented a powerful and low cost programming environment, there was an incentive for Unix users in the academic or research world to utilize it. However, it was difficult to use Unix in isolation and there were great benefits to be gained from being part of a community of users who would help and support each other in solving the problems they encountered with Unix.(6) The Unix philosophy includes a set of principles that grew out of and nourished its development. These principles also proved important in the development of early Usenet.

One of the fundamental principles on which Unix was built is the principle that one should not reinvent the wheel. If one person has created a program or software tool, it is important to share it with others so they do not have to repeat the same work themselves. Invoking this principle, an early post on Usenet explained, "Hmm, another case of wheel re-invention I guess. I also have the requisite routines" the poster explained, to create a program to determine the time on the computer. Another poster, noting that several such programs had been created, wrote, "I too would be interested to see the verdict on which routine is the best."

Often queries would be posted on Usenet asking others for information or advice. This would make it possible to build on other's experience. For example, one poster wrote, "does anybody know of an ARPAnet (BBNS1822) interface for the Intel Multi-bus IEEE standard 796. We could always back up Ron Crane's old parallel port interface, but would prefer something already done on the slim chance that it happens to exist." Hoping to work collaboratively with others who were interested, the post continued, "It just occurred to me that a SUN workstation would make a dandy ARPAnet Ethernet gateway. Is there anybody else out there in Internet land who might want to share efforts."

A comment in the FA.unix-wizards newsgroup from Dennis Ritchie, one of the creators of Unix, noted that Unix owed many of its achievements to the fact it built on the work done at MIT to create the Compatible Time-Sharing System (CTSS). Ritchie wrote, "The name ‘rc’ comes from RUNCOM, which was the rough equivalent on the MIT CTSS system of what UNIX calls shell scripts. Of course RUNCOM derives from ‘run commands.’ Yet another piece of evidence for my thesis," Ritchie claimed, "that UNIX is a modern version of CTSS."

An article, "The Trouble with UNIX" by Donald A. Norman, was published in the November 1981 issue of *Datamation.*(7) The article presented Unix as being too difficult and frustrating for users. In response, several on the Unix Wizards mailing list on the ARPAnet and on the FA.unix-wizards newsgroup on Usenet began a lively discussion of the problems and benefits of Unix. Among these responses was one that explained, "Well, you see what kind of stuff gets into Datamation. I don't understand these things; many of the criticisms are right, but the facts are categorically wrong! UNIX could benefit from some ‘normalization’... but the claim that UNIX does not present a simple set of principles is the most incomprehensible statement he could have made. That is ALL UNIX does, and that is precisely why he (the author of the *Datamation* article Sed) doesn't like it!"

A poster went on to question why the author of the *Datamation article* used Unix if he found it such a problem. Another post explained that though there were problems with Unix, it had proven valuable to many, including the secretaries at the Computer Science department of the University of Illinois. "While our secretaries occasionally have had problems using UNIX, they have tried several times (unsuccessfully) to get the department head to obtain a UNIX system for their exclusive use." Describing how Unix was the result of a cooperative effort by many people, Steve Hartwell at MIT, wrote, "Why do people keep talking about UNIX as if it were a person, or ONE BIG PROGRAM?… We are really talking about a large set of programs and libraries written by individuals, not the HAL 2000. Every single program, and every subroutine and system call, was written by some individual, who, in my mind, is RESPONSIBLE for the reliability, consistency, improvements, and S documentation… for that thing.… I do not intend to criticize the efforts of the usg [Unix Support Group Sed], or any other groups who have taken on the immense task of providing a set of software they agree to be responsible for. Our complaints/discussion of aspects of the UNIX operating system indicate that the job is not complete. They

KNOW that. I think that it is the user's responsibility to identify and report problems in a clear, specific, and non-judgmental narrative, not FLAME ON! [usg should also improve the means to do this.]... Does it always mean lowering to the least common denominator, to improve the software & documentation? Ridiculous. If the road signs are too high, what are we going to do S shorten the poles or raise the road?" he concluded.

The debate over Norman's article demonstrates how those participating on Usenet newsgroups and the ARPAnet mailing lists represented a diversity of views. This online network provided a medium through which they could debate their differences to determine the principles at stake in a controversy.

