

Ideal Public Discourse Technology

*A methodology for critiquing public discourse technology
and a new design for an optimal public discourse technology.*

by

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DESCRIPTION OF THE PAPER

Following is a long and detailed paper concerning public discourse technology. The paper presents and discusses many theories of what public discourse is and how to improve the systems that sustain it. I will argue many points, but the overall goal is to provide the reader with a profound understanding of the potential of public discourse technology and how it can be redesigned to better serve the functional needs of a community.

I begin with an overall summary of the paper, I then move from definitions and descriptions, to theories, to analysis and finally to inventive designs. The writing style I use is very direct and highly structured. Each titled section is broken down into smaller sections that focus on specific issues that are of value in isolation, but also essential building blocks for the overall piece. This compartmental style is meant to serve as a navigational tool to help readers find topics of interest and to make most obvious the method I am using to make my points. The aim of this format is to make the work a most useful resource for public communications developers and media researchers. I hope you enjoy this paper and find it useful for your efforts.

THE FUNCTION OF THIS PAPER

- **To explain what public discourse is and how it serves as an important resource for developing a just and productive community.**

- **To present a methodology for critiquing a communication technology's potential to support the pragmatic functions of public discourse.** In simpler terms: to present suggestions for how to judge a communication technology's ability to support public communication and its practical functions for a community. My goal is to present a way for answering the question: "How useful, practical, functional and helpful is this communication technology for supporting community development?"

- **To use this methodology to critique modern mass media.**

- **To outline the practical design for an optimal technology for public discourse in the modern mass society.**

ABSTRACT

In this paper, I discuss the potential for different communication technologies to support productive public discourse.

Communication technologies are defined as the systems and instruments for communicating and the supporting structures that direct their use.

Drawing from theories of public sphere, public space and the role of the media within a democratic society, I concentrate on the pragmatic and political functions of public discourse.

In this paper I pose a strategy for evaluating public discourse technologies by comparing their potential to the ideals of maximum commonality, accessibility, freedom of speech, continuousness, clarity of communication, information quality, debate constructiveness, and usability.

I then apply this strategy to four popular mass communication technologies, namely: posters, the press, broadcasting and the World Wide Web. By doing this I both prove the functionality of the methodology and provide insight into the potential of each of these technologies

I conclude with a design for a new communications technology that attempts to achieve the highest potential for successful public discourse. The design includes a combination of different communication technologies, innovative information structuring and proven democratic collaboration techniques.

PAPER STRUCTURE

The paper is broken down into four chapters:

1. An Introduction to the Concept and Value of Public Discourse
2. The Ideals for Effective Public Discourse Technology,
3. A Critical Analysis of Current Public Discourse Technology
4. A Detailed Proposal for a New System for Public Discourse

Chapter 1. Summary - An Introduction to the Concept and Value of Public Discourse

This first chapter will attempt to give a complete and in-depth explanation of public discourse and its functions in relation to different theories of the public sphere, democracy and the community. It will begin by discussing and establishing definitions for “public sphere” and “public discourse”. It continues by explaining how public discourse functions to support the development of a community and democracy. This leads to an explanation of public discourse technology and a brief discussion about the term "technology". To provide greater context to the discussion as a whole, the chapter will conclude with a simple overview of the history of some public discourse technologies

Chapter 2. Summary - The Ideals for Effective Public Discourse Technology

In this chapter I layout eight related yet separate ideals for judging a communication technology’s ability to support effective and valuable public discourse. These ideals are: Commonality, Accessibility, Freedom of Speech, Continuousness, Communication Clarity, Information Quality, Debate Constructiveness and Usability. Each general ideal is broken down into specific ideals that all relate directly to the described pragmatic functions of public discourse from chapter one. The

chapter ends with discussions concerning the role of entertainment and art in the exchange of public ideas and how education has a direct relationship to the capabilities of public discourse technology users.

Chapter 3. Summary - A Critical Analysis of Current Public Discourse

This third chapter begins with a harsh yet accurate critique of how modern mass communication technologies have failed to reach their potential because of misguided systems of ownership and control. I then move on to applying the methodology developed in chapter two to common popular mass communication technologies to judge their theoretical ability to effectively support public discourse. Emphasis is not on the tradition of each medium, but on the potential of their form within a mass society. My critiques include posters, the press, broadcasting, and the World Wide Web.

Obvious trends in these critiques set the stage for the new ideas that will be presented in the final chapter.

Chapter 4. Summary - A Detailed Proposal for a New System for Public

This final chapter provides a detailed description of a new and original technology I have devised for supporting productive public discourse. The technology is loosely based on current online forum systems with the addition of: cross-media commonality for getting around the current “digital divide”; extensive linking techniques for building context; new guidelines for improving clarity and information design and architecture; a rating system for collaborative content promotion and sorting; and other assorted democratic and Internet proven concepts. The paper concludes with a brief introduction to what effects such a system may have on society.

PERSPECTIVE

The paper is largely written from a pragmatic, structuralist and radical democratic perspective. I apply and also critique a variety of liberal theories concerning media. Many of my ideas about the modern media follow with from such thinkers as James Curren, Noam Chomsky, Neil Postman, Jurgen Habermas (and his critics) and other contemporary media critics.

Some of the ideas for potential applications of modern technology mirror those of Mike Cooley, John Willinsky and Langdon Winner.

Insight into usability, information design and information architecture are taken from very contemporary ideas largely developed from the field of Human-Computer Interaction and such web usability consultants as Jacob Neilson.

SCOPE

My aim is to understand the pragmatic constitutional potential of public discourse technology; i.e. how the exchange of ideas and information can be made most efficient for building and empowering a community with knowledge and wisdom.

Public discourse will be discussed not in terms of its content, but in terms of the activity. Emphasis is not on WHAT should be discussed, but HOW things can be discussed. The aim is to understand what are the restrictions imposed by a community's technology that limit certain kinds of discourse. In this analysis of public discourse technology, I focus on the potential use of a technology, not its historical use by a community. Some critique is made of different ownership and control schemes, but this is understood not to be historical analysis, but rather a discussion of the technology of media control and the effects it has on a medium's potential.

There is a great amount of literature written about the relationship between technology and society, (see Langdon Winner, J. Street, Ursula Franklin, Ellul, G. Grant, Marshal McLuhan, etc.). In this text I will limit my discussion of communication technology to that of its potential for transmitting different kinds of messages within a community. I will refrain from embarking on the vast and challenging topics of how a technology affects a culture, the political and economical reason why some technologies are developed rather than others, the "technocratic view", autonomous technology and many other ideas that are related to the concepts introduced here; although important, they are simply beyond the scope of this paper.

This paper is concentrating on the {formal} communication of information and ideas. Other less formal kinds of communication, such as emotional and artistic, are also very important, but they are not the focus of this paper.

Although my suggestions have no aim to limit cultural expression, the strategies I suggest may not be ideal for {cultural preservation and construction} (as some theorists suggest is a function of public discourse). While some of my suggestions may be applicable to evaluating a system for cultural development, this is not their principle goal, and thus one should not expect that of them. This paper is concerning the pragmatic rather than cultural functions of public discourse.

VALUE

My aim is to provide value for both the media theory veteran and those just starting to learn about mass communication. For the beginner I provide a diversity of important definitions, some overviews of important media issues such as ownership and language, and a detailed introduction into the subject of pragmatic public discourse.

I intend to provide insight for the well-versed communication theorist by taking a different kind of interdisciplinary approach. I combine the usually exclusive contemporary practical theories of information and interactive design, with mass communication, political and epistemological theories, to shed new light on technological barriers to public knowledge and community progress. My methodology provides a comprehensive and distinct ideal based reference for critiquing a communication technology's ability to support valuable public discourse. Found in the body of chapter two, this collection of ideals serves as a one of kind model for both academic and practical purposes.

Finally, even professional communications developers will find value in the last chapter of this paper where I suggest designs for a new optimum technology for conducting public discourse. The designs are based on contemporary network communications concepts and could potentially solve many challenges raised by today's mass media including the popular lack of context, the "digital divide" and the undemocratic participation within mass discourse.

AN INTRODUCTION TO THE CONCEPT AND VALUE OF PUBLIC DISCOURSE

“Human interdependence rests on the foundation of dialogue”(Lee 4). Our ability to communicate is what allows humans to learn, collaborate and socialize. As described by the United Nations Education, Scientific and Cultural Organization (UNESCO), "communication is the basis of society", "without it there can be no co-operation, no peace" (UNESCO 47). Through sharing our thoughts and emotions we are able to form bonds. These bonds can range from an intimate partnership to the creation of a global community. The exchange of ideas within a community is the general concept of public discourse. In this section I discuss and define public discourse and some of the main ideas on which it is dependent. I will then explain how public discourse is valuable to a community through its communication functions and specific relationship to democracy. I will conclude the chapter by introducing the technologies that support public.

Public discourse is the activity of sharing ideas with many people so we may all benefit from them. It is a natural phenomenon that occurs to varying degrees wherever people share a space and time. As described by Robert Wright in Time magazine on the verge of the millennium: "...people function as neurons in a 'vast social brain'. By exchanging memes [packets of cultural information] between neurons, the social brain becomes "smarter". With each improved communication technology the social brain thinks faster." Public discourse is one of the most effective ways of transferring 'memes' within our 'social brain'. (Wright 151)

Examples of public discourse include: a debate in town square, the content of a poster; a speech in the commons, the message on a flyer, a meeting in town hall, political graffiti, the contents of a library, a TV broadcast, a news paper article, the contents of a website and this academic paper.

The general *concept* of public discourse does not presuppose an ethical, moral, ideological or political stance. The term "public discourse" means an exchange of ideas in a public setting, and does not restrict what the ideas are about. While traditionally democratic societies have enhanced public discourse and autocracies have attempted to limit it, it always exists to some degree. Even anarchism can maintain and promote public discourse as it does not require any hierarchy of power. Although public discourse does require certain freedoms that are endorsed more by some political systems than others, public discourse itself is not a political system, nor is it tied to one.

By making discourse public, it benefits the community. "The modern economics of information emphasizes that once knowledge is made public, then it becomes a public good that cannot be made private again." By making discourse public, ideas and information become free for all to use to enhance the community and their own lives. (Stiglitz)

For public discourse to occur there must be 1) a community of people 2) the people must have a shared language and ability to use it, and 3) a common space to publicly communicate with each other.

There are many different conceptions and specific definitions for public discourse. What is common to all major theories and definitions are the concepts of a community, a space or sphere that they share and communication that occurs within them. While most writers will agree on the definition of public as "open to all in the community", there are many points of difference concerning the

boundaries of public sphere, and the function and form of the discourse that occurs within it.

DEFINING THE COMMUNITY AND PUBLIC

A community is a body of people that feel they have something in common, (this definition is generalized from multiple dictionaries). Membership to a community is established through a mutual acceptance of having something shared between members. What is shared can be economical, social, cultural, historical, physical, ideological, spiritual, personal, communicational, spatial or anything else commonly recognized by a group of people. A community can be exclusive by not accepting new members, or may be completely open to include anyone who wishes to join.

The term society can be used as a synonym for community, but for this paper I will use it only to refer to larger and general communities such as the modern Western capitalist society, a socialist society or our global society.

The term "public" is in reference to an entire community. It is a way of describing all the people in a community, something that is "of, concerning, or affecting the community" or something "maintained for or used by a community" (American Heritage Dictionary). For example: the people of Toronto are a public, air quality is a public issue and City Hall is a public building.

Others have defined "public" simply as the opposite of individual, private or exclusive (Warner 379) (Habermas 1).

But I feel such definitions lack substance since they only designate what the public is not and avoid defining the inherent qualities of a public.

Once something is public it becomes open to communal concern, critique and protection. As

described by Seyla Benhabib: "The struggle to make something public is the struggle for justice."

This is why our court system is a public affair. (Benhabib, Seyla 79)

By compiling these definitions it becomes obvious that being a member of a community is to be a member of the public. The public are therefore a powerful force that represent the diverse and unified personalities within the community. As well, things that are public are of common importance to the entire community, and thus benefit from the diverse and aggregate attention of all community members. Next, I will discuss the sphere in which the public acts and where public things reside.

DEFINING THE PUBLIC SPHERE

The "public sphere" is a term used to describe the public part of a community. Made popular by German professor Jurgen Habermas, the term has been defined and redefined by many scholars. It is an important concept for this paper because the public sphere is not only the arena where public discourse occurs, but it is also the realm where many important topics for public discourse also reside. In this section I will explore the most common definitions of the term and specify a version that accommodates most of them.

Habermas' Public Sphere

Habermas popularly introduced the term "public sphere" in his book *Strukturwandel der Öffentlichkeit* (The Structural Transformation of the Public Sphere). His definition of the public sphere refers to a space in modern societies "in which political participation is enacted through the medium of talk. It is a space where citizens deliberated about common affairs, hence, an institutionalized arena of discursive interaction" (Fraser 2)

For Habermas, "...the public sphere connoted an ideal of unrestricted rational discussion of public matters. The discussion was to be open and accessible to all; merely private interests were to be inadmissible; inequalities of status were to be bracketed; and discussants were to deliberate as peers.

The result of such discussion would be 'public opinion' in the strong sense of a consensus about the common good" (Habermas 4) (Fraser 4)

Much of the public sphere Habermas refers to is a bourgeois public sphere: "the sphere of private people [whom] come together as a public." An elite group of individuals that debated public issues and made decisions, (often concerning capitalist interests) in a forum that was distinct from the state and the official economy. Habermas used the ancient Greek city-state of the *polis* and also the salons, courts and coffee shops of eighteenth century Germany as examples of societies with functioning "ideal" bourgeois public spheres. (Habermas, 27,30)

Through out his writing, Habermas emphasizes political participation and the widest-reaching democratization of the decision-making process. He is still an avid writer and would hopefully find some interesting value in my theories for a new public discourse system. (Benhabib,86)

Critiques of Habermas' Theories

Habermas' theory of public sphere serves well as a common foundation for many theories of public discourse, but it does have its short comings.

The most common criticism of Habermas' early writings is that his examples of ideal public spheres were in reality exclusive elite white men. He generally ignored that there were other "counter publics" as Nancy Fraser describes them, of alternative and plebian public spheres. Some of these consisted of nationalist publics, popular peasant publics, elite women's publics, and working class publics.

(Fraser 7)

Fraser also convincingly argues four major augmentations to the Habermas theory of public sphere:

1. That the "bracketing of social status" is impossible and only equality will allow for the deliberation among peers that Habermas suggests is a crucial requirement for a productive public sphere. 2. That multiple connected and sometimes overlapping public spheres are more representative of the diverse public both in egalitarian and stratified societies. 3. That discourse should not be limited because what is "about the common good" cannot be presumed. 4. The public discourse should go beyond the formation of public opinion to include political decision-making. (Fraser 9-24)

Habermas has also been disapproved of for his lack of acknowledging the role of entertainment within public discourse. (Gamham 360)

I also found that Habermas seemed to ignore the importance of mass inclusion, accurate public opinion representation and communication efficiency. These topics will be discussed at length in chapter two

Other Theories of Public Sphere

Many other theorists have written their own definitions for what is a public sphere. Sometimes called by other names such as "public space" or "political space", they all generally relate to the same thing and often echo Habermas' own definition.

Dana R. Villa believes that the public sphere is a discursive arena that is home to citizen debate, deliberation, agreement and action. (qtd. in Gaynor)

Shalini Ventulelli defines "Political space" as a space "...where citizens can act collectively and engage in common deliberation about all matters affecting the political community"(65)

It is an area where there is freedom of association, "where common interests are proposed, enacted, deliberated, struggled over, and determined". (38)

Raymond Kuhn describes the public sphere as "an institutional framework and set of practices which encourage wide and inclusive public debate about issues of social and political importance" (24)

As defined by Negt and Kluge: "Public Sphere denotes specific institutions, agencies, [and] practices (e.g., those connected with law enforcement, the press, public opinion, public works, the streets and public squares); " (1-2)

Less specifically, public sphere has also been defined by "many feminists to refer to everything that is outside the domestic or familial sphere". (Fraser 2)

Seyla Benhabib describes how Ardent defined two models of public space: Associational (eg. modern political) where "Public Space emerges whenever and wherever "men act together in concert" and Antagonistic (eg. Greek {polis}) where public space is "...a competitive space where one competes for recognition, precedence, and acclaim". (78)

By comparing these multiple definitions it becomes clear that the public sphere is about a space where people both collaborate and compete in terms of ideas and actions. The result of these communal activities is community progress driven by the need to satisfy the needs of all who are

included in the interactions. It is easy to see how democratic ideals require a distinct and active public sphere, and that by being excluded from the sphere one is disenfranchised..

A definition of public sphere for this paper

For this paper I will draw from Fraser, Venturrelli and, of course, Habermas to define the public sphere as: the realm of common community interest, including its public institutions, topics and activities. It exists as multiple parts with overlaps and separations. What is to be included as "common community interest" is relative to the community and their public opinion. For example: most communities would accept air and water to be of common interest; agrarian communities might consider the land and live stalk to be common interest; most sophisticated communities have complex systems of law, education and health care that are common to the community; and a neo-liberalist community might only interest itself with the protection of property as a common concern.

One of the main functions of the public sphere is the hosting of discourse. All community members take part in a discourse simply by exchanging ideas amongst themselves. But how this discourse is carried out and to what ends will vary from community to community. To understand how this communication can take place and how a community can benefit from making it more public than private, I will now investigate what exactly is public discourse and what functions it performs.

DEFINING DISCOURSE

Before I dive into a breakdown of public discourse, it is essential to clarify what I mean by discourse. A discourse is an exchange of ideas. Synonymous with a discussion, a talk, and a conversation, but typically more formal, a discourse is a complex and interactive communication between two or more people. The communication may take any form and is not limited by time or space.

Within cultural theory, “discourse” is sometimes used to refer to general types of ideas, ideologies and assumptions held within a group of people or social perspective. For example: the marxist discourse is mostly concerned with class struggle. But for this paper I will only be using the first definition of the term, i.e. to refer to the actual act of interactive communication.

A DEFINITION OF PUBLIC DISCOURSE

By combining the definitions of "discourse", "public" and the ideas introduced in theories of the public sphere, I will define public discourse as: The open exchange of ideas for all community members to participate in. Public discourse is community communication. It is open communication within a public sphere, often concerning public interests, but not exclusive to them. It may exist as a formal debate, as theatrical fiction, as casual conversation or any other activity relating to communication in public. The act of publicizing something is to partake in public discourse. In modern mass communities public discourse is often enacted through mass media. In small communities it may be as simple as loud talking in a common space.

To compare, Michael Warner has an interesting alternative definition of public discourse. He claims that discourse becomes public when a participant perceives him or her self as the “public subject”. This is often achieved when a subject receives a widely available form of communication that is not directed to any specific individuals. To transmit a message as a public rather than an individual would require an abstracting of oneself. But I feel this definition is too subjective and dependent on the individual’s perception of his or her self as "public". He argues that public discourse is "...the

discourse of a public rather than as an expansive dialogue among separate persons"(377-385), but this contradicts Habermas' and others' definition of public sphere as a collection of individuals.

Another definition to compare against is that of liberalist Bruce Ackerman's. He explains that liberal public dialogue is a legitimizing of one's power through neutral and constrained conversation. His emphasis on "constrained" refers to the limiting of topics to only those that all community members can agree upon. I disagree with any form of limiting of speech, (see the section on free speech) and also disagree that the primary function of a dialogue is to legitimize power. (Benhabib 81)

Liberal theory also believes that public discourse should be objective. Although this is a worthwhile aim, perfect objectivity is impossible and so I think it is impractical to attempt to restrict public discourse only to that of objective dialogue. (Curran 32)

Alternatively Neil Postman defines public discourse as "our political, religious, informational and commercial forms of conversation". Again, interesting and applicable to the definition I have set out, but too vague to stand on its own. (28)

With this I conclude my discussion of what is public discourse. I do not suggest that public discourse is the only or most important kind of communication; other forms of communication, such as private and small group discourse, are also very important, but they are not the subject of this paper. What I am suggesting is that public discourse is an important resource for the advancement of a community, and in the next section I will explain how and why.

THE PRAGMATIC FUNCTIONS OF PUBLIC DISCOURSE

Public discourse is the activity that allows individuals to come together to realize and develop their community. Here I will discuss and define how public discourse functions to benefit an entire community in general pragmatic ways.

Public discourse is the activity that allows individuals to come together to realize and develop their community. It enables people to learn to see things from multiple perspectives and to generate a plurality of understandings; to gain knowledge, deliberate, cooperate, identify with others and transcend their subjective, private and interpersonal reason to understand what it is to be apart of a community and how to think and act as collective (Venturelli 65)

There is also much to say about how public discourse is a method by which cultures changes and how it allows a "society to commune with itself" (Martin 33). But in this paper I am focusing on the pragmatic functions of public discourse and although interesting and important, I will not venture into this complex and subjective realm of cultural theory.

Below I have broken down the functions of public discourse into six related practical community activities. At first I was planning to limit my discussion to just the first two fundamental functions of informing and debating, but in my research I found that many public discourse theorists commonly gave special attention to the creation of equilibrium, the realization of public opinion and the checking of powerful structures. (Although they presented these opinions as functions of the mass media within a democratic society, I will extend their usefulness to any community using any form of communication technology.) These activities are only four of many products of the first two

fundamental activities, but because of their importance to community development, I too have chosen to give them special attention. On top of this, I think it is necessary to point out the obvious but often overlooked function of public discourse to serve as a tool for organizing a community. Public communication is not just about sharing ideas, it is about coordinating, creating common understandings and making decisions concerning how to

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Informing Community Members

For a community to operate at its best, every member must be informed with knowledge that will allow them to perform and collaborate to their highest potential. Public discourse is an effective way of distributing useful ideas and information to the entire community.

As described by UNESCO: "Information is power," "the more people who have information, the more information that people have, the better the society" (UNESCO 9). What gives information such

"power" is its ability to enlighten and to be used as resource.

The Kantian concept of enlightenment is to empower people with knowledge (Willinsky 9), "to provide the public with the means to move beyond accepting or defying the advice of the expert, by enabling the public to consult and challenge the quality and range of knowledge behind that advice", and " 'releasing' people from the direction of others" (Willinsky 134). For example: once someone is enlightened on methods of preparing food, they no longer need to rely on others to cook for them; and once someone is enlightened on in First Aid, they can know act on minor medical problems without having to ask for the assistance of a nurse. Information can lead to knowledge, and knowledge frees people to take control of their own lives. The more people who are enlightened with useful knowledge in a community, the more the community is capable of dealing with challenges.

(Willinsky,131)

Information theory explains that "...individuals typically use information to solve a problem, perform a task, or increase understanding,"(Chun 3). Information allows people to make effective informed decisions for taking action (Chun 26). The more information people use, the more rational their decisions will be (Wilson 21). Thus the more information individuals are given access to, the more rational there decisions may be.

Taylor (1991) observed eight ways which people can use information:

1. Enlightenment - to develop a context or to make sense of a situation;
2. Problem Understanding - specifically to develop better comprehension of a particular problem;
3. Instrumental - what to do and how to do something;
4. Factual - to describe reality;

5. Conformational - to verify another piece of information;
6. Projective - to predict what is likely to happen in the future;
7. Motivational - to initiate or sustain involvement in a course of action; and
8. Personal or Political - to develop relationships, enhance status, reputation and personal fulfillment.

All the uses are beneficial both for the individual and their community.

(Chun 16)

The sharing of information can also expose public concerns and distribute techniques for resolving these challenges. For instance, an outbreak of a disease can only be recognized as 'an outbreak' if people inform each other of their general health and that of their family and friends. Doctors can then deal with the epidemic and inform people with ways to combat the disease. Distributing information can both create awareness to problems and solutions to them.

Because information is so useful and powerful, many agree that it should be distributed as widely as possible. John Willinsky's book, "Technologies of Knowing", asserts that a public discourse technology should easily make available all the findings of important research to all those that may be interested (78). Resolution 59.1 of the UN General Assembly of 1946 declared "freedom of information is a fundamental human right and is the touchstone of all the freedoms to which the United Nations is consecrated"(UNESCO 11). There is no doubt that information is a valuable resource that should be widely distributed and public discourse is a most appropriate technique for achieving this distribution function.

A great amount of information is necessary to understand and formally discuss complex political issues such as economics, healthcare, the sciences, labor, laws and policies, etc. (Stiglitz) Such pragmatic political issues are often the content of public discourse's second fundamental function which is to conduct productive community debates.

Critical Debate

To come to fruitful decisions, a community must critically compare many possible ideas and perspectives and thoroughly consider all worthwhile options. Debating is an effective way of involving multiple minds in this process of comparing and generating sound and well thought out ideas.

By conducting debates in a public forum, there is the highest potential for intelligent contribution, as all minds are invited. Of course, open discussion also means the inclusion of less constructive contributions (such as the mumblings of a town idiot), but as it will be discussed within the section on free speech, it is better to contemplate a poor idea than to miss an intelligent one.

As defined by Habermas, Randall, Kuhn, Venturelli and others, one of the principle functions of the public sphere is to serve as a forum for public debate. Although a public sphere could exist without debate, debate is what gives the sphere much of its value and is a defining characteristic that is the foundation for many of its other productive activities.

Liberal theory also promotes this idea. It follows the assumption that public discourse "facilitate[s] the formation of public opinion by providing an independent forum of debate:" It is a "battleground between contending forces"(Curran 29), and it is implied that the winner of these "battles" will be those who are most inline with public judgment. Debating realizes and affirms public belief and interest.

Public debating is also an opportunity for justice and community structure to be realized. As explained by Shalini Venturelli: "...political identity and self-determination are made possible by access to opportunities for deliberation and public reasoning, which is nothing less then the negation of the unjust and the affirmation of the just." Public discourse is an ideal method for accessing this public deliberation and reasoning to create just community situations.

Debating is the foundation for many of the other functions of public discourse: it draws out information for distribution, it is one of different methods for finding consensus, it may help realize and clarify public opinion, and in general provide a method for deliberating between conflicting ideas that are challenges to community development and organization.

The development and recognition of public opinions

To make decisions that are in the best interest of the public, those in power must know what the public interest is; they must recognize the public opinions. Through public discourse ideas can be brought forward, debated and discussed to form consensus on what are the main beliefs within a community, i.e. the public opinions.

But when I speak of public opinions I am not referring to the perception of public opinion or the assumed popular opinion as espoused by those with status or authority, but that of the real collective opinions of the entire public. Public opinions not as a total or average of all opinions, but that of a close representation of all the diverse opinions held within a community.

As described by James Curran, public discourse serves to inform citizens from a variety of view-points; keep open channels of communication between the government and the governed and between different groups in society; which all provides a neutral zone for the formation of public opinion. Ideally, those with power in a community, especially government leaders, will use the recognized public opinions to work towards creating equilibrium within the community

Facilitates the creation of consensus and equilibrium

Diversity exists within every community. Peace between differing groups within a community is achieved through the formation of consensus and equilibrium on what actions should be taken and how the society should be structured. Through public discourse, participants can come to decisions that are satisfactory for all stakeholders.

Public discourse facilitates communication to create agreement and compromise between sectors of society to establish mutually acceptable situations. (Curran 82)

Consensus requires the inclusion of all concerned parties within a debate (Benhabib 85). There needs to be openness to arguments, common definitions (Benhabib 83) and a commitment to equilibrium (Curran 105). Since public discourse is a common forum open to public scrutiny, it serves as an excellent tool for negotiation and arbitration of competing interests (Curran 30) for creating community equilibrium.

Provides a Check on Structures of Power

A well-known aspect of liberal theory is that of the “fourth estate”. This is the concept where the press is expected to act as a “watchdog” to make sure the government stays in-line with public interest (Randall 3). I have extended this theory to include all kinds of public discourse (not just the press) and any structure of power within a community, (not just the state, but also private and corporate powers). Power can often be exercised in subtle ways. The sharing and comparing of information provides a method for recognizing an abuse of power. For example: it was not until industrial workers began to exchange stories and ideas that they became aware of their common exploitive situation. In order to counter-act powerful structures, the public must organize their

activities and this is again done through public discourse. To continue the industrial laborers example: by discussing and organizing themselves into unions, the industrial workers were able to gather enough leverage to push for and eventually acquire improved labor standards.

Public discourse is powerful because it opens up information to the public. It is, in fact, the opposite of secrete and private discourse. As Joseph Stiglitz explains: "Secrecy provides the fertile ground on which special interests work; secrecy serves to entrench incumbents, discourage public participation in democratic processes, and undermines the ability of the press to provide an effective check against the abuses of government." Secrecy advantages those in the know, and thus creates unequal distributions of power, which is the foundation for community conflict. Public discourse is an effective tactic for preserving peace by avoiding the troubles that stem from secrecy.

Facilitate Community Organization

In order to cooperate, collaborate and participate in activities that are complimentary (or at least non-conflicting), members of a community must use communication to organize their interactions and relationships. Public discourse allows community members to understand the activities of others, make arrangements, and oversee activities that are of common interest. For example: through public meetings and the distribution of information it was decided and publicized that all North Americans will drive on the right hand side of the road, stop at red lights and go on green. If were not for common agreements and systems established through public discourse, our public life would be utter chaos. Public discourse allows individuals to coordinate tasks and systems that are greater then the sum of their parts.

THE VALUE OF PUBLIC DISCOURSE TO A DEMOCRACY

Democracy is the idea of self-government. Currently democracy is promoted by the United Nations as the most ideal and just form of government for the "fulfillment of human aspirations" (UN). In this section I will describe how democracy is dependent on and intrinsically related to public discourse.

Definition of Democracy:

1. Government by the people, exercised either directly or through elected representatives.
2. A political or social unit that has such a government.
3. The common people, considered as the primary source of political power.
4. Majority rule.
5. The principles of social equality and respect for the individual within a community.

(American Heritage Dictionary)

In order for a society to attain a productive democracy it must first have individuals that:

- 1) have a united interest in achieving democracy;
- 2) have the ability to influence the actions taken by those in power;
- 3) are able to effectively communicate with each other; and
- 4) have access to required information.

(Lee 3).

While the first two necessities depend on social beliefs and the structures of power, the latter two are directly related to the functions of public discourse

At the heart of any political system is the way communication is conducted. While an autocratic political system is based on a top down, one-way flow of communication, a functional democracy is an interactive form of communication involving the entire community (Hamelink 16). This interactive community communication is public discourse. What distinguishes public discourse from democracy is that unlike a political system, public discourse does not necessitate decision-making, policies, or political structures, although it can be directly involved with such things.

If a community wishes to embark in self-government, it must provide methods for communicating with itself to organize and create coherence and agreement with community interest. As defined earlier, these are essential functions of public discourse. Another way to look at it is that secrecy is "antithetical to democratic values"(Stiglitz) and is also the opposite of public discourse.

Democracy requires many of the functions of public discourse: the exchange of information for citizens to arm themselves with knowledge (Stiglitz) , debate to realize optimal decisions, especially those "about the type of society and political process [the public] aspire[s] to" (Lee), the realizing of public opinion as a basis for the formation of public policy, the creation of consensus and equilibrium "on socio-cultural, economic and political goals"(Lee), and the checking of power to insure that those in power remain accountable to the people (Venturelli 64) (Garnham 364). So on the most basic level, democracy is most dependent on an effective public discourse.

According to Philip Lee, in order for a functional 'direct' democracy (which may also be described as the ideal democracy) to exist: "everyone would have to have the possibility of discussing and reaching a consensus on a particular course of action; everyone would have to be educated to a

minimum basic level; everyone would have to have access to the same information and (for practical purposes) be apart of an active multi-channel communication network.” Public discourse can provide for all of Lee's democratic requirements. (1)

In reality, trying to practice direct democracy within a mass society is extremely difficult. As a community gets larger, there comes a greater need for improved communications technology that can overcome the obstacles of size and population dispersion, permit a greater number of citizens to participate by reducing burdens to participation, and provide equity in public decision-making by reducing inequalities in availability of participatory opportunities (Curren 69). But are there any communications technologies that can surmount these challenges? What are the different kinds of public communication technologies and how can we decide which technologies will work best for productive public discourse? The rest of this paper will answer these difficult questions.

PUBLIC DISCOURSE TECHNOLOGY

As discussed earlier, public discourse requires a common space between participants where communication can take place. This space can come in a variety of forms and may bridge both location and time. Some common examples of a potential shared space include a room, piece of paper, telephone line, TV broadcast or web site. In this section I will describe how shared spaces are a form of technology that directly affect the potential of public discourse.

Defining Technology

Before I begin to discuss public discourse technology, I feel it is necessary that I define the commonly tossed about term of "technology".

A common and basic definition of technology is "...the application of science to various tasks".

(Hoover, 4)

Similarly, technology can be defined as "an object or sequence of operations created by man to assist in achieving some goal. A technology is a body of human knowledge". But this still excludes many of the ways the word is commonly used. (Principia Cybernetica Web)

Ursula Franklin provides a more complete definition by explaining that "technology is not the sum of the artifacts, ...it is a system. It entails far more than its individual material components. Technology involves organization, procedures, symbols, new words, equations, and, most of all, a mindset." (12) She continues to explain that "...technology is a multifaceted entity. It includes activities as well as a body of knowledge, structures as well as the act of structuring." (14) She clarifies that although technology includes artifacts, (such as cars, computers, clothes, etc.) it also involves systems of organization and communication. She goes on to describe it as cultural phenomena that shapes how we think as individuals and groups. This perspective is especially important when discussing the development of new public technology as I propose in the fourth chapter.

Robert E. McGinn gives four different definitions of technology that seem to include almost all popular definitions:

1. Technology as Technics - material products of human making or fabrication (eg. tools, devices, machines, instruments, etc.);
2. Technology as Technology - the complex of knowledge, methods, and materials used in making a certain kind of technic (eg. computer technology, automobile technology, communication technology);
3. Technology as a Form of Human Cultural Activity - a distinctive kind of cultural activity (a human

practice like art, law, medicine, sport and religion);

4. Technology as a Total Societal Enterprise - the all-encompassing devotion to research, development, production, and operation of technics.

(14-15)

But for this paper I will restrict my definition of technology to: the artifacts and systems of applied knowledge. I believe such a definition will serve nicely by including all necessary pragmatic issues without overcomplicating the discussion with abstract, subjective or cultural theory. This is not to say that there is not a need for discussing the social consequences of technological thinking within the modern world or other contemporary academic topics, but only that they are not a requirement for this paper and I must restrict my discussion to the topic of how public discourse is facilitated by technological instruments and systems.

Defining Communication Technology

If technology is defined as the artifacts and systems of applied knowledge, then the term "communication technology" must describe the technics, systems and techniques for creating and supporting the exchange of messages between people. This includes the instruments of communication, the organization of people and the structuring of situations that define how communication may occur.

One could argue that communication technology can be more simply described as "media". I have chosen to refrain from using the term "media" to describe all the techniques of public discourse because it tends to exclude systems of in person communication, such as lectures, conversations, and large meetings. It also has a tendency to focus on the traditional broadcast and publishing industry,

and ignore new and more independent communications such as flyers, email, and non-corporate web sites. On top of this, it is often used in such a way that discounts the organizing of communication situations. When I do use the term “media” I am referring to instruments of communication or the industry of mass communication.

A BRIEF HISTORY OF PUBLIC DISCOURSE TECHNOLOGY

Public discourse has always existed, although it may not have been described as such. From early tribal gatherings to the Internet, the public exchange of ideas has always been an important part of every community. Here I will briefly go over some of the more popular technologies that supported public discourse throughout the ages.

Some examples of technology for public discourse include the town square, street corner, salon, coffee shop, town hall, painted wall, poster, book, newspaper, magazine, film, public address system, radio, TV, websites, email lists, and online newsgroups.

One of the greatest sources for examples of basic public discourse technology can be found in ancient Athens. Although official political activity in Athens was limited only to resident men of civil heritage (Athenian Agora Excavations), the technology used to organize and include these citizens in public discourse was quite effective within this limited community. Some of the technologies they used are still practiced today.

The most basic form of public discourse technology they used was that of the central and open space. A location anyone could access and where people could speak freely. The most representative example of such a space was the Agora. This large open square surrounded by public buildings served as a forum for open public discourse. Of course, discourse also occurred in other areas such as shops and homes, but the Agora was specifically designed for the purpose of community communication. Following this model, the central square has remained a traditional part of

many European villages and cities.

For more formal political discourse the Athenians used a large theatre like space known as the Pnyx. Public meetings were held about every 10 days within the Pnyx. The space was designed to amplify an elevated speaker's voice, and by its final design in the late 4th century B.C, it seated up to 13,500 citizens. The structuring of this forum situation supported public debate and the informing of citizens. The Pnyx can be equated with the modern town hall.

A less structured system of public communication that has also existed throughout the ages is that of public preaching. From the prophet on the hillside, to the medieval town crier to the aspiring politician on a soapbox, public speech has also served to distribute ideas and engage citizens with local information through out time.

By moving vocal conversation indoors, public discourse became less public. The eighteenth century public discourse described by Habermas often occurred within the institutions of the coffee house, salon, and 'table society' (Habermas 4). Such communication was a more elitist and 'representative' affair than the open air systems of the past, yet they were very efficient because of there intimate structure and the high education of the participants.

Although written material has existed in Egypt since 2600 BC, it was not until the creation of the Gutenberg movable type press in the mid 1400's that literacy grew enough to make the exchange of ideas in printed form a real public technology. Since this period, literate communities have come to depend on publishing for their most important and official public discourse, including the publishing of

religious books, educational text books, law books, political essays, pamphlets, posters and newspapers. (Fang)

Early local newspapers allowed private opinions to organically develop and be transformed into public opinion through close contact with the newspaper journalists and publishers. The competition between independent papers created a diverse ideological arena of debate and the main powers in society were kept in check through independent criticism (Curren 38). Though it can be argued that organized interests have always had some form of political control over newspapers (Curren 51), it was not until the advancement of mass communist and capitalist societies that the diversity of press control was reduced and thus a reduction in the diversity of opinions presented (Curren 36). (This problem will be discussed in greater detail in the sections concerning the failures of state media and the free market).

Until the popularizing of film and broadcasting, printing had a monopoly as the medium for mass public discourse (Postman 34). Since the 1600s newspapers were being published with public information on any given day (Fang) . The popularity of printing and literacy in the late 1700's USA was so extensive that some book printing reached sizable percentages of the population comparable to the modern Super Bowl TV broadcast (Postman 34).