One post pointed to Ted Nelson's book *Computer Lib* and its critique of hard to use systems. Nelson, the post explains, praised Unix. "That too was proper," the writer explained, "UNIX is indeed a powerful tool and one that encourages tool-making by its users. It would certainly be a shame if a priesthood of hackers developed around UNIX...." Another poster describes how the intent of criticism had to be to improve the code, and that there was also a need to respond in a helpful way to users. "There will ALWAYS be questions," the post explained, "and how you deal with them will affect how people will grow." But one had to maintain high standards in what was to be done with Unix documentation, he cautioned, "I don't want to use a system which is tailored to the lowest denominator. [If the road signs are too high maybe you're on the wrong road.]."

Another poster proposed that there was a need to distinguish between the interface and the documentation of the Unix system. The writer believed that Norman's article had confused the two and the discussion was continuing that confusion. Maintaining that the interface to Unix was being criticized because there was inadequate documentation, he wrote, "I would agree with suggestions to improve the documentation." He went on to explain that there were only two forms of Unix documentation, short descriptions of what Unix commands did, called "man pages" (i.e. pages from the Unix manual), and the computer code with its comments. He felt the man pages were only casually created and so not always adequate to provide the help users needed, but that going to look at the source code which had "(VERY few comments)" didn't provide much more in the way of assistance. He proposed several additional levels of documentation to help solve the problem, including introductory documentation, more examples in the existing man pages, a brief documentation that would be provided online, a more thorough system of documentation of the assumptions and problems of the system, and more internal commenting in the code. "The code written for UNIX," he explained, "is perhaps the least documented I have seen on any system." He also questioned why the books about the code which were written by Professor John Lions, at the University of New South Wales in Australia, for an earlier version of Unix, v.6, hadn't been updated for the recent Unix version, v.7. "I thought the Lions course books were excellent. Why they haven't ever been updated, especially with the money we at BTL [Bell Telephone Labs Sed] spend growing UNIX experts is beyond me. I would think that documentation at the various levels would make code maintenance easier and be cost effective," he concluded.

Lively discussion and debate helped Usenet pioneers argue out their views about Unix, and a wide range of other issues and problems and helped to establish the forms and procedures for Usenet to grow and flourish.

III - FA.sf-lovers and the debate over technology versus humanism

Sf-lovers was another of the important mailing lists on the ARPAnet which was also available on early Usenet as FA.sf-lovers. It was for the discussion of science fiction and related topics. In May, 1981, Jim McGrath, the new moderator of the mailing list, posted a farewell to Richard Brodie. He described how Brodie had been "the person responsible for the first version of this mailing list almost two years ago."

In his farewell to those on the list, Brodie describes how he started the mailing list. He took a leave from Harvard and went to Xerox-PARC in June 1979. Shortly afterwards, he sent out his first sf-lovers message. He writes: "Over a year and a half have gone by since the first sf-lovers message went out (It was a list of the Hugo Awards from the 1979 Worldcom in Brighton, England). They've been a good one and a half years; they've shown me clearly that electronic communication will change the shape of our world, and that we'll see its effects in our lifetimes."

"The list," he explained, "has grown enormously S far beyond my expectations S and has reached the point where many hundreds of people read the daily Digest."

Describing how sf-lovers began, Richard Brodie explained, "I started sf-lovers by logging into one of the public-access MIT 'Incompatible Time Sharing' (ITS) systems — probably MIT-DMS, although it might have been MIT-AI — and editing a text file that contained the names of all the distribution lists. I then inserted a system announcement onto the same system announcing the availability of the list."

Originally, each message sent to the mailing list was distributed to all those who subscribed. Soon, however, the e-mail to the subscribers became overwhelming and a digest form was created. Digests were collections of articles submitted to a mailing list and sent out as an issue, rather than as separate posts, as newsgroups made possible.

Recalling how the sf-lovers digest was created, Brodie explains, "I believe it was the release of a major SF movie — possibly SUPERMAN — that swamped sf-lovers to the point where it was made into a digest."

The discussion on FA.sf-lovers during this period included reminiscences of children's fiction such as the Danny Dunn and Miss Pickerall series of children's books. Other children's books were critiqued as well. For example, Byron Howes from the University of North Carolina explained how he felt Mrs Piggle-wiggle books were "worse than the children's literature of the late '40s and early '50s S promoting a kind of mindless expectation of conformity." Children's book series described include Danny Dunn, Tom Swift, Rick Brant, and Freddie the Pig stories. One post explained how the author of the children's book series Mad Scientists Club made an effort "to be as technologically accurate as possible." There was also discussion of TV and radio cartoon characters who encouraged an accurate view of technology. One such character was Astro Boy.

A frequent contributor to the FA.sf-lovers noted that Astro Boy was one of his favorite animated characters. He described how Astro Boy, a robot, was "steered... toward using his special abilities for the good of society." Reminding others of the Amazing Three Theme song, he posted the lyrics, showing how they captured the dilemma of technology, that it can be used for social good or harm:

Spaceman with a mission
You must make a very big decision
With your solar bomb you could destroy us,
Or save the world or save the world

Another contributor, Mike Greenwald at MIT Multics, described an Astro Boy episode where budget cuts threatened the survival of the Institute where he was created, "He was actually `shut off', but was resuscitated when an emergency arose during which he proved his worth by saving the world...." A post by Ted Pedersen described how Astro Boy was the creation of Osamu Tzuka the 'Walt Disney' of Japanese animation. "Based on a successful comic book character," he wrote, "there was an explosion of Japanese science fiction."

Contributors to sf-lovers also discussed science fiction movies, criticizing them if the science was inaccurate or if the message presented was anti-technology or hostile to machinery. Dave Tauretzky wrote, "There are two features I pay attention to in science fiction movies: future sociology and future technology."

Describing how ARPAnet authorities determined that a Film-Buffs mailing list should not be carried on the ARPAnet since that "would be pushing the use of the ARPAnet too far beyond its research-oriented mandate," one poster proposed accepting the decision to avoid jeopardizing the other existing ARPAnet mailing lists. "I yield to those people's better judgment," he wrote reluctantly.

However, he longed "for the day when such strictures disappear!" He conceived of a future when WORLDNET would make it possible to access large mailing lists for $10/year for the 'postage', "and Large Lists rule the world!"

Other discussion on the list during this period presented hopeful forecasts of the future. A review of a recently published book, *2081: A Hopeful View of the Human Future*, reported that the book predicted a three-day workweek, factory work done exclusively by robots, household robots that shop, drive cars, send mail, mow the lawn, and record radio and television shows, air travel at 6,000 mph and land travel at 800 mph. The author, Gerard K. O'Neill, proposed that computers, automation, space colonies, energy and communication, would "drive the changes of the next century."

A poster was able to contribute the words of TV theme songs from the 1960s because not only did he have a good memory, he had an audio aid. "In the early '60s," he wrote, "I had a cheap little tape recorder. I had this silly habit of recording TV themes…"

Complaining about unscientific accounts in science fiction, Jeff (E.jeffc at Berkeley) explained that "Science is not in the process of making arbitrary rules.… Science is in the process of discovering the lawful ordering of the universe and it is inevitable that in the

future, someone will come up with something that will supersede what we know today."

After discovering a factual error in one of his posts, Lauren Weinstein at UCLA noted how posting leads to verifying one's information. He wrote, "Actually , I did get one piece of direct mail claiming I was wrong... one of the nice things about having 3000 plus people reading this stuff is that there is always somebody who can correct any errors. At least, I THINK that's one of the nice things?"

Describing why he was attracted to science fiction, David Dill at CMU-10A wrote, “a substantial body of science fiction DOES deal with issues of science and technology. The appeal of this literature to me is not the ability to supply convincing explanations for hypothetical science or technology, but to explore the effects of scientific developments on people. Thus, science fiction is frequently fiction about the IMPACT of scientific discoveries, not the pursuit or act of scientific discovery. A major reason,” he explained, “that science and technology are prominently featured in so much ‘speculative fiction’ (or whatever) is that they are major factors determining the nature of a society S if you change them, you have a new social system (or civilization) to speculate about.” Noting that science fiction should document how technology could be used for good or bad, Ron Newman at Xerox, explained that “current events in the U.S. demonstrate that technological advances need not go hand-in-hand with social progress.”

IV - NET.space and the Debate over Public Funding of Science Research

Another newsgroup on Usenet during this period that discussed technology issues was NET.space. An opening message to create the NET.space newsgroup noted that it would "distribute the articles from FA.space in undigested form, and anything submitted to it will go into fa.space."

In an early post on NET.space, Mark Horton documents how the most interesting of the ARPAnet mailing lists were fed into Usenet and many of the contributions to the ARPAnet mailing lists came from those on Usenet (i.e. those contributions posted by e-mail addresses such as somewhere!somewhere!somebody@Berkeley.)