The invention of radio broadcasting in the early 1900's allowed messages to be sent to millions of people instantaneously; the news broadcast was born. Later television grew to surpass both radio and the newspaper to become the most popular mass medium ever. Although television, with the help of satellites, has created a global public discourse, many have criticized the content of this

discourse as shallow, stating that it is a form of cultural colonialism that aims to only capture viewers for advertising and not to inform or support critical debate, (this too will be discussed further in the section concerning the failure of the free-market).(Fang)

The most recent public discourse technology is the Internet. Herald as the ultimate democratic medium, its potential for universal access to interactive communication makes it the most ideal technology for public discourse. But with less than 8% of the world's population currently using it (Computer Industry Almanac), and that small percentage mostly residing in the wealthier nations, it has a long way to go before it can be considered a working technology for global discourse.

Of course there are many important communication technologies not discussed here, such as the mail service and the telegraph, which bridged distance, and the photograph and film which first reproduced images. These technologies may have affected the practice of public discourse and may have played important roles for private, artistic or entertaining communication, but they were not the primary instruments for public information and debate, and thus I have not given them much attention.

CHAPTER 1 CONCLUSION

In this chapter I have explained what public discourse is and what important pragmatic functions it can serve for a community and a democracy. I have defined the systems and instruments for supporting public discourse as “public discourse technology” and have provided many examples of such technology throughout the ages. From this foundation I can now move into the more contemporary and complex challenge of providing a methodology for critiquing public discourse technology in relation to our modern mass communities.

We currently live in the most communication-saturated time of history with a great amount of diverse and democratic media at our disposal (Prince). With such a variety of communication technologies available to us, it is difficult to decide which ones to focus our attention on. Of all the communication technologies available, which ones have the most potential for supporting effective public discourse? Which of the communication systems could best facilitate the functions of informing, debating and developing our communities? What techniques and practices are missing in our technologies that cause them to fail at providing productive public discourse? What would the ideal public discourse technology be like? In the following section I will provide a strategy for answering these questions by presenting a method for comparing communication technologies in terms of their potential ability to empower a community with constructive and effective public discourse.

THE IDEALS FOR EFFECTIVE PUBLIC DISCOURSE TECHNOLOGY

To judge something we must have a frame of reference to compare that something against. To judge the potential of a communications technology to support the pragmatic functions of public discourse, I have established a set of eight general ideals to compare a technology against. These general ideals consist of: commonality, accessibility, freedom of speech, continuousness, clarity of communication, information quality, debate constructiveness, and usability. Each general ideal is broken down into several particular ideals. These particular ideals examine many specific variables that establish a communication technology's capability to support productive public discourse. By using these particular ideals as a model for what a public discourse technology should do, one can quickly see how current technologies fall short, and what future designs should try to achieve.

The ideals are tools to be used as guides and references for comparing communications technology. Similar to how one can judge the quality of an audio recording device by comparing how close it comes to the ideal characteristic of perfect sound reproduction, my ideals specify a variety of other characteristics to judge a public discourse technology by. The methodology is one of analytical comparisons to ideals that symbolize an infinite scale of potential. They are impossible to achieve and thus they give us permanent goals to work towards. The practicality and value of this methodology will be proven in chapter three.

It is important to note that these ideals are not to judge the actual discourse in terms of what is discussed; (the value of the content is subjective and historically contingent). The ideals are to judge the potential of the form of the technology, which is more absolute and open to objective analysis. In

other words, these are ideals that concern the phone or the TV, not the conversation or the newscast.

While my approach is original in its details, it bares some resemblance to Habermas' "ideal speech situation". His ideals are as follows: "each participant must have an equal chance to initiate and to continue communication; each must have an equal chance to make assertions, recommendations, and explanations; all must have equal chances to express their wishes, desires, and feelings; and finally, within dialogue, speakers must be free to thematize those power relations that in ordinary contexts would constrain the wholly free articulation of opinions and positions"(Benhabib 89). This theory can also be described as egalitarian reciprocity. While I agree with and will borrow some ideas from Habermas' ideal speech situation, I think it falls short by only focusing on the fairness of participation and ignores the importance of communication efficiency. For instance, even if everyone in a community had an equal opportunity to communicate using smoke signals, their discourse would be so limited and slow that no complex ideas could ever be discussed. As important as equality is, it is not the only element of an ideal discourse situation.

Within the ideals I am suggesting is a judging of all elements that affect the potential for the technology to support public discourse. All the ideals are selected in relation to the functions of public discourse as described in chapter one. Although I have divided the ideals into separate headings, they are all interrelated with common themes concerning access and opportunity, interactivity, diversity, objectivity, reason, knowledge, critical thought, efficiency and the importance of the participant's perception and needs.

Throughout this section I will use terms like "users" and "participants" to describe the people who participate in public discourse using communication technologies. This means people that have any kind of contribution to or interpretation of the discourse. "Interpretation" will be used to describe the intake of messages. For example: reading typography or a chart, listening to what someone says or watching a video, are all forms of interpretation to receive messages.

To finish this chapter I have decided to include brief discussions concerning the need for education among community members and the value of art and entertainment. I believe these are important topics that even though they may not specifically affect the potential of a communication technology itself, they definitely do affect the practice of public discourse.

COMMONALITY

A most important but often overlooked necessity for public discourse is a commonality of communication. By this I mean that everyone in the community needs to be aware of the same discourse. In order for important organizational and useful information to be universal and for debates to publicly scrutinized the same communication needs to be available to everyone. The most important ideas need to be shared throughout the community. Ideas that are restricted to only parts of the community are not truly public. For instance, if all the folk of a town were to have a meeting in a school, with different groups of people in different rooms, the discourse would be less public than if it were conducted in a large common auditorium. The more fragmented the discourse becomes the less public each message will be. **An ideal public discourse technology will encourage common participation in a central discourse concerning issues important to the entire public.**

ACCESSIBILITY - ABILITY TO FREELY AND EASILY

PARTICIPATE.

By definition, ideal public discourse includes all community members. To be included in the discourse each member must have access to a means of two-way public communication **An ideal public discourse technology will allow all community members equal and complete access to both the reception and transmission of public messages.**

At the heart of liberal democratic and socialist political philosophy is open access to communication. It is understood that "equality of access" is a central requirement for the ethical distribution of knowledge (Willinsky 9). This is reinforced by Universal declaration of Human Rights which includes the "...right to... seek, receive and impart information and ideas through any media" (UNESCO 11). The restricting of access to discourse is to deny a person their basic human rights and the power to improve their own situation. Accessibility concerns the achievement of this basic human right to communication.

Accessibility can be defined as the "level of effort required to use a particular information source" and the "the degree to which one can attain meaningful contact with a [communications technology]" (Chun 12). The less effort it takes to use a technology, the more likely a person is to use it (Chun 13). To increase the amount of participation in a public discourse, a communication technology needs to have a high level of actual and perceived accessibility. **An ideal public discourse technology will require the least amount of effort to access and use.** (This also relates directly to usability, which is described as its own ideal further on in this chapter.)

Accessibility is about breaking down the barriers to using a communication technology. Barriers come in many forms: physical, economic, social, cultural, temporal, language, distance, experience, education and more. Barriers are neither inherent to a technology nor restricted to the state of the community. Barriers to access are created through incompatible relationships between community members and their technology. **An ideal public discourse technology will compliment the abilities of all of its community.**

While early theories of public discourse only required that people have access to a common physical space, such as the town hall or village square (O Baoill), where direct verbal communication could occur, this is not satisfactory for mass societies. It is not practical to ask a nation to meet in the local hall for a discursive forum. Some form of complex technology is required to reach mass and distant communities, such as a high volume press, radio or TV. The problem with such mediated communication is that it often restricts for whom the instruments of communication are available (Garnham 361), e.g. who gets to use the microphone. Public space discourse systems, like the village square, only require the ability to be at a certain place at a certain time. Complex technology, like press, radio and TV often have much more challenging barriers to access.

Even simple technology can often have common barriers that are created because they are designed for only the average person. Humans are all original in form, perception (Whitehouse 128) and situation. Communications technology must be designed to give access to the full range of community members. This includes those with disabilities, those with fewer resources, the young and the elderly, the distant, and all others whom may require special attention. **An ideal public discourse technology will include all community members, regardless of how different they are from the average.**

Another barrier can be created by a difference in community population and system participation restrictions. The problem occurs when a system cannot handle the amount of interested participants. For instance, a small town hall in a major city, two Internet connected computers in a large university, or one microphone in a filled stadium are each not practical for giving every person a chance to participate. A long queue for access to the discourse technology is a barrier to participation. There needs to be the option for mass inclusion. +An ideal public discourse technology will be able to sustain the interactive participation of all community members at any time.

The benefits of open-access echo through out my ideals and all the functions of public discourse. Central to the benefits of complete access is that no person with constructive ideas and valuable insight is blocked from contributing to the progress of the community (Stiglitz). By restricting access to the discourse, a technology also restricts the diversity of perspectives that are necessary to approach the ideal of objective information and constructive debate. Let us now take a closer look at this primary public communication ideal by discussing both access to reception and access to transmission on their own terms. As well, I will give details about indirect access through representation.

Access to Reception

Access to reception is necessary for the imparting of messages to all community members. Limits of access to communication reception creates class distinctions based on information, which some have dubbed the “information-rich” versus the “information-poor” (Garnham 362). According to marxist theory, such a situation can lead to class conflict and exploitation of the less informed. Common barriers to reception are scarcity, the high cost of reception technology, and uncomplimentary

languages, (such as illiteracy, different spoken dialects, or the physical inability to receive the language transmitted, e.g. radio to a deaf person, posters to a blind person).

Access to Transmission

Access to the transmission of communication is most necessary to sustain interactivity, which is a central quality of discourse. Without complete access to transmission, public discourse cannot support the functions of debating and the realization of public opinion. Public freedom requires a "two-way flow of information, for free exchange, for access and participation..." (UNESCO 12).

Without access to transmission there is no direct public interaction. To be a public discourse the communication must represent the full range of views and interests the public holds (Randall 3).

Barriers to transmission are widespread. The most common challenge is the relative scarcity of communication space available compared to the large amount of community members. For example: only a tiny minority of people have continual access to broadcasting or daily publishing. Other common barriers include the difficulty and expense of creating and distributing modern media content. For example: a general advertising campaign within a major city can cost in the millions.

Representation Accessibility

If direct access is not possible, we must then judge the indirect access provided by representation. Since many technologies cannot support direct contributions by all community members, elite communication representatives act on other member's behalf. For instance, journalists, lobby groups, politicians, and PR firms all communicate on behalf of larger sections of modern society. **The ideal communication technology would allow for complete and fair access of representative contributions where direct contributions are not possible.**

Where representation is part of the public discourse system, the representatives must be transparent

and accountable to their section the public (Curren 69). The more independent the representatives are from their constituents, the less public the discourse becomes. **Ideal representatives would be directly responsive to their constituents concerns and interests.**

FREE SPEECH

Freedom of speech means people can communicate anything they please. It is, in essence, the elimination of censorship. By definition, censorship is the “removal or suppression” of what is considered “objectionable” (American Heritage Dictionary). But deciding what is objectionable and what is vital are relative and subjective choices. This means that that any form of censorship is an act of removing what could be potentially important content to some community members. For example: what some consider art, others consider pornography; considering evolution, what some consider blasphemous many consider scientifically proved reality. Censorship can lead to ignorance and social regressive. **An ideal public discourse technology will not limit participants in what they can communicate.**

The classic liberal theorist, John Stuart Mill, further explains the value of free speech:

But the peculiar evil of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error. (Mill, John Stuart ch II, p1)

In other words, it is better to contemplate a poor idea then to miss an intelligent one.

Freedom of speech is related to the concept of accessibility. Just as barriers to communication technology limit opportunities for positive contributions so does censorship limit opportunities for positive contributions. Although related, free speech is different than accessibility: one is a barrier to access, the other is a barrier to messages. It is possible for everyone to have access to a communication technology, but not be able to communicate what they want. For instance, within a corporate community computer network, any employee may have access to send and receive messages, but they are monitored and restricted from certain kinds of communication, (commonly pornographic or slanderous). Free speech means that any and all messages can pass through the communications system.

To clarify, free speech does not mean that all messages entered in to the discourse will be received. Participants should of course have the option to avoid receiving some messages, if they so choose. No one should be forced to listen to everything everyone else has to say. Free speech only insists that no one should be restricted from submitting any kind of messages to the discourse. To use a metaphor, if public discourse were a potluck dinner, everyone should be invited to contribute as much food as they want, but that does not mean anyone has to eat the day old casserole or the green jelly salad.

Free speech is often associated with the free press (Stiglitz). It is assumed that by allowing a communications system (e.g. the press) to act independent of the government, it will automatically support free speech. (This theory will be disputed in the sections concerning ownership and the failings of the free-market). But free speech is much more complicated than just protection from an

oppressive government.

The international organization known as Article 19 (named after the "freedom of expression" clause in the Declaration of Human Rights) lists a wide variety of censorship methods: "Press Laws, Licensing of Journalists, Attacks and Restrictions on Journalists, Censorship of Materials, Media

Concentration, Closure of Media Outlets, Economic Pressures, Restrictions on Equipment and Materials, Restrictions on Access to Information, Self-Regulation, Restrictions on Freedom of Assembly and Association, Banning of Individuals, and Illiteracy" (world report / Article 19).

To better understand how free speech is restricted, I have created a 2 x 2 censorship chart. As it shows, censorship can be a result of an external force or the system of communication itself, and can occur within one's self or in the transmission. I will now explain each of these quarters in detail.

CENSORSHIP METHODS	Caused by an external force	Caused by the 'system'
Inside oneself	Self Censorship caused by External pressure	Self Censorship caused by Internal forces
In the transmission	External action (traditional censorship)	Transmission Editing

External forces

This is the traditional idea of censorship associated to the United States of America's "Freedom of Speech" First Amendment. It is censorship caused directly or indirectly by forces outside of the communication system. It is the pressure and actions of powerful persons and organizations that limit the free exchange of ideas. This form of censorship can occur at two distinct stages: within the system of one's self and within a communication technology.

SELF CENSORSHIP CAUSED BY EXTERNAL PRESSURE

Self-imposed censorship is when a person chooses to restrict the messages they release to the public. It is the editing that occurs in-between what one thinks and what one communicates. Self censorship may seem acceptable at all levels since it is performed internally, but it becomes less acceptable when the communicator is forced to censor what she or he releases based on fear of external repercussions. This is censorship through intimidation. Intimidation can exist in a wide variety of forms such as threats of ostracism, unemployment, imprisonment or even violence. For example: an employee at a large company may fear announcing unfair hiring practices for fear of losing her or his job; a repressive government may threaten journalist not to report on certain issues or face a penalty, and so they do not. Since this form of censorship is external to the communication technology, it is not my responsibility to discuss it to any depth within this paper. But it should be recognized that this is a very real method for reducing one's freedom of speech, and thus it does severally affect the quality of public discourse.

EXTERNAL ACTION (TRADITIONAL CENSORSHIP)

This is censorship that occurs as a result of a block in transmission by a party outside of the communication system. Examples of such external suppression include the closing of communication channels and the banning of publications. Authoritarian governments are often sighted as the worst perpetrators of such acts against freedom of speech. For example: the book burnings conducted by the NAZI party in the mid 20th century; or the current closing of some web portals by the Chinese government. Concerning the potential of different communication technologies, it is important to recognize how resilient a technology is against the this form of censorship. **An ideal public discourse technology could not be censored by external forces.**

Within the System

This is the removal or suppression of messages as a result of the communication system itself.

This is censorship that occurs because of the physical and institutional structure and limitations of the communications system. Again there are two distinct stages where this form of censorship can occur: within the system of one's self and within a communications technology.

SELF CENSORSHIP CAUSED BY INTERNAL FORCES

This is the selection of messages that express one's thoughts and intentions to others. The selection process is mostly driven by one's beliefs, opinions and personality. This form of censorship is quite tolerable and even necessary since the choices are made in order for one to communicate effectively and we cannot be expected to publicize all of our thoughts. But this internal censorship may also be affected by one's performance capabilities, which is related to one's psychological and physical make-up. As described in the accessibility ideal, the greatest of efforts should be made to design the communication technology to compliment all community members' abilities. In light of internal barriers I will supplement this ideal with the following: **An ideal public discourse technology will provide communication methods that are most complimentary to individuals psychological and physical communication challenges.** But this can only go so far. Some personal barriers such as extreme shyness or total paralysis can not be overcome by a technology. In general, I would recommend that every individual do his or her best to improve their communications ability so that this form of censorship is mostly voluntary, rather than the result of a personal challenge.

TRANSMISSION EDITING

In terms of critiquing the potential for a communication technology to support public discourse, this is the most important kind of possible censorship. This is the removal or suppression of

messages as a result of the nature of a communications technology. Internal transmission censorship occurs whenever the work of a content creator (writers, interviewees, artists, designers, producers, etc) is altered or eliminated by a force from within the communications technology. This can be a result of the physical instruments acting in a manner not expected by the content creator, (e.g. a TV camera malfunctioning, a newspaper deliverer being sick, a faulty radio antenna, etc.) but more often as an act by an institutional figure known as the editor.

The editor is a person chooses what contributions to exclude, what sections to remove or change and what topics to avoid. Editing is a very common element of mass media systems and it denies individuals the freedom to contribute all of their ideas to the public discourse. For example: when an interviewee finds out their 10 minute interview has been reduced to an eight second sound bite; when a long letter to the editor is reduced to a few sentences; when a script writer finds their masterpiece has been severally changed to meet the interests of a program producer; or when a magazine article never makes it to press. In any case, they may be aware that the editor does exist and will affect their submitted work, but if it does not suite their taste, I would still define it as transmission censorship. **+An ideal public discourse technology would not edit content beyond the author's desires.**

Unlimited Capacity of Discussion

Another way to look at freedom of speech is that it allows for an unlimited capacity for discussion. Participants are not limited in what they wish to discuss or how much they wish to discuss it. There is great value in an infinite potential for breadth of possible topics and depth of analysis. As described by Noam Chomsky, concision reduces a community's ability to understand new and complex ideas. As it will be discussed later for the ideal of information quality, an infinite diversity of

topics and perspectives means greater objectivity and increased chance of important and valuable contributions. Even redundant messages can be valuable in their ability to represent the popularity of certain ideas. **An ideal public discourse technology will not limit the depth, breadth or redundancy of potential discussion.**

With unlimited capacity there is no reason to eliminate any older messages from the discourse. Censorship over time is still censorship. In other words, no recorded communication should ever be disposed of or taken out of the public's access. Community members should always have the option of receiving older messages and reviewing what has been communicated in the past. This is a very important ideal because ideas come in and out of fashion and a record of why and how decisions were made can be very useful. The recording of discourse makes it much easier to hold people accountable and to understand the trends and history of a community. **+An ideal public discourse will retain all of the communication it has supported.**

That said, quantity is not necessarily a measure of quality. Free speech does not concern how much public discourse exists, but how much could exist if it were not for censorship. If the public discourse technology was a wall, perfect freedom of speech would mean the wall would have to be infinitely long, and anything could be posted on it, and nothing would ever be removed or covered over. In effect, with ideal freedom of speech, no brilliant idea or solution to a problem would ever be lost.