Horton was explaining his disagreement with a post by Bob Amsler who maintained that the associated ARPAnet mailing list was "an internal communication without ‘public’ distribution ... and that there were many people on it ‘employed by the government’" who needed to be aware of space developments. Horton, however, pointed out that the digest was fed into Usenet "which is neither the ARPAnet nor tightly controlled." And that the contributions were "in effect a newsletter, not mail, and as a contributor you have no control or knowledge of who is getting it."

Posts on the NET.space mailing list included summaries from the wire services and discussion of the Congressional space budget. One post about budget cuts warned that, "The chairman of the House subcommittee on Science and Technology said that the Reagan budget plans could threaten our space program." It described how the 1983 fiscal budget called for maintaining the level of spending for NASA rather than increasing it. "Not only could this hurt our planetary program, but also threaten the shuttle program."

Paul Dietz at U.S.C.-ECL raised the question, "why should the government be spending anything on space?" He admitted that this was really part of the broader question "why should the government be spending money on anything?"

Since investment in space research would be for the good of the company or world, he asked why those with money wouldn't be investing in it. And he ended his post, "Comments, rebuttals, bric-a-brac poison keyboard net-notes are welcome..."

The question led to a heated discussion of whether humanists or technologists benefit society more. One of the posters sparked the discussion by taking the position that those developing technology, rather than those developing humanistic theories, had solved more social problems. He wrote, "While one hates to destroy cherished illusions, it's hard to see that any major social problem has ever been solved by a `humanist' or other form of social theorist. Typically," he continued, "it has been engineers and hard scientists (those materialistic, crass, and soulless men) that have provided the solutions to the major social and political problems of their day. Slavery and hard, grinding muscle labor at poverty pay, to take two classic examples from the 19th century, weren't eliminated by the wailing of philosopher but by the designs of engineers, and by the money of financiers. Admittedly, this is largely counter-intuitive.… I suspect the reason that this apparent paradox holds is that people will generally optimize their own condition subject to constraints, and the constraints are always a lack in some way or other of resources. Tech-

nology tends to free resources, thus loosening the constraints and providing a higher level of 'potential' for most individuals, which they will happily take." He referred the reader to the economic writings of the 18th century Scottish economist Adam Smith and the 20th century American economist Milton Friedman.

In response came a post quoting Adam Smith's book, *An Inquiry into the Nature and Causes of the Wealth of Nations,* on the need for public investment, "THERE REMAIN those enterprises of such great value to all, and of so little value to any one, as to require public investment."

The poster explained: "What institution has the task of looking ahead twenty years? Surely not investment combines, stock companies usually look at the quarterly report.… So, if it's desirable to have basic research… who is going to do it?"

Challenging such use of public funds another poster wrote, "I reject this. Who judges the value of a project? Not the person forced to contribute… Government investment (public investment is a misnomer) removes any choice the unwilling taxpayers have. It puts the 'public good' above individual rights." Gene Salamin at MIT-MC proposed eliminating all non-defense government expenditure as long as all government social programs were also ended. In a post titled "Moderator filtration of flames," another poster explained that it was "amusing to see the Libertarians (I assume) who are heavy users of this medium complaining about governments spending their money on things like ARPAnet and space research." He noted, "I guess its a normal survival drive. Those sucking at the teat want the milk for themselves."

Challenging the proposal that government spending should only go to defense, Mike Inners noted that according to that logic "there is no reason to fund even defense." He explained that the rationale which would logically flow from such an argument would be "If I want to be defended, I will voluntarily contribute to my local police, local NRA chapter, national military of my choice, etc." But he noted that "Everyone (except maybe the most radical Libertarians) agrees that some functions require mandatory contributions."

He went on to describe some examples of expenditures that require public funding: "Space exploration, in common with basic research, has the property that the benefits do not accrue to the organization performing the work. The benefits are distributed among many people who did not invest. Unless you impose severe restrictions on information flow, use of technology, mobility of employees, etc. there is no way that I as an owner of a firm doing (for example) free-fall medical research, can make every beneficiary pay for the benefits he is getting. I can't even get back my investment in all likelihood. But the benefits have historically greatly outweighed the costs of such research."

He explained how funding space exploration required public funding as it didn't yield the profit that private enterprises require: "In the not-so-distant future, space industrialization/exploration/colonization has the potential to significantly improve conditions for the entire society. Again, there is no way for an investor to recover profit from this. While it is not worthwhile for any small group of people to finance space exploration, a larger group finds it worthwhile since the cost can be spread thinner."