CONTINUOUS (ALWAYS UP TO DATE)

Public discourse is a continuous and fluid activity that must constantly question and reestablish its conclusions to insure the best decisions are made for the relative state of the community. Topics and

issues must always change according to current community interests. New ideas must always be included and the old ones must always be questioned (Willinsky 128). All conclusions must be open to change in light of new evidence. For example: as discussed before, the outbreak of a disease can be recognized as such through public discourse, but if that discourse stops, a community may not exchange new information that would have helped them realize they had misdiagnosed the disease and different treatment is now necessary. Stagnation is an opportunity for inaccuracy and ignorance that could have been avoided. To support this: **An ideal public discourse technology will always provide the opportunity for contribution and will also make that contribution immediately available to the public.**

CLARITY OF COMMUNICATION

By definition, communication means the transmission of a message from one person to another. Any differences between the message sent and the message received is a breakdown in communication; it is a problem of semantics and language. This can lead to misunderstanding, misinformation, poor decision-making and conflict where none should exist. +An ideal public discourse technology will promote the mutual interpretation of messages sent and received. Communication breakdown occurs when there is inconsistency in the semantics used by participants. While this is mostly a challenge to the participants to agree on the meanings of signs, technologies can affect the likelihood for the use of common meanings. For instance, typographic media use words which can be looked up in a dictionary to confirm meaning, while visual media (such as photos and paintings) mostly use ambiguous signs that do not have defined meaning and thus are more likely to lead to breakdowns in communication (Diceman 39). The signs, expressions and terms used should always be clearly and formally defined (Capp 105) (Postman 50) **An ideal public discourse technology will use signs with published meanings to encourage mutual interpretations.**

As discussed throughout this paper, public discourse is a two-way, interactive activity. But along with facilitating a discussion, two-way communication also improves clarity. Even though sending a message does not require any form of response from the audience, feedback can provide clues to how accurately the receivers understood the message (Diceman 28). For instance, by nodding a listener can show approval and comprehension, and by cocking one's eyebrows, one can silently show confusion. Through feedback, message senders can understand what others have received and what they think. From this communication they can make informed decisions about how to construct further messages for improved communication clarity. **An ideal public discourse technology will provide techniques for easy, efficient, useful and accurate feedback from message recipients to the content producers.** Through these and other language techniques, communication clarity can be greatly improved thus making public discourse more constructive for community benefit.

INFORMATION QUALITY

The many pragmatic functions of public discourse require an exchange of information. This information is what provides the knowledge for effective and informed decision making, and thus it is vital that the information be of the highest quality. The absolute quality of a piece of information is dependent on its relationship to reality (Chun 9). The closer our information comes to representing reality, the more we can understand and have knowledge of our factual situation. Philosophically speaking, to perfectly represent reality, information requires 1) infinite depth and breadth, 2) complete accuracy and 3) total objectivity.

As described in the section on freedom of speech, I have already stipulated that ideal public discourse technology will not limit what can be discussed or to what depth it can be discussed.

Thus I have already dealt with the first philosophical requirement for information to represent reality.

The second and third requirements of complete accuracy and total objectivity are obviously impossible. The information available within any discourse is reliant on what participants submit, and humans cannot be completely accurate or objective. But that does not mean it is worth the effort. Every step towards accuracy and objectivity will improve our understanding and knowledge of the world, and so we must continue to attempt to achieve these impossible ideals. **+An ideal discourse technology will promote accuracy and objectivity in the information that it communicates.**

Bellow I will describe several methodologies that an ideal public discourse technology would employ to promote information quality.

Accuracy of Information

By accuracy I mean that quality information should be factual, free from error and exact to scientific standards. Accuracy and reliability of information is best judged by those with an expert and authoritative understanding of the subject matter and research related to the information (Chun 10). Of course, the idea of whether "facts" can actually exist is another philosophical argument in itself, but since this is a discussion of ideals and not practice, such a philosophical argument does not need to take place here. The point here is to improve accuracy by drawing on what ever knowledge is available concerning the issue at hand. For example: accredited statisticians should specify the quality of a survey or poll; professional nutritionists should qualify statements concerning the claimed health value of a food product; and historians should attest to the validity of a historical reference. **+An ideal public discourse technology will employ the skills of experts to recognize and explain what information is of the greatest accuracy.**

In order for the experts to make any useful judgment of the accuracy (i.e. authenticity and quality of research methods) of any information, they will require the supporting documentation concerning the research and sources of information (Diceman 29). **+An ideal public discourse technology will provide direct access to the documented original sources of any information.**

To reduce the reliance on scarce and sometimes biased experts, the technology should also allow any participant to judge the source material of any information. For the average person's judgment to be of any value they must become enlightened with expert knowledge. Although most of this enlightening would probably have to come from a formal education (see the section of community education) it could also be done, in part, through the public discourse. **+An ideal public discourse technology will publish the basic expert knowledge required to judge the accuracy of a piece of information in direct relationship to the information being discussed.**

Objectivity(Diversity of perspectives)

Objectivity is defined as a judgment that is A) "Uninfluenced by emotions or personal prejudices" or B) based on fact (American Heritage Dictionary). The second definition has already been dealt with concerning accuracy, but it is this first definition that is the challenge. I will concede that objectivity is an unattainable ideal. There is no person to live that is not influenced at some level by their life experiences and biological make-up; after all that is what makes each of us original. As James Curren argues in reference to modern journalism, 'there is no such thing as objectivity'. Even with facts that are accurate, there is bias in what is chosen to be researched in the first place (Rose 24). **An ideal public discourse technology will not claim to be objective.**

Now that I have dismissed disinterested objectivity as impossible it may seem there is no use even trying to be objective. On the contrary, objectivity is an ideal well worth working towards. Since the study of a subject is biased by each individual's perspective, I would suggest giving every perspective the opportunity to be recognized. Instead of trying to eliminate bias (which is impossible,) we should attempt to balance bias by giving all biases an opportunity, thus giving the subject a more depth and complete discussion (Diceman 27). "Multiple perspectives undoubtedly enrich the conversation about issues" (Martin 208). For example: a discussion of cigarettes could include the perspective of smokers, non-smokers, ex-smokers, doctors, tobacco companies, children, and tobacco farmers. Every topic should be discussed according to a diversity of values and perspectives (Willinsky 144) with special effort to include dissenting voices to balance against those that have been traditionally most dominant (Curran 102). +An ideal public discourse technology will promote a complete diversity of perspectives on every issue.

DEBATE CONSTRUCTIVENESS

As discussed in the sections concerning the functions of public discourse, debating is one of the most important activities that a public discourse technology can sustain. Debating provides a method for finding solutions to problems, for making decisions and imparting insight into complex issues. But this is not to say that any form of debating will lead to actual knowledge. Often public debates (especially those that are televised) may be nothing but a competition of presentation. Arguments may be "won" with psychologically persuasive techniques such as elegant speech and confident posture, but these tactics are not the foundations of knowledge. I have titled this section of ideals "Debate Constructiveness" to specify debating that is beneficial for the community. Debating not as a method of convincing others, but as a process for drawing out knowledge, wisdom and educated consensus for decision making. The aim for constructive debates is truth, not persuasion. +An ideal

public discourse technology will promote constructive debating that is effective and socially progressive.

The most basic necessities for public debating have already been presented within the other ideals already discussed. Freedom of speech and open access are a good start to creating a potential debate situation. One of the principles of intelligent argumentation is checking the validity of evidence (Capp 114), as described in *information quality*. But it is still necessary to present further specific ideals. For instance, what if differing messages are presented in such a way that they are not allowed to conflict? For example: presenting opposing ideas about immigration by different people in different mediums at different times is not a productive way of encouraging critical debate. Debate must be promoted by creating situations where contending arguments can be weighed directly against each other (Willinsky 144). **+An ideal public discourse technology will present conflicting arguments in relation to each other to encourage critical debate.**

The essential quality debating is the interaction between contending messages. Debating is a strict form of arguing that not only requires conflicting messages to be presented in relation to each other, but it also necessitates that participants have the ability to interact and respond directly to each other's messages. Debates may be started and are surely progressed by the direct responses participants present to defend their arguments and to contest other's. Any barriers to this direct interaction of messages is a barrier to constructive debate. **An ideal public discourse technology will allow any participant to respond directly and easily to any message presented.**

Below I will give further details of how a technology can structure debates to focus on drawing out knowledge, wisdom and forming educated consensus for effective decision-making that benefits the community.

Logic and Reason

The purpose of public debates, as described in this paper, is to draw out knowledge and to make productive decisions for the community. The ideas that come out on top from such a debate should be the most sound and intelligent. As described by Habermas, debates should be "rational" (O Baoill) and there should be a requirement of reason to assert rightness (McCarthy 57). Techniques should be used to reduce the influence of factors that are not related to the body of the arguments. The only things that should be considered are the information and ideas being presented. **+An ideal public discourse technology will promote the rewarding of reason and fact over other persuasive factors.**

Debating is a special kind of discourse that is more formal and often has specific goals. To satisfy the need for promoting logic and reason it may sometimes be necessary to abandon the ideal of complete free speech. Restrictions placed upon debaters may reduce their ability to communicate what they want, but such restrictions may be required for them to compete fairly. Debate regulations are like rules to sport: they are designed to promote fair competition so that the best side wins. Free speech is a very important ideal, but it may need to be sacrificed at times for the greater good of the community; the question is when and to what degree. This itself may be an issue for debate.

Beyond that, I will only suggest that debate systems primarily be designed not to handicap those with communication advantages, but to raise the level of ability for those who are disadvantaged.

EQUAL OPPORTUNITY

Since most debates are not simply based on objective facts, there is most commonly a need for weighing of conflicting arguments. To arise with the most reasonable conclusion, each argument must be given equal opportunity. By opportunity I mean the chance to be fully presented. This does not necessarily mean equal time and space. For instance, if one side of an argument requires the use of long words to make its point, it is unfair to give all sides equal writing space, since the long word side

would not be able fit as many statements in the space provided. The answer to this challenge is to make the best effort to give fair access to debating resources and to provide a forum for creating consensus on what is fair access in relation to the participant's requests. **An ideal public discourse technology will promote fair and equal access to debating resources.**

ELLIMINATING DESTRCTIONS FROM REASON

To promote the rewarding of reason the communications technology must facilitate the recognition of what is logical and the avoidance of what is inconsequential to the topic being debated.

Participants must be able to easily compare the ideas being presented without being distracted by differences in presentation (Diceman 41). In other words, things like public speaking talent and impressive esthetics should not have any affect on the debate. **+An ideal public discourse technology will allow participants to avoid unnecessary presentation form and style differences between arguments within a debate.**

Another common distraction from reason is the status of those presenting an argument. As again defined by Habermas, an ideal debate requires a "disregard of rank" (Lee 1). Although the status of an individual or group can be a helpful heuristic for making quick judgments concerning the validity of an argument, it cannot replace in-depth analysis. High status does not guarantee correctness, nor does low status discount the possibility of being right. **+An ideal public discourse technology will promote the analysis of messages for their own merit, not that of the authors.**

RECOGNITION OF LOGIC

Even if each argument is given fair resources and even if distractions from reason are eliminated, there is still no guarantee that participants will use logic to decide the conclusion of a debate. In truth, there is no guarantee for ensuring that logic and reason prevail. As always, the system is

dependant on the participants. Ideally, all participants should be able to recognize breaks in logic. While such high hopes are mostly reliant on the education of the community, (see the section on education) the communications technology can assist by facilitating the logical structuring of arguments to help participants analyze the logical strength of arguments. By allowing debate participants to submit their arguments within clearly defined logical structures (possibly similar to a flow chart or mathematic equation) others can more easily judge the continuity of the arguments.

+An ideal public discourse technology would employ methods of making the strengths and weaknesses of arguments most apparent. This could also include analysis by experts in logic and the subject of debate, but again this would require a balancing of such persons as debate resources.

Productive decision making for public benefit.

Debating is a useful technique for many kinds of conflict resolution, but here we are only interested in the use of debating for public bene fit. Arguments concerning personal opinion, abstract ideas, purely academic studies or conceptual philosophy are not at the center of a communities practical needs and goals. I am not suggesting that we do not allow such debates to occur, only that we must establish techniques for restricting and modifying some debates for purely practical community purposes. In terms of the pragmatic functions of public discourse, debating needs to be restricted to a dialogue that can lead to applicable decisions. **An ideal public discourse technology will promote productive decision making in relation to community needs.**

To ensure they are constructive for their community, debates must be founded in and guided by accepted and defined common community philosophical and social values (Chun 63). As once stated by Albert Einstein: "If there is agreement on certain goals and values, one can argue rationally about the means by which these objectives may be attained" (Kruger 63). Examples of such established values in some communities are the Christian Ten Commandments, the Universal Declaration of Human Rights,

the American Constitution and the Canadian Charter of Rights and Freedoms. This can also include cultural goals and imperatives, such as the preservation of tradition and history. **An ideal public discourse will always provide the established community goals and values in relation to what is being debating.**

Constructive debates also lead to practical conclusions. Theory may be used within constructive debates, but when the greater goals relate to actions that must be taken, then the debate must provide practical suggestions (Kruger 64). The community's goals that drive the debate must always be kept in mind. For instance, if the goal for a debate is to decide what is the best way to feed the children it is not constructive to spend days debating while the children starve. According to Herbert Simon's models of bounded rationality, there must be a "'satisfying' strategy" which "seeks to satisfy some pre-set goal" (O Baoill). For instance, when time is more important than consensus, the debate would be structured differently than when time is not a factor, and when factuality is more important than public opinion, more attention and energy would be put into gathering scientific data than opinion surveying. **+An ideal public discourse technology will structure a debate in relational to the practical needs it aims to serve.** Debates will be designed to solve problems and set courses of actions within the limits of the available resources, including time, funding, people and knowledge.

USABILITY

Usability is a term from the lexicon of computer programming. Usability means "...the effectiveness, efficiency, and satisfaction with which users can achieve tasks in a particular environment of a product. High usability means a system is: easy to learn and remember; efficient, visually pleasing and fun to use; and quick to recover from errors" (Howe). In terms of public discourse technology, usability is a measure of how efficient the system is at achieving users' public

communication goals. **+An ideal public discourse technology will have the highest usability.**

Usability is a very relative attribute that has everything to do with designing the technology around the user (Atherton 121). The technology should behave in predictable ways that the user expects and can interact with most effectively (Chun 13). Users should feel confident with the technology, knowing they can use it to achieve their goals.

A general requirement for a communications technology to be usable is effective user control. Users must be able to alter attributes of the technology to maximize how and what they communicate and learn. Users must feel like they are driving the experience. One should be able to decide what, when, how and at what pace they wish to interpret and contribute to the exchange of community messages.

An ideal public discourse technology will empower a user with complete control of how they interact with the exchange of community messages.

Also under the umbrella of usability is speed of communication (Atherton 126). This includes how fast messages can be transmitted and how quickly they can be interpreted. While it is easy to delay a communication, the challenge is often in speeding it up. **+An ideal public discourse technology will be the quickest at transmitting a message and will promote efficient interpretation**

Since public discourse is concerning the exchange of information between participants, the method for improving usability is effective {information design and architecture}. As defined by Robert E. Horn, the self asserted inventor of modern Structured Writing, "the objectives of information design are:" 1. To develop documents that are comprehensible, rapidly and accurately retrievable, and easy to translate into effective action. 2. To design interactions with equipment that are easy, natural, and

as pleasant as possible." (Horn 15). Information architecture is the designing of how information is organized. Both terms relate to texts (ie self contained collections of messages) and the principles of structuring and presenting information in manner that is most complimentary to a users goals. The difference is that information architecture is more likely to refer to the organizing of texts, while information design is more concerned with the interpretation of the texts themselves. **+An ideal public discourse technology will employ the highest of information design and architecture.** Users will be able to achieve all the functions of public discourse with greatest of efficiency and ease.

Efficiency finding content of interest and importance

One of the central tasks for users of a public discourse technology is the finding of important information. To be more specific, participants need to be able to find content that is relevant to their needs and the needs of their community. With such a vast amount of information available in a successful public discourse system, community members must be provided with an effective method for sorting through and finding messages that are important to them. As John Willinsky explains, there is a need not just for freedom of "reasonable access but to freedom from incomprehensibility" (9). For example: a library with a computer catalogue system is exponentially more usable than a pile of unlabeled books. **+An ideal public discourse technology will allow users to efficiently find messages that are relevant to their lives and their community.**

To judge how effectively a technology allows users to find relevant information, we need to define the term "relevant". Relevancy is subjective depending on human judgment and not inherent characteristics of information (Chun 10). Information science technically defines relevant information as "...information whose subject matter matches that of a query" (Chun 3). Queries can be less technically described as "requests". In the case of public discourse technology a request could be user defined or community defined. That is to say one could search by what one thinks is interesting and

important, or by what the community thinks is interesting and important.

Therefore relevant message finding in a public discourse system can be broken down into two types:

1. The ability to find content relating to a personal request, 2. the ability to find content that others have suggested is valuable community information.

SEARCH BY PERSONALIZED REQUEST

The information needs of any participant can best be met by organizing public messages according to the different characteristics of the content. Characteristics can include the topics, length, tone, format, date, author, jurisdictions and much more. Instead of guessing what a participant may think is interesting, they should be provided with a simple technique for searching through content according to multiple characteristics that are relevant to their specific interest. For example: an encyclopedia lets users search by topic characteristics; the Yellow Pages organizes listings by service characteristics. Even if an agent to the system were to do the searching for the user (like making a request to a telephone operator or tourist information booth,) information would still need to be organized by characteristics for the agent to search by.

The most important and complex characteristic to organize content by would often be that of the topics. Content should be characterized not just according to one topic, but according to any topic a piece touches on, is relevant to, and how relevant it is to that topic. As well, topics should include life situations, task descriptions, and “sense making” (Cooley 60). For example: information about eating apples could be organized under: eating fruit, nutrition, “What’s a quick and cheap healthy snack?”, junk food alternatives, etc. **+An ideal public discourse technology will employ an infinitely expansive characteristic based information searching system.**

FINDING SUGGESTED VALUABLE COMMUNITY INFORMATION.

The second type of finding relevant public information is discovering information that one did not think to look for but is highly important to one's role in the community. Through diverse public opinion surveying (see Surveying to Recognize Public Opinion) information related to issues of public concern and interest should be recognized and then publicized ahead of all else. This technique should provide participants with important information they might have overlooked. **An ideal public discourse technology will most publicize information that is of the highest importance to the community, as decided by the community.**

Understanding information

Once an important message is found, participants must be able to achieve the goal of efficient interpretation and comprehension. Content is only of value if it can be understood. Like all usability issues, this concerns the design of the content in relation to the skills and expectations of the user.

There is no one specific method that will suite the needs of all information for all communities. What I can suggest is the logical and systematic structuring of information into smaller chunks according to the needs of the community members. **An ideal public discourse technology will employ a system of structuring the information that maximizes the efficiency of comprehension for its community members.**

An excellent example of information structuring is structured writing (similar to that which is found in good text books, manuals, and some legal documents). This system uses fonts, headings, layouts and symbols to ensure "that all relevant subject matter [can be] obtained and is presented in the form the user needs". Structured writing is a method that "consists of a set of techniques for analyzing, organizing, sequencing, and displaying the various units of information" (Horn 20). This paper uses a mild form of structured writing for its presentation.

Understanding information includes understanding one's information options. A problem that will arise for users of a technology with a wide depth and large breadth of content is "information overload". Information overload is the inability to make use of all relevant information (Willinsky 155). For example: typing the word "happy" in to a web search engine will retrieve too many diverse results to be very useful; a three meter high stack of magazines is too much information to be made much sense of; and seven people giving simultaneous speeches is impossible to completely understand.