R. M. King continued the argument. He wrote: "1) Much of what is necessary to develop space is unpatentable often because it is in the realm of pure research. An example of another invention that grew out of pure research is semi conductors, which of course grew out of solid state physics research. It would not have been possible for a company to recover the costs of their research, even by patenting the transistor, because other devices were promptly invented, using the same physics."

He added: "2) Patents are only good for seventeen years. Even those pieces of space hardware that are patentable may not reach the peak of their utilization within seventeen years of conception. 3) While this may seem like a pragmatic rather than a moral argument, governments have historically been involved in blazing trails."

Providing other examples, he proposed that there be a tax checkoff so people could determine if they wanted to contribute or not.

Commenting on the 1982 U.S. Presidential State of the Union speech, King proposed cutting "spending in everything except defense, and that means cut spending in space in particular." Also he noted that the term "Defense is a misnomer. We don't have any defense, we have only strategic deterrent. But that's a matter for ARMS-D, rather than SPACE," referring to the mailing list ARMS-D."

Contrasting the view that denies that there can be any definition or support for the public good, several of those on NET.space debated whether the humanist or technologist contributed more to the public good. Paul

Lustgarten at Bell Labs Indian Hill, wrote: "I take strong exception to the sharp dichotomy… [the poster] assumes between humanists and technologists: I consider myself to be both, and see many others here at work on these nets (Usenet and ARPAnet) who I would describe similarly."

He proposed: "I think it is those of us who are *more* than just technologists who are in a position to affect society the most. The technology by itself doesn't tell you how to get it out of the lab, where to put it, how to use it, or even WHY ANYONE SHOULD BOTHER!"

He titled his post "'humanists' and 'technologists', NOT disjointed sets!" and he presented the dictionary definition of a humanist, "humanist, n. A person having a strong interest in or concern for human welfare [Random House College Dictionary] to show it did not exclude technologists."

A post by Steve Kudlak (FFM at MIT-MC) defended humanists. He wrote, that HUMANISTS and TECHNOLOGISTS fight over much, but "Both want to see the world changed for the better. Humanists," he continued, "(philosophers, artists, writers, etc.) influence the world more indirectly, but they do exert, in my view, a considerable influence. By pointing out things they see in the world and how they feel about it, artists and writers definitely influence the social climate that the technologists types work in and the like. Technology types," he continued, "that I have known have been seriously influenced by 'works of art' especially literature and this causes them to do things differently than they would if they were not so influenced."

"Technology types," he observed, "do things that at their best give power to the people. Like the power to express my ideas to many people in many different areas quickly."

He went on to note that "Most technology types are not cold, crass individuals at all, and 99% of them bleed if you prick them."

Commenting about the stereotypes that exist, he explained that, "Once upon a time science, technology and art were not considered mutually exclusive realms. It would be nice," he ended his post, "if we could recapture some of that rather than fighting about which is 'better' and 'more useful'."

Tom Wadlow added that while scientists or technologists are often affected by art or participate in art, artists he knew were "afraid of, or claim to despise technology."

Continuing the discussion about government funding of space research, a post by J. C. Winterton pointed out, "we get the problem that no private organization is big enough to finance space exploration and research." He proposed that governments were too often conservative about supporting the investment and funding needed to make big enough leaps.

Pointing out the precedent in history for government assistance to subsidize certain kinds of explorations, Rick (pcmcgreer) cited the East India Company and Hudson Bay Company.

Contributing to the debate over technologists and humanists, Jim McGrath (JPM) explained, "First, apologies to everyone on SPACE for discussing what is probably not an appropriate topic for this list." He then went on, "But since the subject came up..."

"Saying technology is more important than the humanities," he wrote, "is stupid, since technology, the APPLICATION of scientific knowledge, has to be directed by social goals determined by the study of the humanities (and social 'sciences'). However, saying humanities is more important than technology is equally stupid, since man is, above all else, a TECHNOLOGICAL animal. Our use of tools, more than anything else, has contributed to our current state of civilization. Trying to understand man without his tools (please, no comment on sexist language) is a fruitless endeavor that will, ultimately lead to failure."

But he cautioned, "One problem we face is that there are significant numbers of people who believe that technology in and of itself, can solve all problems. This is wrong, since those very problems CANNOT be defined or specified by a strict examination of technological alternatives. (although some constraints as to what is physically possible can be supplied by technology) — one MUST appeal to the knowledge lodged in the study of Man, the humanities."

He continued, "Another problem we face is the presence of a large number of people who believe that Man's tools and his tool making capacity should be ignored when examining the proper role of our race in the universal scheme of things. One cannot make ANY decisions about what man should do or should become, without examining how Man interacts with the physical Universe — and this is the domain of Science and Technology."

"Frankly," he concluded, "I have no doubts that there are far more people causing the second problem than the first. At least most technologists believe that

they SHOULD be aware of the Humanities, while many people in the Humanities feel no obligation to understand the first principles of Science and Technology. So while we need more people knowledgeable in both areas, the lack of technological understanding among the people studying the Humanities seems to be the most severe problem we are currently facing."

Jerry Pournelle at MIT proposed, "If you burned all the art, people would be miserable but alive. If you burned all the technology, above 75% of the population would starve. Which should we do?" he asked, "(Maybe neither?)," he concluded.

Emphasizing that technology and humanism are not independent of each other, Wadlow responded: "My point was not that one is independent of the other, but that they are both facets of the same jewel. If you burned all the art, would you include well-designed machinery, or elegant computer programs. If you burned all the technology, would you destroy moog synthesizers, or synthetic-fibre paint brushes? Art can be functional, as technology can be artistic. Is writing a novel on a word-processor an act of artistry or technology?" Adding to the discussion of the need for government support for research, a post by Joel Rubin answered, "As I recall, off hand, the British East India Company and the Hudson's Bay Company and the British India Company were NOT supported by laissez-faire types. They supported MERCANTILISM which was precisely what laissez-faire types were against."

Steve Harley pointed out that distinctions between humanists and technologists weren't so obvious, "Consider trying to label the Reagan government either technologist or humanist... & give up, but not without a fight, then, fondling the notion that technologists are more 'socially valuable' than humanists; try to reconcile the war machine." Harley, added, "for the record, I am an artist (writer and painter, mostly) who supports himself by programming computers. I know a number of other artists. I don't know any ARTISTS who despise technology. I know a few humanists who disparage technology, but I tend to be very thoughtful, so I think a lot of technology is not worth having like food processors & neutron bombs. I know a lot of scientists too & a fair number of them have a very limited appreciation of art. The scientists/technologists I know who do appreciate art tend to be humanists as well, so I think the comparison of techo-humano is balderdash. There are just people who are more limited than others. However, they don't bother me as much as people who are DEPENDENT on technology."

In the midst of the discussion came the complaint that NET.space was not an appropriate newsgroup for the discussion and instead a new newsgroup should be created for the discussion called net.space.philosophy.

Answering the complaint, was the response, "I see no reason why they should NOT be in this digest. Assuming that the material in each digest accurately reflects the amount of contributions, then everyone's missive is making it out on the list anyway, so what's to complain about?"

"Off-hand," he continued, "I don't see where the humanist technologist dichotomy is MORE appropriately discussed than concerning space, that field being a major area of technological endeavor with possibly the largest potential impact upon humanity. In order to make sense of technology," the poster continued, "the human factors must be added to the equation. Ignoring one for the other is perhaps expedient but ill-fated… (if I had to chose art would lose)."

Another post proposed that the Voyager pictures were a demonstration that space research produced works of art. "Most works of art are much more expensive for the number of people who can see them and appreciate them," he noted. "(All we need to do is distribute prints of the best of the Voyager pictures to each and every citizen, and we'll truly have the cheapest masterpiece of art ever produced.)" He went on to note that "the rest of the space program is science, not art, mostly. We get vast amounts of crucial information that is a first step towards engineering to actually make use of space for our benefit. Science always comes first," he commented, "then a lot of hard engineering, then profit."

"Thus I don't agree with your claim," he added, "that the space program is just an expensive work of art with spinoff. It's a medium-priced science project with some artistic spinoff and also random-product spinoff."

Another post was an Associated Press article of February 3, 1982 about developments in Washington. It described how that the U.S. Office of Management and the Budget had recommended killing many space projects. The article documented how strong opposition from scientific organizations battling against the cuts led the White House to restore some of the funding for space research in the 1983 budget. The article concluded, "considering the proposed cuts, much was salvaged."