Techniques must be employed to ensure participants are not overwhelmed by the information presented by a public discourse technology. **An ideal public discourse technology will limit the presentation of information to amounts that are comprehensible and comfortable for the users.**

In some instances, the complexity of the information itself may intimidate or frustrate some community members. To help facilitate understanding for all the community, information should be presented in such a way that is intellectually accessible for the less learned, but still informative for the academic professional. This can be achieved by presenting information in multiple strata of depth and complexity. This would allow users to choose to what level they wish to pursue a subject. For example: a discussion on the topic of bridge building could go from examples of bridges, to how they are constructed, to basic mechanical physics, to intense details about modern composites and the mathematical formulas used for predicting kinetics. Subject related guidance could also be provided to assist those who are confused by a subject (Randall 3). In general, the presentation of complex content should never assume users are already comfortable with a subject. **An ideal public discourse technology will always provide the general, basic and fundamental information necessary to understand a topic.**

Comparing and Relating content to create knowledge

Even if information is efficiently found and understood, that does not mean it will lead to knowledge. Isolated facts and opinions are trivial and will not progress a community that requires complex knowledge and insight. A central goal of a public discourse technology user should be the understanding of information to gain knowledge, for that is a central function of public discourse.

An ideal public discourse technology will promote the creation of knowledge.

To create knowledge, information and ideas need to be understood in context (Willinsky 136). Participants need to be able to think about, relate, compare, discuss and judge a variety of related information to form a greater understanding (Postman 69). Information needs to be linked, consolidated and juxtaposed not only to increase ones grasp of the subject but also to "make it much easier to see what [investigation] would further clarify, resolve, test, or extend our understanding..." of the topic (Willinsky 144). **An ideal public discourse technology will present related information in close proximity.** This will allow users to easily bridge concepts and relate information to create knowledge.

Creating knowledge also means recognizing the order and patterns of information (Chun 30). For instance, ordering and relating recorded events creates knowledge about history and can allow us to recognize patterns to predict future events. To assist in such learning, the technology should be able to present information in a assortment of ways that impose or reveal order and patterns to help explain and recognize larger meanings. **An ideal public discourse technology will structure information presentations in such ways that reveals greater meanings.**

Efficient message sending

On the other side of reception usability is transmission usability. How well does the technology help the user achieve the goal of communicating with the public? This is of course related to clarity of communication (which I have already partially discussed) and efficiency. Clarity is dependent on the use of a common language, which is mostly the responsibility of the participants. Efficiency concerns the production of messages. What the technology can do is play a role in how easy it is to produce content using common languages. **+An ideal public discourse technology will assist users in the production of content based on common public languages.**

As I have already discussed, communication is based on the mutual interpretations of signs. A technology can assist in the production communicative content by providing simple and intuitive methods for reproducing common signs. For example: the typewriter has all the standard phonetic symbols (i.e. letters) available to be printed in any order by simply pressing buttons; the modern word processor can check spelling and some grammar to help promote the following of literary rules.

To compare: a pen can be used to create any kind of signs, common or not; this makes a pen much more flexible for creating graphic iconic signs, but does not promote the standard use of signs.

While clarity depends on the common use of signs, complex and original ideas may require the use of

new signs, or a new use of older signs. +An ideal public discourse technology will provide instruments to promote and assist the efficient use of standard common signs, but will not censor users from creating original signs.

Beyond clear communication it has been proven that multiple media can communicate more efficiently than a single medium (Diceman 19). This does not mean that by simply using more than one medium at a time, information will be communicated more efficiently. On the contrary, too many media can confuse people and cause them to misunderstand a message. But by creating content that uses multiple complimentary common public languages users can communicate more information in less time and with more impact. For example: the use of a graphic weather map with a voice over on TV news; the use of photos with related typography; and lectures with clearly designed slides. Each complimentary medium both reinforces and expands the potential message. **An ideal public discourse technology will facilitate the use of any combination of complimentary media.**

Surveying to discover public opinions.

To be productive a community must be aware of its public opinions, (as I stated in the first chapter, when I speak of “public opinions” I am referring to a close representation of the diverse opinions held within a community). In order for a community to organize and develop itself, it must understand the complex make-up of opinions, not just the loudest or most widely held. A public discourse technology must include and make apparent the opinions held by all the members of the community. After all, equilibrium and equality means everyone, not just the majority. For instance, the abolishment of slavery was started through the consideration of minority opinion, not majority. **An ideal public discourse technology will provide methods for collecting and publicizing a representative, accurate and objective survey of the varied public opinions.**

Over the past half century, polling has grown to become a popular method for surveying public opinion. Although useful, it can also be deceiving as the polling process has many opportunities to be skewed by unrepresentative samples, poorly executed procedures and biased questions. Accurate surveying and representing of public opinion is a difficult task that requires scientific excellence, extensive resources and extreme professionalism. The techniques of collecting and communicating public opinion should always be scrutinized by the community to ensure they are being represented accurately. **A public discourse technology will make the public opinion surveying process transparent and open to public critique.**

Which methods are actually best for surveying the public's opinions is a very difficult question to answer. Depending on how, where and what questions are asked within a survey, results can drastically vary. The only suggestion I will provide here is to survey diversely and often. Instead of relying on one or two surveys, it is better to combine, relate and compare surveys to see what common trends persist. These common trends will provide a more reliable measure than any survey in isolation. There is, of course, much more that should be discussed concerning the process and mathematics of collecting accurate and representative surveys, but I am afraid it is beyond the scope of this paper.

CONCLUSION OF THE EIGHT TECHNOLOGICAL IDEALS

This concludes my eight general ideals for a perfect public discourse technology. With these ideals as a reference, anyone can now critique a communication technology on its ability to support functional public discourse. There are more details that could always be added and particulars modified, but I do believe they cover the most important of technological variables that determine a

communication system's potential for supporting the pragmatic functions of public discourse.

In reflection, I have considered reworking the general organization and categorization of the particular ideals. For instance, usability ideals could probably be moved around and reworked. But more interestingly, I would like to further explore what is common between these many particular ideals. Things like interactivity, diversity, structuring and reason seem to relate throughout the chapter and I wonder if I could further establish more global ideals based on such ideas. But that is thought for another paper.

For the last two sections of this chapter I have included brief discussions about the need for education and entertainment to support public discourse. Although I probably could have excluded these topics from the paper, doing so would have created a weakness in the work just asking for sharp criticism. That said, I do believe these last sections do help bring to the forefront how important it is to have the technology compliment the community in all its cultural complexity.

EDUCATION OF COMMUNITY MEMBERS

There are, of course, unlimited benefits to education, but in terms of public discourse technology, people require at a bare minimum enough education to understand and have the ability to use their public discourse technology productively. They must have literacy of the languages used and knowledge of how to operate the system. As systems increase in potential, they also tend to decrease in simplicity, thus requiring increased user education to make use of the systems. If we compare a photo, to a print magazine, to the Internet, it becomes obvious that as communications technology becomes more complex, they typically requires more skills from the user. These skills can come directly through experience and education.

Two of the most important skills required to make effective use of an ideal public discourse technology are the ability to recognize information quality and manage information quantity (Chun 27).

Users must realize that short and interesting information fragments (such as sound bites, headlines, and short articles) are of limited value. Education must teach participants to favor in-depth analysis to gain knowledge, and to reflect on this knowledge to create understanding and wisdom. They must also learn to sort through information by understanding what relates best to their topic of inquiry, and what does not. Education also serves to fulfill this need.

Beyond access, competence in effectively participating in a public debate and conversation is most necessary for fair and just democratic discourse (Venturelli 68). Even if people are included physically, they may be excluded intellectually. Competence means fluency in the common languages and terms used, the ability to express thoughts clearly and a strong grasp of logic and reasoning. It is the responsibility of the community to educate people to attain this competence so that public discourse is most productive and fair. **An ideal community will teach its citizens to be most effective users of their public discourse technologies.**

Beyond education's relationship to the use of public discourse technology, education will also supply the discourse with its most progressive content. No communication technology is of any value if no one has anything of value to communicate. Even though public discourse can inform people, it is not a most effective method for educating people so they have knowledge to share. As hundreds of years of teaching has proven, learning is a personal activity that is best served with personal discourse. Only personal education will provide the wisdom and understanding necessary for a

public discourse to be most productive for a community.

THE VALUE OF ART AND ENTERTAINMENT

Many of the ideals for a public discourse technology that I have described outline a system that is very pragmatic and structured. It might appear that I am suggesting that public discourse be restricted to only very dry, detached and efficient forms of content. But right off the top I stipulated that there must be accessibility and freedom of speech. This means that people can communicate virtually anything including that which is subjective, artistic and entertaining, (or even nonsensical for that matter. Boogedy woo woo pop?). What I want to specify here is that sometimes the most efficient method of communication is not the most effective. For instance, I may use a person's language and speak clearly and quickly, but that doesn't mean she or he will understand my meaning. Sometimes it is more effective to use stories, metaphors, similes or long drawn out and redundant explanations that go on and on to repeat the same ideas in different ways but covering the same point from only slightly different perspective but still meaning the basic same thing. Humans are not computers and thus we can understand artistic communications. Slightly abstract communication techniques can often be more effective at getting across complex messages, (especially ones people are unfamiliar with). Even though I am solely focusing on the pragmatic functions of public discourse, there are still important roles to be played by subjective content.

Some people communicate best through creative, abstract, indirect and entertaining methods. Such individuals should not be restricted in their ability to communicate their ideas within the public discourse. For example: satire, narrative, visual art, music and poetry have all been excellent sources of important ideas at different times. According to Mike Cooley, "frequently the big issues in our

society are prefigured by our poets and our artists," (Cooley 76). Subjective content can often communicate alternative perspectives and new important ideas that would be very difficult to present through formal communication. In this way, such subjective content is not presented for its intrinsic cultural value, but for its potential to provoke insight. It would do a community a disservice not to include such insightful communications within the public discourse.

Another reason why public discourse should include artistic and entertaining messages is that they can make the experience more enjoyable. Many people will not want to spend much time with a technology that is strictly functional. Even if everyone has access to the technology, it may be doomed to fail if most people find it to boring to use. There needs to be the potential for the stirring of emotions, the capturing of attention and the inspiring of creativity. Creative content and esthetic design can help make the participation experience more pleasing and thus encourage further discourse. Even the most pragmatic of public discourses could probably use a dash of the creative human spirit.

But at the same time, keep in mind that even though subjective content may enhance participation, it should refrain from detracting, distracting or inhibiting the information value of the content. The defining of what is distracting, benign or enhancing could be achieved through the system of surveying public opinion to promote that which is important over that which is merely entertaining. Those who are primarily seeking entertainment should be redirected to a more appropriate systems for that end.

Finally, even though subjective and creative content can be shared within the public discourse technology ideals that I have described, I am not suggesting that these ideals would form the best

technology for cultural development. My focus here has been on the pragmatic functions of public discourse and so I have purposefully ignored many important issues that deal with culture. I would recommend that other forms of technology be used when the goal of the public discourse is purely cultural cultivation.

CHAPTER 2 CONCLUSION

By comparing a communication technology against the described eight technological ideals (and keep in mind the two topics of education and entertainment), one now has a method for critiquing and comparing the potential of a technology to support the pragmatic functions of public discourse. Because this comparative methodology does not provided a quantitative weight for specific technological criteria, it does not lend itself to graphing or measurement. What it does do well is provide researchers specific issues and topics to address when analyzing the potential and shortcomings of a public discourse technology. Mass media critics can use these ideals to detail where a technology is not being used to its full potential and also provided developers goals to work towards when designing any new communications technologies. To prove the functionality of this methodology I will critique four modern communications technology in chapter three, and then outline a plan for a new practical and optimal public discourse technology in chapter four.

A CRITICAL ANALYSIS OF CURRENT PUBLIC DISCOURSE TECHNOLOGY

Now that I have presented a set of eight general ideals for judging the potential of a public discourse technology, it is my responsibility to apply this methodology to critique modern mass communication technologies. By doing this I will both prove the value of the methodology and provide insight into the potential for mass public discourse through contemporary technologies. But before I judge modern media's potential, I think it is important to understand its reality. The first section of this chapter will explain the relationship between media ownership and public discourse. Through this discussion of the media's shortcomings I hope to show that even if a technology does have a high potential for public discourse, ownership can affect its real world application. It must be understood that by improving ownership schemes, communication technologies will have a better chance at achieving the practical functions of public discourse.

Following this discussion of ownership models, I will critique the technical potential of four mass communication technologies. My critiques will compare the general characteristics of the mass technologies to my set of eight general public discourse technology ideals. I will attempt to describe the potential of the technology both isolated from the restrictions of current political, social and cultural systems, and but to a lesser extent, in relation to them. Through this method I will provide an outline of the technologies' potential now and in the future.

THE CONTEXT OF MEDIA OWNERSHIP AND CONTROL

The practice of public discourse through mass communications technology has often been

curtailed by those who own and control the systems of communication. Many systems never approach their public discourse potentials because those whom are in control of them have other goals in mind. For example: some governments use media to retain their power; corporations use their media to increase their profits; and powerful interest groups use their media to extend their ideological beliefs. For a whole variety of reasons media owners can and often do abuse their powers to direct the application of communications technology away from ideal public discourse and towards manipulating the public. This form of mass persuasion is commonly referred to as promotional marketing and public relations.

This section will briefly outline how current systems of ownership have retarded the progress of mass media towards effective public discourse. It will describe how state run media is often biased towards the ruling party's own interests and explain why the liberal free-market model has also failed to provide communication for the public good. This section will conclude by touching on some alternative models for media ownership that try to resolve these classic issues. Through this analysis I hope to provide explanations why there are such discrepancies between the technological potentials and the current reality of mass media.

The Failure of State media

State controlled mass media has not fulfilled its potential. By state control I mean not only direct control through law, but also indirect control through funding and the appointments of franchises and positions (Curran 47). In general, state controlled media tends to take on an elitist paternal role that censors and limits discussion. Even worse, a government concerned with maintaining power can and often does use its systems of mass communication to curve public opinion to its favor.

The western European tradition of state controlled broadcasting has created some programming of

exceptional quality and cultural value, but lacks in diversity of representation and expanse of discussion. With the average socialist nation using only a handful of broadcasting channels to meet the needs of a diverse population, the ideas presented tend to represent only the general and average perspective, thus censoring the extreme viewpoints. As well, it is often those within elite institutions, rather than public opinions, that determine what is important and given prominence. The media elite take on a paternal role by deciding what public discourse should be, rather than letting it organically drive itself through open discussion and debate or basing it on accurately surveyed public interests.

Another barrier to the success of state run media for supporting the pragmatic functions of public discourse is the popular amount of time and funding directed towards cultural products. This is not to say that artistic and entertaining productions have no value, but that when resources are limited, that which is given to purely cultural activities is lost to the pragmatic ones. Every sitcom, drama, biography, game show, musical, cartoon, or any other form of pure fiction and entertainment uses up state resources that could have been directed toward expanding and supporting the public discourse for practical social functions.

If we look to the far East we see that communist states have a long and strong history of restricting public communication to maintain the status quo. Political, institutional and even militant powers have created phenomenal barriers to access and free speech. Despotism rulers have used the media to blind the public to the reality of their situation and to legitimize their status. The highly restrained and controlled autocratic model of state media is the opposite of effective public discourse.

The Failure of the Commercial Free-Market

In reaction to the general autocratic experience, liberal societies established independent media free

of direct government control. By allowing the media to act independently of government, it was assumed that the media would provide a necessary check on the abuse of government power (Stiglitz). According to the Universal Declaration of Human Rights: "the establishment, maintenance and fostering of an independent, pluralistic and free press is essential to the development and maintenance of democracy in a nation, and for economic development" (UN). But in the more recent Windhoek Declaration, the UN also specified that independence not only means freedom from government and political powers, but also independence from "economic control" (UN). This second declaration acknowledges the fierce restrictions capitalistic ownership can also have on a communications technology. In this section I will try to summarize the popular critiques of the free-market's effect on public discourse.

Before I critique the many problems with free-market media systems, I will concede some of the positive effects: capital driven media ownership does tend to produce great amounts of content and often of very high production value. Competition drives the quality of production and a large profitable market promotes content quantity. As well, compared to authoritarian state owned media, the free market provides a much larger diversity of perspectives. That said, the free-market communications model is designed to serve the interests of profits, not people, and for this reason has proven to fall short in providing a progressive public discourse.

The main problem with capitalistic ownership is that it depends on the free-market. The free-market rewards activities that are profitable above all else. It aims to act independently of social, environmental or personal concerns. A business within an unregulated free-market may be forced by competition to make decisions that are not in the better interest of humanity. For proof of this one

only needs to look at the results of labor conditions in unregulated and highly competitive markets such as those in the free-trade zones in Indonesia, China, Mexico, Vietnam, the Philippines and elsewhere. Without enforcement of reasonable labor standards, such locations are the homes of extreme worker exploitation (see Naomi Klein and others). For another example we can look to the need for environmental regulation to keep businesses from destroying our habitat. Being "green" is very expensive and thus usually not a profitable strategy for most businesses in a free-market economy. When it comes to mass communication, media owners within a free-market compete for audience, and seductive and stimulating entertainment will almost always gain a larger audience than in-depth quality public discourse. To summarize: there is most often no financial reason for a media company to sustain an effective public discourse, and so as a result the most successful ones often do not even try.

What a successful free-market media company does encourage is the consumption of commodities (Curran 97). Horkheimer and Adorno of the Frankfurt School described in 1960 that media driven by the laws of free market capitalism, are designed with the single purpose of turning the audience into willing consumers (Negt x). Content is publicized not for its public value, but for its ability to draw an audience to market consumer goods and services. Commercial media is driven by the commercials, not the need to support productive public discourse.

Competition for marketability causes commercial public discourse to: be mostly entertainment, lack useful information, have excessive barriers to access, have poor representation, and to reward the concentration of ownership (Martin 47). As a result, the free-market does not-encourage critical debate, the development of functional knowledge, the checking of all corporate powers, equality, or community organization. Under the free-market, media is a commodity rather than a tool for social

development. Below I will explain some the specific effects of commercial media system.

THE PRIMACY OF ENTERTAINMENT

In general, what is most marketable is that which is most stimulating and enjoyable. For this reason liberal communication markets are overwhelmingly filled with mass entertainment. This is why Neil Postman contends that "American television, ...is devoted entirely to supplying its audience with entertainment" (Postman 23). This is why Western cinemas contain a negligible amount of documentaries. This is why tabloids are so popular. This is why best-seller books tend to be fiction and biographies. Compared to sensational, funny, romantic and dramatic stories and visuals, functional public discourse is boring, and boring does not sell very well on the open competitive commercial market.

CONCENTRATION OF OWNERSHIP

It is usually a smart business decision for a wealthy owner to acquire profitable businesses. Those who make lots of money buy other companies to make even more money. This elementary logic is a main reason why the modern media systems have intensely concentrated ownership. An extreme example is in North America where almost all of the vast amount of media is owned by only a handful of players¹. Companies like Disney, AOL, Viacom, AT&T and News Corp. have a practical oligopoly over public discourse in the USA. Internationally, only five major news agencies, Associated Press, United Press International, Reuters, Agence France Presse and TASS, account for most of the gathering and dissemination of world news (world report 425). As owners acquire more and more media companies they can begin sharing content among their networks, affiliates, publications and websites, and thus can save millions in productions costs, which in turn promotes further

consolidation.

Consolidation of ownership and sharing of content creates less variety in the content and less diversity in the perspectives (Curran 47). As described in a world report by the international Article 19 organization: "The possible dangers of concentration of [media] ownership are that a narrower range of opinions may be available to the public, that those opinions may reflect proprietary interests, that journalistic values may be compromised by commercial interests and that general standards might fall in the absence of competition. At greatest risk is the level, range and quality of debate on issues of public concern" (423). Concentration of ownership also creates structures of great power that can go unchecked by the media they own.