These discussions over the role of technology and

the need for government funding occurred on NET.space while there was the ongoing political battle to save space funding. Describing these efforts, Jerry Pournelle at MIT-MC, noted the role that the L–5 Society (a group advocating putting human colonies in space) played in helping to weaken the budget cuts. He wrote: "The whole space community, with I think, particular credit to L-5 society deserves a couple attaboys. I'll take a bit of the plaudits because of the Citizens Council activity (and Danny Grahams efforts plus Newt Gingrich's were somewhat influenced and aided by the Council) anyway — it is not what we wanted, but it is less than we feared."

John McCarthy, one of the earliest pioneers of research in time-sharing and Artificial Intelligence, and a Professor at Stanford (JPM@SU-AI), credited Pournelle for his work organizing the battle against the budged cuts, "I think you deserve considerable credit for this result."

Pointing out that in the history of the U.S., very few legislatures have technologists or scientists helping to make the laws, another poster asked "In our history, [has there] ever been a legislature having more than a few technologists or scientists in it?"

Pournelle described how there would be an L–5 sponsored space citizen convention in Los Angeles, California on April 4–6. Another poster noted that the L–5 sponsored citizens space Convention would have Robert A. Heinlein and Fred House as the guests of honor. The keynote speaker would be Dr. Hans Mark, Deputy Administrator of NASA. (former Secretary of Air Force) and Newt Gingrich, then the U.S. Congressional Representative from Georgia and Co Chair of the Congressional Space Caucus. Others listed included convention co-chairs Jerry Pournelle and Milton Stevens, noting that the "Purpose [was] to get enthusiasts and professionals together, and to generate a strategy for the advancement of the space program."

The discussions in the various Usenet newsgroups and the ARPAnet mailing lists show how there was a commitment that the new technology and the forms it made possible be used for socially beneficial rather than harmful purposes. Contributors to Usenet and the ARPAnet mailing lists during the 1981–82 period recognized that it was necessary to be active to have technology serve useful purposes. Discussion on the long term social benefit gained from scientific and space research demonstrated that newsgroups and mailing lists made it possible to clarify the underlying principles on an important issue like the need for public funding of technological and scientific research. These new communication forums also made it possible to announce efforts to affect legislation and to set up public meetings with those in Congress responsible for approving the funding of science and technology programs. Thus early Usenet and the ARPAnet mailing lists helped to establish the importance of scientific research and of government funding of scientific research to the long term interests of a society. They also provided the means to monitor Congressional activity and to announce programs making such efforts.

[To be continued]

Notes:

(1) Case Western University went on to become the sponsor of the Cleveland Freenet which made Usenet available to the Cleveland Community and established a prototype of community networking that has spread around the U.S., into Canada and other countries in Europe and around the world.

(2) See *Netizens: On the History and Impact of Usenet and the Internet* by Michael Hauben and Ronda Hauben, http://www.columbia.edu/~hauben/netbook/

(3) Mark Horton's list of Usenet sites Dec. 31, 1981.

(4)Newsgroups also carried as mailing lists on the ARPAnet were named FA.xxxxx for "From ARPAnet", those only carried on Usenet, were named NET.xxxx

(5) Usenet posts made it easier to respond to the posts, or to the author of the posts, while with a digest you had all the articles collected in one issue and so it was not possible to automatically respond as with a post.

(6) See for example Peter Collison, "UNIX: The Cult", USENIX Association, *Winter Conference Proceedings*, Washington, D.C., 1987, Jan. 21–23, 1987, pg. 22–28.

(7) *Datamation*, pg 139-150.

Genora (Johnson) Dollinger (April 20, 1913 - October 11, 1995)

[Editor's note: Early issues of the *Amateur Computerist* described the tradition of the Flint Sit-Down Strike and the effort to build a democratic UAW with uncensored local newspapers. Several of our early issues included contributions from some of the pioneer sitdowners who were then alive. Sadly, one more of these important fighters, Genora (Johnson) Dollinger, died in Fall 1995.]

Genora Johnson's name is well known to anyone familiar with the details of the Great Flint Sit-Down Strike in 1936-37 waged by autoworkers against the giant General Motors Corporation. That strike won autoworkers their first instances of union representation by unions of their own choice and lead to the unionization of many industrial workers in the USA. In particular, Genora rallied the women in Flint to support and participate in sitdown strike battles and events. She organized a child's picket line which drew world wide attention to the strike. Genora helped initiate and organize the Women's Auxiliary and the Women's Emergency Brigade (the Red Berets). In every important battle of the 44-day strike, Genora played a crucial role.

When the sitdown strike began, Genora joined the supporting picket line and was available at the strike headquarters. She refused to be relegated to the kitchen even though she felt there was important work to be done there too. When many women were confused by the strike and upset by the loss of their husbands' time and income, Genora and other active women took up to explain the importance of the strike to these women. Out of this debate among women of different points of view emerged the Women's Auxiliary which set up a daycare center, a first aid station, food gathering, home visits, and public speaking classes. The Women's Auxiliary made many important contributions to final victory of the strike.

Because of the violence perpetrated by the General Motors initiated back-to-work forces like the Flint Alliance, Genora lead the effort that resulted in the formation of the Women's Emergency Brigade. Genora organized the Red Berets, as they were called, on a military basis. The women of the brigade trained themselves to carry and wield heavy clubs. They used the clubs to break windows in Chevy Plant 9 when tear gas was used against workers in that plant. Those workers were setting up a diversion so Chevy Plant 4 could be successfully occupied by sitdowners. Genora and the Red Beret lieutenants also played a crucial role preventing the first police on the scene at Plant 4 from challenging the securing of Plant 4 by the strikers. Genora and her lieutenants argued with the Flint Police long enough for the rest of the Emergency Brigade to arrive and to setup a strong picket line. By then the plant was firmly in union hands.

Kermit Johnson, Genora's husband at the time, was the Flint rank and file leader of the strike. He devised the diversionary plan that lead to the successful capture of Plant 4. Plant 4 manufactured the engines for all the Chevrolet brand automobiles that GM was still making in plants outside of Flint. Genora remembers being instrumental in getting Kermit's plan adopted. The successful occupation of Plant 4 broke the resistence of General Motors. Negotiations followed shortly in Detroit. Despite ten more days of tactics by GM to break the strike, by February 11, 1937 a one page contract was signed. The workers and their families had won an historic victory.

After the sitdown strike, General Motors continued its fight to reverse the workers' victory. Genora was black-listed and couldn't work anywhere in Flint. Her marriage to Kermit also ended. She moved to Detroit where she was active in UAW locals especially Local 212 at Briggs Manufacturing. To get a job she had to use her second husband Sol Dollinger's name. For her activity at Briggs she was beaten in her sleep by two thugs. There is evidence that her beating was part of a string of such attacks instigated by Detroit corporate officials in collusion with others.*

Genora recovered from her beating and continued her organizing within the UAW and also in a variety of other ways. She ran for the United States Senate in 1948 as a candidate for the Socialist Workers Party. During the Viet Nam War Genora was an early president of the Women for Peace anti-war organization. She argued vigorously and successfully to win the Detroit area union leaders into public opposition to the war.

As the years went by, Genora kept contact with her fellow and sister sitdown pioneers. Annually during the 1980s, around February 11 there was a memorial issue of *The Searchlight* (newspaper of UAW Local 659) commemorating the victory of the Great Sit-Down Strike. A contribution from Genora appeared in these anniversary issues of *The Searchlight*. About ten years ago she returned to Flint to attend a commemorative picnic. There she criticized Henry Kraus whose book about the sitdown had mis-portrayed the leadership role of the rank and file in the sitdown. In front of the assembled surviving sitdown pioneers Genora critiqued Kraus's account and demanded that he write an accurate account.

And, as the older sitdowners died in recent years, Genora often sent a message of remembrance to be published in *The Searchlight* of the role they played in the strike and through the years.

Even in her eighties, Genora tried to remain active,

for example working toward the formation of a labor party in California. But her health was failing. On October 11, 1995 she died at the age of 82. As her friend Floyd Hoke-Miller might have said, another warrior in the cause of working people was now gone to get some rest. Genora's long years of hard struggle and sacrifice are an inspiration for those trying to keep up the fight for human progress.

*See e.g., the recent booklet, *Striking Flint: Genora (Johnson) Dollinger Remembers the 1936-37 General Motors Sit-Down Strike*, as told to Susan Rosenthal, L. J. Page Publications, Chicago, Il, May, 1996.

The opinions expressed in articles are those of their authors and not the opinions of *The Amateur Computerist* newsletter. The Editors welcome submissions from a spectrum of viewpoints.

EDITORIAL STAFF
Ronda Hauben
William Rohler
Norman O. Thompson
Michael Hauben
Jay Hauben

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