ECCONOMIC BARRIERS TO ACCESS/POOR REPRESENTATION

Commercial media is very expensive to produce, and even more expensive to distribute. The concentrated private ownership of mass media production facilities and distribution channels means only those with enormous sums of capital can attempt to contribute to the public discourse in any meaningful way (Curran 93). The only other option is to enter is as an employee at which time you give up your own perspective to suite the needs of your employer. Private owners also commonly requires a fee for access to much of the high end discourse reception: news wires, magazines, books, cable/satellite TV, and high-speed internet all cost money that not everyone can afford to spend (Negt 145). Thus commercial media lacks accessibility both to transmission and, but to a less extent, reception.

¹ <http://www.cjr.org/owners/> If one goes through the list of official assets, partnerships and alliances of the major media companies, one will find literally thousands of major north american and international TV stations and networks, magazines, Internet portals, theatres, newspapers, book publishers and radio stations are all owned by only 40 companies.

The modern liberal argument claims that even if people do not have access to contributing to the public discourse, their interests are represented through the process of supply and demand. But the media systems are not representative (Curran 38). The lack of diversity in options (again caused by media consolidation) means that consumers have little to no choice of how they can 'vote with their dollar'.

It is more profitable to produce content for the lowest common denominator rather than trying to serve the individual interests and needs of a diverse community (Curran 93). So instead of paying for a large number of different articles covering many topics, the media tends to concentrate on only a few issues that will capture the interest of as many as possible; this is the function of the commercial news wire. In general, editorial decisions are made not by what represents the market best, but by which content will attract the largest and wealthiest audience (either to pay for content or to sell to advertisers).

Some might sight the plethora of choices within the magazine market to argue that the free market encourages diversity. To this I contend that yes, there is a tendency for free-markets to encourage a diversity of channels and publications to satisfy diverse profitable markets. But to maximize on marketability these differences of perspective are away from each other fragmented, and thus not supporting effective debate. Described as "Niche marketing" profitable target communities are provided with information specific to their perspectives and interests. While such fragmentation is effective for providing information within a defined interest community, it tends to reduce diversity of perspective within that community and reduce the commonality of discourse within the larger more general public. "Narrow-casting" and "niche marketing" is a fragmentation trend towards small group discourse, not representation within a productive public discourse.

POPULAR USE OF PERSUASION

One of the foundations of commercial media is paid advertising and public relations (PR). A large portion of almost every commercial newspaper, magazine, TV program, radio broadcast, or website is paid advertising. By its nature, every advertisement is a form of persuasion trying to manipulate its receiver into changing their perception. Even worse than advertising is PR content that appears to be legitimate content but is in fact a biased press release created by highly skilled PR professionals designed to change people's perception in favor of their client. Many commercial news outlets use PR material because it is free, thus saving the company production costs. Other than public service announcements, advertising and public relations are just promotional marketing content that only aim to persuade for private gain. Promotions lack objectivity, diversity of perspectives, depth, community representation and are of questionable information accuracy. Paid promotions are a large and integral part of free and affordable commercial media, but they are not a form of productive public discourse and they may even distract from any that does take place. (For more discussion on the topic of marketing promotions and how it is unethical and unnecessary, please see my reports on the subject in: www.jasondiceman.com/reports)

THE LACK OF USEFUL QUALITY INFORMATION

Under the traditional free-market model of mass communication, it is assumed that there will be a competition of diverse ideas with truth always coming out on top. But because private media owners are only interested in profit, they avoid the expense of diverse, and in-depth research that is required to produce quality information, especially since it may not even sell well. Commercial media owners, guided by their audience ratings, do not really care what kind of information people are getting, as long as they keep watching.

The belief that truth will always prevail is based on the assumption that a critical debate will be sustained (Curran 97). Yet without direct comparisons of diverse perspectives, there is no debate. Considering the free-market, it is more cost effective to cover an issue only superficially and with a minimum number of paid contributors, then to provide a diverse competition of critical ideas. Popularly, commercial news tends to focus on entertaining and relatively cheap shallow information that could better be described as trivia, then public discourse. The free-market does not encourage constructive debate that can lead to insight and community progress.

Importance in commercial media is announced through placement at top of the newscast, front page, cover story, etc. But what is used in these prominent locations is rarely of community or even personal importance. What is chosen for these placements is what editors think will best sell the production, not what people need to know. Useful information is usually very local, personal, and specific to one's interests and situation. In commercial terms, the more specific content is, the less mass marketable it becomes. The cost to sales ratio of providing specific useful information is too low to make it worthwhile for large media corporations. It is much more profitable to provide mass unrepresentative entertaining content. Commercial media promotes content based on public fascination, not public importance.

OWNERSHIP OF MESSAGES RESTRICTS PUBLIC DISCOURSE

Finally, commercial media is based on the ownership of messages. Those who own the images, the articles, the sounds and the graphics can decide who can receive and distribute their specific messages. Usually access to these messages requires a payment at some level. It is this vary idea of profiting from discourse that is antithetical to social progress. Limiting access to communication according to who can pay is a fabricated barrier to community development. Freedom of

information is a central human right (as described by the United Nations), yet concepts such as copyright and license fees restrict the flow of information to only those that can afford it, (if it is even made available at all). I am not saying that the creators of valuable content should not be recognized and rewarded; but only that alternative means need to be found to ensure that important information is not restricted by who owns it. For example: if a child was dying of a curable disease, anyone would most likely prefer the information of how to treat that disease to be freely accessible, rather than withheld in anticipation for a higher bidder. But when people own communication they can choose for whom such important messages are accessible and for whom they are not. The ownership of communication is a shortsighted practice that must be overcome if our society is to continue to progress.

Alternative ownership models

There are other models for media ownership and control other than the commercial free-market or state control. The research of James Curren provides many examples: In Holland they use a "Mandated Market Economy" model which means airtime and facilities are allocated to groups based on membership size, so that access is provided to the most representative organizations in the nation. In Canada and even more so in Great Britain, a "Centrally controlled Market Economy" model allows broadcasting to function as a highly regulated market which includes both commercial and state. In Poland they are discussing a hybrid model that includes state, free-market and co-op sectors, and thus totally diversifying media ownership. In Sweden they use a "Regulated Market Economy" model that gives state subsidies for new press initiatives in order to "facilitate market entry and the equalization of competition" within a relatively free market.

Following the radical individualist paradigm of public space, such systems do not go far enough. It

suggests that there should be a total "disengagement of communication systems from both state and commercial control" (Venturelli 60). It is possible to achieve this kind of independence from existing structures of power by diversifying control so no sector of society can abuse the power and also by making funding a mechanical relationship to the economy (Randall 3). There is no reason why public discourse technologies have to follow traditional models of ownership and control. I have only introduced some ideas here, but there is much to say about techniques for freeing the media to be independent, representative and critical of all structures of power in our society. There is no reason why a community's media system has to employ a model of ownership that is not effective at sustaining productive public discourse.

CRITIQUES OF MASS COMMUNICATION TECHNOLOGIES

The invention of mass communication technologies has forever changed the methods by which we practice public discourse within a dispersed and mass community. The act of using these technologies is the act of publicity it self. Mass media "can be characterized as public, rapid, and transient. It is public, not private, communication," that is to say it is "...open for public oversight" (Wright 8). When using mass communication technology, the potential audience is always the entire community.

Beyond the general universal access to reception, mass communication technologies are also particular in that they are generally one-way affairs with a heavy reliance on representation for contribution. Only an elite number of individuals have access to the transmission within popular mass media. Most often there is no set structure to ensure these representatives are directly responsive to their constituents concerns (Martin 212). In other words, they talk, we listen.

If one wishes to transmit a message directly using traditional mass media, (i.e. to go around gate keepers such as editors and owners), one will come up against huge economical barriers. To reach a mass public (over 500,000) within a short period of time traditional mass communication technologies require "...a complex organization in which there is an extensive division of labor and a lot of expense" (Wright 8). If one wishes to communicate directly with the public on her or his own terms, one must own her or his own TV channel, newspaper chain, duplication plant or can afford to pay for large scale advertising services. Only extremely wealthy individuals, corporations [and government] can generally afford to gain such direct access (Curran 46). All others are restricted by the power of those who own and control the systems. Unless some form of co-op is used, direct access to the public discourse through traditional mass communication technology is restricted to only those with excessive amounts of capital.

Another common trend within the traditional mass communication technologies is the extensive use of abstract communication. To understand this one must realize that currently the only extensive, formal and common human language is verbal. Only typography and the spoken word have the popular commonality of meanings to promote mutual interpretations of complex and intellectual content. This is why important documents are always in written form, and why university professors give oral lectures. In comparison, visual images can only denote that which they present; what they connote is dependent on many subjective contexts. More simply, visuals can only show you something; they cannot explain anything that cannot be seen. The use of music is another form of abstract emotional communication and thus does not directly support the development of knowledge. That is to say, one cannot clearly communicate specific information with instrumental music. There are also other kinds of symbols such as sound effects, and solely esthetic graphics that do not clearly

communicate any information either. To further explain what I mean, try imagining how the complex ideas from chapter two could be communicated with a slide show, orchestra, light show and sound effects box: it would be impossible. The popular use of visuals, music and other abstract or meaningless symbols do not encourage knowledge or clarity of communication and can even distract participants from critical thinking (Postman 61). This means that in contemporary western communities, any communication that does not take the form of words is most likely not the content of a functional public discourse, yet this is a large part of our mass media.

Contemporarily, the overall combination of all mass communication technologies is unstructured and tends to fragment public discourse. Each channel, poster, disk, tape and publishing, communicates in relative isolation. The mass communication technologies do not encourage much relating of information between multiple sources. There is no common discourse where conflicting ideas are able to collide and promote debate. Each technology can present information in any way it chooses (Martin 210), and there is no common system for finding information of interest, (although some good libraries may come close). As a result diversity of perspectives requires participants to access many different sources. As a whole, the mass communication system fragments and scatters messages so it is difficult to build knowledge and sustain a constructive debate.

Let us now examine four general mass communication technologies in isolation: posters, the press, broadcasting and the World Wide Web. In the following sub-sections, each of these four technologies will be critiqued by their form, system and common trends of use in the modern world. I will analyze the strengths and weakness of each technology according to how close they come to approaching my eight general public discourse ideals set out in chapter two. For the sake of time I have chosen to only look at four of the many mass communication technologies. Some of the obvious omissions from my list are: the town hall, books, film, compact discs, tapes, pamphlets and non-World Wide Web Internet applications, (such UseNet, email, chat, and peer-to-peer file sharing services).

Posters

I will define Posters as static visuals within a physical public space. They are easy to make and duplicate but require physical labor to distribute, (e.g. adhere to polls, buildings, billboards, etc.). They vary in size and placement and tend to require greater resources to duplicate when increased in size. Common locations for posters are on walls and poles in populated areas.

Posters - Commonality

Commonality means all participants should be receiving common messages. To use an aphorism: we should all be on the same page. Posters do just this by literally presenting all viewers with the same page. In this way, posters are perfect for commonality within their very limited range of viewers.

Posters - Accessibility

Reception to posters is completely open but reliant on location and time. Pedestrians must be in very close vicinity to read a poster, and must have the opportunity to spend the necessary amount of time in front of the poster. Larger and higher placed posters have greater accessibility but are more difficult to create and post. The amount of people that a poster can reach is directly dependent on

the placement and amount of distribution.

Because distribution requires manual labor, posters require a great amount of resources to reach a large public, and thus accessibility to mass transmission is quite limited to those with adequate resources. The original fabrication of a small poster is very accessible - anyone can write a message on a piece of paper. Photocopying makes duplication of small posters also very accessible. But larger posters rely on more complex systems and are much more difficult to duplicate. To summarize: poster transmission accessibility is proportional to the size of the posters and the range of distribution.

Posters - Free Speech

Because posters can be fabricated, duplicated and distributed directly by a participant there is no necessary stage where censorship can occur. But as the size and duplication numbers increase, division of labor is more likely to become necessary and this can introduce the potential for censorship. Pedestrian level posters can also be susceptible to defacement and removable by any party. The potential depth and breadth of messages in poster is directly related to its size, but in general, there is a restriction of concision. Overall, posters have excellent freedom of concise speech but with no guaranteed permanence. (The legalities of placement and removal are dependent on the location and the local law).

Posters - Continuous

Once a poster is duplicated it remains static and cannot be updated without direct manual labor to each poster. The static nature of posters fixes their message to the time of duplication. For this reason, posters are a very poor technology for continuous and immediate updating.

Posters – Clarity

For ideal clarity the technology should reinforce the use of common and established languages. With posters, there is no restricting of the use of abstract and uncommon signs, (people could post ink blotches if they want to) but because it is a static visual it does support the use of typography, which in turn promotes clarity. In general, the lack of structure in posters means that clarity is entirely dependent on the authors of a poster and their use of common public languages.

Posters - Information Quality

Information quality depends on information accuracy and objectivity (i.e. diversity of perspectives). Posters do not enforce any system to promote information accuracy. They are generally authored by only one party who may totally biased and have no expertise on the subject in discussion. Messages are presented in relative isolation free from any supporting documentation or related material. There is also no system to promote the comparing of diverse perspectives to improve objectivity. Overall, the individuality of authorship and the lack of related content makes posters a poor technology for information quality.

Posters - Debate Constructiveness

The shallow depth and relative isolation of posters does not give them much debating potential. They are generally one-way forms of communication that cannot support the interactivity required for debate. It is not practical to conduct a debate by having competing parties posting messages in relation to each other in many locations. Posters are a very poor technology for supporting a debate.

Posters - Usability

Usability main concerns interactive options and user control. But users of posters have very little control over the technology. Because of the stationary and unsystematic placement of posters, user will have a hard time finding content of interest or importance and cannot move the poster to read at their leisure. There is no mechanism to assistance in message interpretation and no easy technique to

compare and relate information to generate knowledge. Posters also lack any system to realize accurate public opinion. Essentially, posters are inert and thus totally lack any usability.

Posters - Conclusion

The greatest strength of the poster system is the accessibility of message sending. Compared to other mass communications technologies the poster can be authored, fabricated, duplicated and distributed by just about anyone. But the dependence on manual labor restricts individuals to the number of posters they can post. As well, the lack of structure, interactivity, depth and the relative isolation of messages make the technology inadequate for building knowledge or conducting a debate. While the technology can be useful for sending short messages to a local community, it is not an effective public discourse technology.

The Press (Newspapers and Magazines)

By "the press" I mean daily to weekly published print media distributed through home delivery, newsstands and boxes. I may also refer to this system as newspapers and magazines. This technology contains many pages of static visuals. They often employ some form of indexing system such as page numbers and a table of contents. They are used individually but are available on mass and at relatively low costs. They are printed by large publishing plants and distributed through manual labor. Authoring, producing and distributing is a large collaborative effort among many parties and institutional figures. The content is presented as multiple self-contained and diversely authored articles.

The Press - Commonality

The commonality of the press is dependent on the diversity of publication options for the public. If there is only one local newspaper in a community (as is the case in many rural towns,) then

commonality is excellent. If there is a wide selection of options then commonality decreases. But in general, the common use of newswire content and the competitive nature of publishing, successfully limits public choices to sustain high commonality. But with this high potential for commonality, there are many other negative effects, especially concerning diversity of perspectives.

The Press - Accessibility

Access to newspaper and magazine reception is excellent. The affordability of publications, along with free access to library and used copies makes the press one of the most popular forms of mass communication around the world. But because of the highly bureaucratic system of authoring and producing, there is no direct access to transmission for the none press owner. Even those within the authoring system are restricted by those in higher authority. Only those with excessive amounts of capital can afford to publish their own newspaper or magazine, and so accessibility to direct transmission is very limited.

The press system relies on representation for transmission accessibility. But because there is no formal system for ensuring accurate representation on specific issues, the system can be described as unrepresentative. Public opinion and public interest have no formal way of affecting what is written in the articles of the press (Kuhn 23). The only options for contributing from outside the system are press releases, phone calls and letters to the editor, but there is no guarantee that what is submitted will be published or even considered.

Overall, the press is only accessible for reception. What issues are to be discussed and how they will be discussed are choices made by that of the press owner, not the public.

The Press - Free Speech

Directly related to the problems of transmission accessibility, the press system also only allows for

complete free speech of the press owner - all others are subject to editing. Although some articles are given modest depth, concision and editing are fundamental practices in all press articles that create transmission censorship. In general, the technology is too expensive to allow the average person to publish messages as they please.

The Press - Continuous

The daily press system may not be perfectly continuous, but the relatively short period between releases makes it more than adequate for the discussion of most public issues. With a dedicated staff, the press has quite reasonable continuousness for a productive public discourse.

The Press - Clarity

Because of the heavy reliance on typography and the collaborative input of trained writers, communication clarity in the press system is of very high quality. The use of abstract visuals in magazines may also be popular, but the primacy of typography maintains the overall clarity of messages presented by the technology.

The Press - Information Quality

Information quality is best judged by experts in the topic that is being discussed. The collaborative use of experts and the potential for diverse perspectives in close proximity gives the press system fantastic potential for information quality.

The Press - Debate Constructiveness

The press system has the potential to present conflicting arguments in relation to each other. The use of expert supported text and clear typographic communication also encourages the use of reason and logic (Postman 51). Unfortunately, the lack of interaction and accurate representation limits participation and does not encourage a focus on public benefits. The modern press can sustain debates between elite participants concerning topics that may or may not be of public importance.

The Press - Usability

The individual nature of hand held print media makes it very usable. Participants can control what they read, at what pace and when. They can also easily duplicate (via a photocopier), store and compare older articles to new ones (Martin 210). There is also great potential for the use of information design and architecture, such as headings, tables, sidebars, etc. Although the modern press only uses a minimum system of information organization by characteristics of general topic (e.g. a news papers has sections for sports, business, travel, etc.), the use of article titles, tables of contents and effective layout make searching within a single publication reasonably efficient. Again, the down side is the lack of interactivity for sending messages and realizing public opinion.

The Press - Conclusion

Overall, the press system has a high potential for distributing quality information, supporting the generation of knowledge and conducting elitist debates. The biggest draw back is its expensive bureaucratic authoring system that severely restricts contributive access. With the implementation of a formal system for basing authorship on accurately surveyed public opinions, the press could become a very effective technology for supporting representative public discourse.

Broadcasting

*** Broadcast media includes both radio and television. The central quality of broadcasting is its continuous 'flow' (see Raymond Williams). The only interactivity available for TV and radio users is the ability to switch between channels of continuous and ephemeral content. Creating and distributing content is extremely complex and expensive. There are a limited number of channels available in the broadcast spectrum and so only those who own broadcast licenses can have direct access to signal transmission. Commonly, programming is highly fragmented to suite multiple people's interests at any time.

Broadcasting - Commonality

Broadcasting's greatest strength is the commonality of the messages sent. In the early years of broadcasting, there were very few reception options thus causing commonality to be almost forced. For example: in rural areas where the only option was a single local radio station or a single network affiliate. Even today, in general, the limited number of channels and the infinite number of receivers means chances are quite good that large portions of the community will all receive the same content. For example: "Survivor", "the Super Bowl", the 6 o'clock news and morning radio shows are all popularly enjoyed by large segments of the population. The contemporary practice of redundancy of content (especially top news stories) across networks, stations, and time slots further increases commonality to very high levels.

But as new digital systems have become available, users now have much larger channel selections. Digital cable can potentially provide users with 400-500 original programs at any time and Direct-to-Home satellite systems are only restricted by the number of satellites in orbit (and the frequency licenses). Digital radio is also widely expanding the options for portable audio channels. As broadcasting improves in diversity, the audience becomes more fragmented, and in doing so degrades the commonality of content. The peak of broadcast commonality was in its early use, and has since continued to decline.

Broadcasting - Accessibility

The open access to reception of broadcasting is another one of its greatest strengths. Anyone with an affordable receiver within range of the radio antenna can enjoy TV and radio traditional analogue broadcasts at any time. Newer cable and digital TV systems are less accessible, as they require a user fee. But even these options are reasonably accessible for even medium to lower income

families.

But unlike any other communications technology, direct access to transmission is restricted to only those who own a broadcast license. As well, broadcasting production is largely a collaborative affair requiring a trained crew to create television programming and radio shows. The necessary equipment and facilities (such as cameras, mixing suites, studios, and broadcasting stations) are also enormously expensive to own or even rent. These many expensive resources required to transmit a broadcast signal, plus the need to be granted a license, make it an extremely exclusive technology for direct access to transmission.

What is available for user interaction are telephone "call-ins" and the measurement of programming popularity. Although "call-ins" can give some opportunity to access transmission, similar to "letters to the editor", there is no guarantee for getting on air. Program rating is also a quite inadequate method for gauging public opinion since it only measures the fact that the program was received, not what participants think. Generally, writers and on-air personalities are expected to represent a public contribution, but again there is no formal system to ensure the accuracy of their representation. To summarize: the current broadcasting systems are an excellent communications technology for public access to reception, but totally inadequate for public contributions either directly or through representation.

Broadcasting - Free Speech

Broadcasting is a very poor medium for free speech. Censorship is practiced at several levels: by the licensing bodies, by the owners and by the editors who have a set amount of time to fit a program into. Broadcasting's temporal nature means that any time given to one message takes away the potential for a different message - concision is a natural result of this system. As well, because each

message is always replaced by the next, older messages are continually censored from the public. The broadcast system restricts the depth, breadth, and kind of messages one can transmit.

Broadcasting - Continuous

Another strength of broadcasting is that it is always transmitting a live signal. At any time a programming director can introduce a new message into the system. This 'liveness' means that a community can be kept most up to date with a broadcast medium. But again, this also causes the messages to be ephemeral, which means users must continuously pay attention to the broadcast or fear missing a message of value.

Broadcasting - Clarity

Both radio and television use the spoken word to communicate clear specific messages. Television also heavily uses visuals, which can vary from distracting and abstract, to emotional, to indexical of a place and time. But in general, as described earlier, the lack of a formal visual language restricts the clarity of communication in a visual medium such as television (Postman 50).

Broadcasting - Information Quality

Because the production of broadcasting programming requires collaborative efforts, the system automatically provides opportunity for expert input and diverse perspectives to support information quality. But since the collaboration tends to be very hierarchical, only tiny minorities have control of the final production messages, and they may or may not decide to include expert support and diverse opinions. More importantly, the heavy restriction of concision does not provide the extensive depth needed to support diverse perspectives for objectivity and related documentation to check accuracy. Broadcasting is an inadequate technology for supporting information quality.

Broadcasting - Debate Constructiveness

Broadcasting is also a poor technology for supporting in-depth debate. One cannot compare

arguments being broadcasted simultaneously on different channels or arguments from previously missed broadcasts. When conflicting messages are received a user must compare them over time, which makes it difficult for the average user to remember details. Although a tape recorder can allow users to review content to improve critical analysis, it is quite a cumbersome process compared to other technologies, such as publishing.

Again, concision hampers public discourse potential by tending to create what John Willinsky calls a "sound-bite info-economy" (9) where information lacks adequate depth to be of much value. The subjective quality of speech style, voices and visuals can also distract participants from critical analysis of the messages (Kuhn 23). For example: stuttering has nothing to with the intelligence of a message, yet a spokesperson that cannot speak fluidly is disadvantaged by time and will be judged quite harshly in live broadcast debates. Most importantly, the lack of interactivity and accurate representation means that there is no method for ensuring debates are structured for public benefit. In summary: While debates do commonly occur on broadcast media, they are rarely constructive. The lack of information quality, depth, interactivity and the emphasis on performance, means that broadcast debates are more for entertainment value than community progress.

Broadcasting - Usability

Without the use of a cumbersome tape recorder, broadcast media is virtually uncontrollable. Users are forced to plan their interests around the programming schedule. Complex content cannot be slowed down or reviewed. Broadcasting uses virtually no system of organizing information to improve finding specific content. At best, a general guide to programming can be provided, but this is not a very efficient method for finding specific information. For the most part, the user is at the mercy of program directors concerning what they can find and when.

As described in the critique on debating, broadcasting is quite poor for comparing messages. The extreme fragmentation and lack of control of messages makes it very difficult to find and compare related information. The continuousness of broadcasting may be good for keeping information up to date but it also means that users may miss related messages that give the current information the required context to be of any value at all. This can be equated with the common experience of switching to a program in progress and not knowing what the people are talking about or why. The linear, non-interactive and ephemeral quality of broadcasting make it a meager technology for building knowledge or surveying public opinions.

Broadcasting - Conclusion

Overall, broadcasting is a dreadful technology for supporting constructive public discourse. Its popularity of reception access may effectively distribute simple ideas through out a community, but without public input it does not assist in public debate or creating community equilibrium. Its innate demand for concision works directly against the sharing of in-depth information and debate. The fragmented and ephemeral quality of messages makes the relating of information to build knowledge almost impossible. The high potential for distracting and abstract messages, and the lack of control and user feedback makes broadcasting more appropriate for casual entertainment then serious informing and debating.

Critique of Internet Media (the World Wide Web)

There has been much written about the high potential for the Internet to be the ultimate democratic medium, where every person has equal opportunity to participate (O Baoil). In this critique I will focus specifically on the World Wide Web (WWW) portion of the Internet, which is accessed through a web browser on a personal computer. The WWW includes websites that can range from static homepages to highly dynamic personalized portals and applications. The contents of these

sites can be any combination of text, images, audio, video or animations and can vary in their interactivity. Searching for sites and pages is done through search engines (eg. Google.com), directories (eg. Yahoo.com) or links from other sites. New content is always being added and new ways of interacting are always be created.

Access to the net is available for free at many workplaces, schools, libraries, or even at home through promotions based providers (see 3web.com). Access to the web requires at minimum: a computer, a modem, a phone line and a local Internet service provider.

Currently some of the most common criticisms of the World Wide Web include: the inability to find information that is probably available; poor graphic design and layout that is either boring, distracting or confusing; gratuitous use of effects that do not aid in getting what they want out of a site; language barriers; incomplete sites; and the common lack of professionalism. (Rosenfeld 69) With these points in mind, I will now give an even more critical analysis of the WWW by comparing it to the eight general public discourse technology ideals.

World Wide Web - Commonality

The web has the potential for perfect commonality. In theory, the entire population of a community (even the global community) could all visit the same web site at the same time. But because of the expense and required infrastructure (computer networks, fiber-optic cables, larger servers, PCs, etc.) to sustain the web system, it is only really plausible in affluent communities. Further more, the open and unstructured nature of the web does not force or even promote all users to access any common site. The web has no central square, union station or front entrance. But keeping that in mind, some sites such as msn.com and yahoo.com have successfully marketed themselves to be a common portal

for large portions of the online community. The potential for commonality on the web is very high, but it is not enforced or even promoted because of the infinitely fragmented and unstructured presentation of content. We all could visit the same web site, but there is no current reason why we would.

World Wide Web - Accessibility

With the web, accessibility it is either all or nothing. Those who have any Internet access have access to practically everything including direct transmission and reception (O Baoill). Those who do not have Internet access are totally cut out of any online communication. Even so, there are variations on the quality of the access depending on how and where one gets access. For instance someone who only has limited access at work cannot spend as much time communicating as someone who has access at home. The speed of the connection can also be a factor in terms of efficiency - faster connections means more efficient communication. One of the best characteristics of the technology is that there is no limit to how many people can participate at once.

In theory, the web has fantastic potential accessibility, but in practice there are challenging barriers. Known as the "Digital divide", there is a large gap between those who can access the web and those who cannot. The first and greatest barrier is the high expense of starting and maintaining an online system. Many communities can simply not afford Internet technology. The second element of the digital divide is fluency with the system. The complexity of the web and its lack of standards make the learning curve much steeper than other media. Those who are not as comfortable with this new technology are handicapped in their access. Keeping these two large barriers in mind, anyone who does access can receive the high majority of content and also author basic messages.

World Wide Web - Free Speech

The nature of the World Wide Web makes it very difficult to censor. Even in authoritarian nations

such as China, illegal online content persists. Since publication is done directly, there is generally no need for an editor. There are gate keepers, such as those who own the servers where the sites are stored, but enough service providers and portals offer free space that there is no need to seek permission to contribute to the web. Although it is possible to censor content, the sheer amount of options for publication makes it nearly impossible to keep a person from posting some where on the Web. The World Wide Web can sustain an unlimited amount of content and is relatively immune to censorship from outside sources. This is the medium for free speech.

World Wide Web - Continuous

Content can continuously be posted on the Web at any time and is available immediately after posting. This means that the Web is a continuous and permanent at the same time. The frequency of updating is dependent on participants, but the potential is for constant updating with infinite archives. The web has the immediacy of broadcasting and the archiving of a library.

World Wide Web - Clarity

Communication clarity is dependent on the use of standard signs. The lack of enforced editing and content standards on the Web means that participants can potentially submit total nonsense. But because the Web also includes online dictionaries and other formal language references, the web can also promote the highest of communication clarity. The fact that there is no single standard for signs (such as words, icons, layout, colours, charts, typography, etc.) means that users can often misunderstand the meanings of signs used. For instance, the icon for "site map" or "index" varies from site to site. This means that users must learn new icons with different designs just to understand the communication of navigation options. The lack of acknowledged standards means that potential clarity is low and very dependent on authors voluntary use of common practices and the users familiarity with these practices.

World Wide Web - Information Quality

The open access and lack of structure on the web means that the quality of information can range from total biased fiction, to the highest of objectivity. But because the Web promotes the linking of information to its supporting material and since the Web does provide access to expert knowledge to allow user to research and judge "the veracity of claims" (O Baoill), the web has excellent potential for accurate information. As well, since any variety of web sites can be presented at the same time, a user can easily compare an unlimited number of potential perspectives on any issue. For example: a user can view 10 different sources that each discusses public transit issues from different perspectives: web pages published by car manufacturers, transit commissions, environmentalists, common citizens, etc. But like accuracy, there is a heavy dependence on users to find and compare material to establish overall information objectivity. While the potential for information quality is extremely high, there is no guarantee or common system for promoting accuracy and objectivity.

World Wide Web - Debate Constructiveness

Debating requires the comparative presentation of conflicting arguments. The Web allows users to easily compare conflicting ideas on different web sites. For instance, a user could do two searches: one for reports that are pro-gun control and one for reports that are anti-gun control. The user could then read and compare both sides of the issue. To participate in the debate, a user always has the option of publishing their own web page. But this is not a direct or very effective method of debate. A better way of promoting online debate is the use of web site forums. Forums (also known as bulletin boards) allow any user to easily post an article on a site. Other users can then respond directly to an article by posting responses that will be displayed in direct relation to the original article. Forums systems offer few distractions from the text and can promote critical debating. An excellent example of a web forum system is coolboards.com, which allows anyone to start or

contribute to an online forum. There is no limit to what subjects are chosen or what participants discuss. www.advancethe.net/forums lists over 30 different systems for creating online forums that vary in technique and functionality. Current online forums do not enforce logic or structure for public benefit, but since it is an open system, experts in logic can point out weak arguments and anyone can help direct the debates towards public needs. Overall, the web can host a full range of highly effective debates but there is no limit to how mundane or constructive the debates will be.

World Wide Web - Usability

The usability of any web site is directly dependent on the skills of the site designer. While there are some trends that can be followed, there are no rules or restrictions that enforce effective information design and architecture. Searching is generally done through linking and/or keyword searches.

Some sites and portals also allow users to search by topic but there is no standard of how these topics are organized or what they include. None of these techniques offer an established method for finding content of high quality and public importance. The accuracy of searches (especially keyword searches) can be quite poor, causing many web users to become frustrated with the system. Yet even though there is much room for improvement in these searching systems, compared to "channel flicking" or skimming through a newspaper or magazine, these techniques are highly efficient, especially when one considers the infinite variety and specificity of web content.

In terms of building knowledge, the common use of linking related pages promotes the creation of in-depth understanding. Users can do intense research on one specific issue, or link and search through an infinite amount of peripherally related articles that give a greater relevance to an issue.

The unlimited depth of the online medium also allows contributors "to create better, more complete and contextualized [articles]" (Pavlik 117). The Web's infinite amount of linked information gives it the highest potential for knowledge building.

Sending message on the web varies in simplicity and also depends on what fluency a user has with the medium. But between the use of web forums (eg. messages.yahoo.com, coolboards.com) and user friendly web page building tools (eg. homestead.com, geocities.yahoo.com), it is easy for any user to contribute to discourse on the Web.

To survey public opinion some sites employ polling systems. For example: common news sites like cnn.com and slashdot.org often have a short poll on their homepage. But polls are only representative of people that have visited the site, not the general or local public. While the Web has a potential for universal surveying of public opinion, the reality is that the lack of commonality and current access makes online polling extremely unrepresentative of any general public.

World Wide Web - Conclusion

Overall, the current World Wide Web has an excellent potential for public discourse but only within the elitist Internet communities - the 'digital divide' remains a real world barrier to common access. At the same time, the lack of formal content standards and information architecture also degrades its practical value. The openness of the system is great for free speech but it does not promote clarity, information quality, or usability. The technology relies very heavily on the abilities of the users to find valuable content and make any sense of the diverse articles they find. But the effective use of linking, improving search mechanisms, free forums systems and assisted website creation are very powerful techniques for building and sharing knowledge, and participating in intense public debate. Compared to any other contemporary mass communications technology, the World Wide Web has the most potential for supporting the pragmatic functions of public discourse.

CHAPTER 3 CONCLUSION

In this chapter I examined how current mass media is affected by ownership and how posters, the press, broadcasting and the World Wide Web each compare to my eight ideals for public discourse technology. Common trends in the different technologies included a lack of formal systems for promoting constructive debate, knowledge building and representative public opinion surveying. Even though these current mass communication technologies lack some important characteristics to promote effective public discourse, it is obvious that they do still distribute information and support some form of debate.

I am sure it was no surprise that the Internet based technology of the World Wide Web came out well on top for almost all the ideals. In theory, publishing on the Net has the same or greater potential audience as any other technology, but without most of the limitations on free speech and usability. On top of this it also offers several enhancements as a result of the infinite potential for content and versatile interactivity. Yet with all this potential, the Web still falls short on real world accessibility and still lacks a formal design to promote discourse that is constructive for the community. In the following chapter I will propose a new design for a technology that overcomes these last obstacles towards an ideal public discourse technology.

A PROPOSAL FOR A NEW PUBLIC DISCOURSE TECHNOLOGY (THE CFORUM)

Thus far I have explained what is public discourse, what are its pragmatic values to a community, how to judge a communication technology's ability to support it, and how the current systems stand in terms of their potential to host it. My discussion will now move from theory and analysis to inventive application. In this section I will specify the practical design of an optimal public discourse technology. Using contemporary communication instruments the system should prove to be quite plausible within the immediate future. Its design is based mostly on the current success of online forum systems along with new guidelines and cross-media innovative strategies. My goal in this section is to outline a basic blue print that could be used by a community to create the ultimate system for productive public discourse; a constructive all-inclusive public forum for effective informing and debating.

The system I am proposing is built to accommodate all the ideals of a public discourse technology. It uses a variety of techniques to meet each and all of the demands within the ideals I have described. I will explain it by summarizing the fundamental elements of its design while making references to the eight ideals. Some of the descriptions will be quite technical while others will be rather general and slightly vague. The design I am presenting here is by no means a final plan; only a strong introduction to an idea that will extend beyond this paper. For the purpose of this paper I will call this technology: "The Common Forum" or "cForum" (pronounced "see" - forum) for short.

Before I begin to describe the cForum it is necessary to note that to be fair, the final design of the system should be decided democratically by the community that intends to use it. Many well

respected technology theorists (including McLuhan, Winner, Franklin and Postman) have made strong arguments for how technologies, (especially communication technologies) shape the society that employs them. For this reason I think it is unethical to push the cForum system onto a society. It must be their own educated choice to modify and accept the technology to suite their own cultural and social goals. With that in mind, what follows are my suggestions for how the cForum will work.

THE FUNDAMENTAL ELEMENTS OF THE CFORUM

The cForum is a complex and open system for exchanging messages within a large and diverse community. The cForum will largely be based on the developing success of Internet forums which allow users to post articles on a website and carry on threaded discussions. But the cFroum will go much further by adding several important enhancements. First of all, there will be only one forum rather than many divergent and fragmented forums. The forum will be a highly dynamic database system that allows users to search and organize content by any imaginable article characteristic including specific topic, author, perspective, relevance, context, quality and much more. There will be also be a rating system to allow users to organize content according to public opinions. Users can contribute to the cForum both online through an Internet interface and offline through traditional technology like telephones and mail. Every article will be accessible online and the most recommended articles will be publicized through a variety of offline media such as broadcast and publishing. Users can add contextual links to any online articles and follow links others have made. Users will be able to participate anonymously or with authenticated identification. Interfaces will widely vary and will always be improving in form and capabilities.

Along with these enhancements, the cForum will retain all the positive qualities of the World Wide

Web including free speech, access to transmission, continuous updating, infinite depth, and open standards that empower users to develop new methods for creating and finding content of value.

Overall, the cForum will be a highly flexible, accessible and a constantly improving communications tool. Following are detailed explanations of the fundamental elements of the Common Forum and how they relate to the public discourse technology ideals.

A Common Cross-media Pool of Articles

As the name implies, the main theme of the Common Forum system is making all public communication part of a common discourse. As previously stated, the cForum will, in a way, be like one big web site forum system. Currently there are innumerable diverse Internet forums that are each original in their own content. A submission to one forum goes only to that one forum, or at best a few other syndicated locations. Using the cForum, all forums will have only one common pool of articles that can be accessed and published through a variety of methods. Publishing in one part of the cForum means publishing in every part of the cForum. Similar to the Open Directory Project (dmoz.org) which provides a common web directory to Netscape, Lycos, HotBot, Google, and over 200 other web portals, the cForum will provide a common database of articles to all forum systems.

It is like having many doors to one common room. No matter how you access the cForum, it is always the same common content. This is a major step forward to approaching the ideal of commonality.

But the cForum is not limited to just online communication. Similar to how the telephone directory has only one large database of all phone numbers, but several options for accessing it, including different phone books, telephone operators, CD-roms and online searches, so will the cForum provide different options for accessing the same pool of articles. The cForum content will be

available in every medium, including online, broadcast, the press, telephone, posters, postal service and more. Any communication that is meant to be public would be submitted in one way or another into the common system, which could then be accessed online and publicized in part through other offline technology. For example: the most important article posted online could be made in to large posters; an effective phone message could be digitally stored and later broadcast on radio; and the top discussions could be printed as magazines. The cForum has multiple inputs, multiple outputs, but only one common database of articles.

To clarify, the cForum is a unified online forum that can accept any form of digital content. The content can be submitted directly online or via a 'data transfer sub-system'. For example: my Grandfather could submit a comment via mail or by phone. The comment would then be transferred into the online forum system via a 'data transfer sub-system', (this just means the message is transferred into a format that computers can work with, and would be accomplished using a combination of human agents and sophisticated multimedia computers). From the online forum it would then be available to everyone using the cForum. Furthermore, some of the most popular and important content from the online system could also be publicized in other offline media such as on a billboard or on the radio. In essence, the cForum goes around the 'digital divide' by giving analogue options for transmitting and receiving content to and from the online database. By allowing people to author and receive public messages through a full variety of media, the cForum will let community members use the communications technology they are most comfortable with and still be apart of the common discourse. In this way the cForum provides unheard of commonality and accessibility to public discourse even within the largest and most diverse of communities.

Suggested Guidelines

As detailed so far, the cForum is a common, accessible, uncensored and continuous technology for public discourse that is analogous to an online forum monopoly with direct relationships to offline media. What is required next is a method for insuring that the system is actually constructive for the community. The system must include techniques for promoting clarity, information quality, debate constructiveness and most importantly, usability, but without hindering access and free speech. To approach these ideals, I suggest the use of guidelines: specific instructions that suggest techniques for how to communicate, but do not restrict people from communicating as they please; techniques that promote standard methods and signs for effectively communicating and organizing information, but do not limit people to them.

As it has been found with the World Wide Web, it is often very difficult to organize content when there are ambiguous terms, a variety of content types and differences in organizational techniques (Rosenfeld). By creating guidelines that specify the meaning of terms, the types of content to be used and the systems for organizing content, clarity and usability can be greatly improved. At the same time, since these are only guidelines, and not laws or restrictions, they do not impose on free speech.

The guidelines cover two major areas: languages and formatting. By languages I am referring to any system of signs, including verbal, visual and audio. The language guidelines would suggest what signs are available to use and what are their defined meanings, much like a dictionary does for spoken word and legends or keys do for maps and graphs. The format guidelines would suggest in what form the content should be submitted, much like the HTML standards do on the current World Wide Web. The guidelines will not suggest what kind messages should or should not be submitted, only how to make sure they are most widely available.

Participants must understand that by ignoring the guidelines, their submissions may not be accessed by many people, if any. Language guidelines are similar to proper speech and legible handwriting: if you are a messy writer people will have a hard time reading your messages. If you are a poor speaker who does not use proper grammar or pronunciation, people may not be able to understand what you are trying to say. The guidelines to formatting are similar to the library system: if you want people to be able to find your book, it should be less than 40cm tall, rectangular, with protective covers and include an obvious title and proper authorship and publishing information. The guidelines are designed to empower the participants with effective methods for getting their messages to the public, and also finding important messages others have contributed.

To make the system work, the guidelines and standards need to be totally accessible and popularly promoted and followed (Diceman 6). Through education, promotion and reasoning, people will hopefully find value in perusing these guidelines. Similar to law but without the enforcement, these guidelines are designed for the benefit of the entire community and need to be followed by all members to be most successful.

As stated earlier, the community that intends to use the cForum should democratically develop its guidelines. The guidelines should always be open to change and must constantly be maturing to meet the needs of the community. The guidelines should conform to the community, not the other way around. The key is that members should feel empowered and not restricted by the cForum system. To further understand how these guidelines can empower users, I will now give more detailed suggestions of the language and formatting system of guidelines could work.

LANGUAGES GUIDLINES

Language is the first and primary element of all communication. As described in the clarity ideals, clear communication requires the transmitters and receivers to have the same meanings for the same signs. The publicized language guidelines should encourage the common use of signs. By limiting one's self to these standard signs, one is more likely to achieve clear communication. Any deviation from the standard meanings and design of signs is a greater opportunity for incorrect interpretation and a breakdown in communication. Of course, participants will not be restricted and can thus use new signs and new meanings, but until they are popularly adopted as a standard, they would be taking a greater chance of miscommunication.

Language guidelines may seem rather unnecessary when one thinks about the amount of unregulated conversation that goes on every day. But beyond verbal language there are many other sign systems employed. For example: video editing, sound effects, graphic charts, icons, layout, typography and many other communication elements signify different meanings. By setting standard to how these elements are used and what different designs mean, the cForum guidelines will greatly improve information clarity and usability. In modern media these non-verbal signifiers are used abstractly and do not promote clarity. By publishing standards for how to use and interpret all signs, the cForum will surpass all other technologies in communication clarity.

Language guidelines will also include the designs for cForum interfaces. Similar to how all Microsoft applications follow certain conventions to make it easier for someone to learn and work with their programs, so will the cForum interfaces employ design standards. Other examples of modern interface standards include: the use of white, yellow and blue pages for North American phone

books to signify residential/organization, commercial and government numbers; the arrow symbols for play, fast forward, rewind and square for stop on most CD players, VCRs and other home entertainment appliances; red for heat and blue for cool on air conditioning systems; etc. Interface language standards drastically improve usability and become ever more necessary as systems increase in complexity. Since the cForum will be extremely complex, it will also include well thought out interface standards within its design guidelines

The language guidelines should be very expansive and constantly growing as the community adopts new signs and meanings. Strategies must be adopted to quickly incorporate new important signs into the guidelines to make sure the system does not impose delays on constructive discourse.

The language guidelines will effect positively on the functions of public discourse. Participants will be better informed and have clearer understandings of what is being discussed, debates can better focus on ideas rather than semantics, and common terminology will enhance community organizational efforts. In general, clearer and more efficient communication will lead to a more productive and constructive public discourse.

FORMATTING GUIDLINES

Guidelines for formatting include the types of physical formats that should be used and how they should be structured. The use of standard formats will make interpretation and data transferring much easier. If standards are strictly followed it is much more likely that computers will be able to recognize the data and properly transfer it in, around, and out of the digital environment.

Physical format

Similar to how the standard *Compact Disc Digital Audio* format allows any CD player to play and

CD, so will the cForum make use of standard formats to improve interoperability. Users will be able to submit any physical format that suites there needs but open standard formats will be encouraged. Being "open" means that anyone can have access to the specifics of how the standard works, so that anyone can design a complimentary authoring or reception system. Open standards promote universal interfaces and are much more accessible then closed proprietary standards that often require users to pay licensee fees. The Internet's success is, in a large, thanks to its application of open standards such as TCP/IP and HTML.

In terms of offline cForum media standards, user options will most likely include traditional systems such as paper, phones, CDs or possible even cassettes and videotapes. In terms of online media, the most easily produced and network friendly formats will be suggested. For example: mpeg, txt, jpeg, HTML, etc are all common Internet standards. The more common the standard, the better chance others will have a complimentary receiver. This technique has also been quite proven with the Internet. HTML is the standard mark-up language used for creating web pages. Any time a developer goes outside the HTML standard, there is a greater chance that someone's browser will not be able to view the page.

Content structure

Up to here, my suggestions for the cForum are not quite surprising or especially innovative. What I will introduce now may require more reflection. Although based on proven librarian and structured communication techniques, the suggestions I propose for structuring content submissions will seem very demanding and restrictive compared to today's relatively anarchistic modes of general content formatting. My suggested guidelines for content formatting require authors to specify, contextualize, describe, and compartmentalize their submissions in ways that are only familiar to information

architects and their fans. Through such efforts, the cForum users will be able to easily organize, sort and find the specific information they need within an infinite sea of structured discourse.

One of my primary suggestions is that each submission into the cForum be limited to only one major point. In other words, no single message should be so complex that it tries to make more than a single general proposition. This is not to say that an essay or textbook could not be submitted, but that each paragraph that makes a separate point should be recognized as an individual article.

Related articles could still be directly linked to give readers the experience of a large cohesive work.

Through this technique, information will be compartmentalized into specific articles relating to their own point. This intense structuring of content may seem unnatural at first, but the value of it has been proven in knowledge-base systems (such as Microsoft help) and printed manuals and textbooks.

To fully make this technique effective not only must the articles be broken up by point, but also the point must be specified. Similar to how emails have a "subject" field, or how online forums have a "topic" field, the cForum will use a "point" field to allow authors to announce the point of each article.

This single point system allows users to do non-linear navigation of articles by point. Rather than reading through pages of narrative to find what one is looking for, or watching or listening to hours of recorded material, users can simply browse the points of each submission. This practice will also allow for greater critical analysis of debates. Participants can easily argue each specific proposition and the logic between them. Conflicting points can also be quickly recognized and directly compared. If authors wish to use a reference from another source, they can easily cite the exact point rather than the general text. Overall, structuring of the information into discrete points

promotes detailed analysis of the discourse, which in turn supports information quality, debate constructiveness, usability and clarity. In essence, the discourse will become more critical and will encourage the use of reason to resolve community issues.

Another very powerful practice for information structuring is the use of meta-content classification to describe the nature of each article. Anyone who has used a library catalogue is familiar with meta-content. Common elements of contemporary meta-content classification include, author, title, subject, number of pages, publisher, keywords, printing date and city. Each of these are characteristics of a publication that allow library goers to find books of interest among the millions of options available in the system. For the cForum, I suggest the use of many new characteristics to be included in the meta-content to drastically improve navigating and searching capabilities within the system.

While the contemporary World Wide Web does use some basic meta-content such as keywords and author information, there is a heavy reliance on computerized word searches to find information, or the use of people to manually sort pages into useful directories. There is also organizing progress being made within a standard known as XML, but this system is more specific to the elements of the content, rather than the ideas. Many artificial intelligence advocates contend that eventually computers will be able to understand web content and therefore perform the organizing for us. But it is my argument that we cannot rely on computers to parse out ideas because our language is used in tremendously contextual and discreet ways. There is no computer that can parse sarcasm, metaphors, simile, inside-jokes, subtle references or other complex verbal techniques, (not to mention the challenge of recognizing the contents and context of images or sounds). The authoring of

meta-content is necessary for complex, accurate and useful content organization.

Compared to contemporary forum systems where authoring and sending tends to be the full extent of the submission process, authoring meta-content will seem rather tedious and unnecessary, but it is my belief that this extra bit of effort will have an exponential return on investment.

Before I suggest any categories for meta-content, I want to stipulate that there should be no limit to what people wish to include in their meta-content. Contributors should be able to describe their submissions in anyway they choose. But like the language guidelines, there will be defined and established standards for meta-content options. And also like the language guidelines, these options will grow and improve as a community realizes new ways to characterize the articles of their discourse.

To start with, I would suggest that authors describe the following characteristics of their submissions: the author; the languages used; the specific topics discussed and to what depth; relevance to what community issue; whether it is a question, research, suggestion, theory, hypothesis, description, etc; what perspective the issue is discussed from (ie. ideology, bias, framework, etc.); content type (visual, audio, typographic, etc); jurisdiction (ie. importance to what locations); time/date of authorship; time/date of subject matter; and important names and terms discussed. While not all these characteristics would always apply, and even though there are many characteristics that could be added, this gives an idea of what kind of meta-content could be included with each article.

An additional feature of the meta-content system will be to allow others users to add meta-content to

an article. This means that even if I am not an articles author, I can choose to add supplementary meta-content to an article I have found. This will allow those with better librarian skills to improve the organization of quality content they come across.

All the terms used within the meta-content should also follow the cForum language guidelines. The standard use of descriptive terms will empower incredibly powerful database querying. Under this system, users could potentially search for such specific articles as: summary information concerning the phosphates in soaps used in South America between 1950 to 1970, discussed from either a neo-liberal and/or environmental perspective; videos of Asian sweatshops in the mid-nineties; audio interviews with famous authors who questioned the NAZI rise to power pre-WWII; the earliest research concerning a correlation between smoking and cancer; or any other imaginable specific piece of potential content. If any one submitted such an article, users of the cForum system could easily find it.

Of course, the meta-content system will only be as effective as people volunteer to classify their articles. If no one uses the meta-content, then the cForum will resemble the modern Web, with millions of untapped resources and wasted energy. It is my belief that with a new emphasis on the librarian sciences, a society could become quite comfortable with classifying their public discourse, knowing that by not doing so their voices are practically lost in a infinite field of chaotic noise. Functional mass discourse requires a system of strict organization, and meta-content is an effective way of fulfilling this requirement.

The benefits of detailed meta-content coupled with a powerful database search tool are nothing less

then awesome. Much like how the Dewey decimal system revolutionized the library, and how computers revolutionized information management, standardized forum content classification through meta-content will forever change how we practice public discourse. Community members will be able to use the cForum to find exactly what information they need to make constructive decisions. Patterns in information will become apparent, related information can be discovered and conflicting arguments can be easily found and compared. But this meta-content system is only the beginning of the cForum's real potential. The addition of complex linking, rating and interface tools, multiplies the value of meta-content classification to a level that public communication theory has never even discussed.

Linking Articles

Meta-content searches will be able to present articles that have common characteristics, but this does not make explicit the relationships between articles. What is really necessary to build knowledge and understanding within a community is the intelligent linking of ideas to form in-depth understanding. Similar to how Web authors can link to other files on the Internet, the cForum will allow users to link articles to and from other articles. But linking will be much more powerful than contemporary hypertext.

Since each article on the cForum should be self-contained with a singular point, linking will be much more specific. Rather than linking general pages, users will link particular ideas. Authors will be able to link suggestions to theories and theories to facts. Debaters will be able to build arguments by linking propositions. In general, users will be able to promote the development of knowledge by linking related information.

Linking on the cForum will be a separate action from the authoring of articles. cForum links will be separate elements from the cForum articles. Unlike the Web, which can only link out because links are a part of web pages, the cForum will allow users to link from other articles back to their own.

As well, users can create new links between already posted articles. To better understand this concept, imagine each article is a flat block of wood with a nail sticking out of the center. The nail represents the single point of the article. Creating a link between two articles would be like putting an elastic band over the two nails. It would at once bring the two articles together and create a two-way bridge between them. In the same way cForum users could add links to already existing articles to draw comparisons and build relationships.

Just as the articles themselves should use meta-content to establish the character of their message, so should links announce the relationships they are creating. To further extend the elastic band metaphor: different colours, patterns, sizes and shapes of elastic bands could signify the relationships being created by the links. For example: red bands could mean contradicting points; blue to green bands could mean proof of theory; a fat short band could show closely related articles; long and stringy could communicate peripherally related articles; and yellow to green could symbolize questions and answers. Online, small icons or abbreviations could be used to signify link characteristics.

There are many more ways the relationships between articles could be specified. Some suggestions for possible linking classifications could include: addendum, alternative perspective, digression, example, application, maturation, suggested reworking, supporting information, or an answer to a

question. Again the symbols, terms and definitions of link characteristics would be a part of the published cForum guidelines and would always be under further development.

Once a link is published it would be available for all others to use. This means that if I author an article about how much fun it is to go to raves, some one else could author a link from my article to an article about the dangers of abusing the drug Ecstasy. From then on, anyone who read my article about raves could potentially use the added link to learn about the dangers of abusing the drug Ecstasy or vice versa. As more and more links are created, the cForum will become like a tightly connected netting with infinite relevant links.

So not only are users able to search by detailed article characteristics, but they can also search by article relationships. For example, users could search for: facts that support global warming theories; counter arguments to international market regulation; answers to the question of "what is a healthy body mass?"; and so much more.

The cForum will also enable users to author "link-maps". This would not necessarily mean making new links or articles, but rather designing paths between selected articles along certain links. It would be like taking a picture of the blocks of wood and elastic bands and then highlighting interesting paths between points. Another way to understand what a link-map would be like is to think of driving instructions: there are infinite routes one can take to get from one location to another, but driving instructions specify a certain route. But unlike roads, users could always add new links to improve link-maps.

These link-maps would be a collection of articles that somehow represent an authors thinking. Link-maps would be to the cForum what a scrap book or collage is to magazines and news papers, or a montage is to video. Link-maps would be published and linked to and from their contained articles. The cForum could always make users aware of link maps that a current article is used within. Link-maps will encourage the creation of arguments and the building of complex knowledge. They could serve as the foundation for debates and add a new practice to the art of research and authorship. The full potential and effect of link-maps is very exciting, indeed.

Linking will become as important as article authoring; after all, information is only relevant in relation to other information. Each cForum article could contain an infinite about of links that each place the article in a different contexts. Although this may deter an author's original context, it creates extensive potential for developing knowledge by providing the possibility for infinite relationships, contexts and perspectives. Users can learn about all the ways a specific idea or piece of information relates to the rest of the world. Intelligent use of this linking system could lead to new and important insight for developing a community.

This complex linking system, coupled with meta-content aided searches, will be a powerful tool for finding diverse perspectives to approach objectivity, and to find supporting documentation to promote information accuracy. By critiquing and linking information, experts could empower average users with their expert knowledge. For example: lawyers could link civil debates to their corresponding statutes and laws; laws could be linked to their supporting philosophies; scientists could link environmental events to their supporting biological theories; and social theorists could link protests to their historical context. This new way of linking would lead to expansive and relevant

informing and intense well-supported debating that is currently impossible with any other technology. Unfortunately, linking would mostly be an online activity. Non-interactive media such as printing and broadcasting could not support dynamic links that instantaneously present users with related articles. But offline articles could use techniques such as footnotes to reference other cForum articles. As well, it could be possible to make links to articles that one has seen offline (as long as the article's unique ID is presented)(IDs will be discussed further in the authentication section). While only the interactive systems will support hyper-linking, any technology can support traditional referencing techniques to promote the creation of context and information quality.

Rating System

What is still missing from this formula for an optimal communication technology is a technique for promoting discourse that is explicitly constructive for the community. The cForum needs to provide a way of avoiding nonsense and poorly thought out ideas to discover authorship brilliance that will help support the progress of a community. A solution to this challenge is a collaborative rating system.

Rating is a basic idea with profound potential. Users simply rate elements of the cForum as they use it. As voting numbers grow, searching system can use the ratings to sort and organize elements according to public opinions. A working example of such a collaborative rating system is that used by CNET's download.com. On this site users can rate downloadable applications according to their "Features", "Ease of Use", "Interface", and "Performance". With its many experienced participants voting, the site quickly makes apparent what applications are worth downloading and which ones to avoid. A collaborative rating system could do the same thing for cForum articles.

One of the great advantages of a collaborative rating system is that it allows a community to promote and discourage content in a democratic manner without resorting to censorship. Rather than depending on elite editors to moderate the cForum, we could all have an equal opportunity to shape the system to our interests. No content would be eliminated yet participants could easily find content of the highest caliber.

The value of this rating system will directly be related to the type of individuals who vote; the more intelligent the voters, the more intelligent the rating results. This brings us back to the argument why education is so important to a productive public discourse.

Users will have the opportunity to rate articles and links on several characteristics such as relevance to topic, intelligence, entertainment value, logic, clarity, accuracy, educational value, originality, or what ever more appropriate characteristics are suggested. These rating variables will allow users to search for content that is believed to be of great information quality, communication clarity, enjoyable, logical and relevant to one's topic of inquiry.

One of the most important rating variables would be something along the lines of "How important is the point of this article to your community?" Such a variable would encourage constructive mass public discourse like never before. By presenting content in order of popular community importance, members will quickly become aware of what issues need to be addressed and what information will help them address it.

Users would not only rate the articles, but also have the option for rating language and formatting

guidelines. Even the effectiveness of a rating method should be rated. Through this extensive rating system, the form of the cForum itself could organically evolve to the tastes and judgment of its users.

This would be the technique used to ensure the technology always compliments the community that uses it.

We must be aware that there are some challenging complexities to this rating system that must be dealt with. For instance, similar to how 1 in 20 surveys are not accurate, so may some ratings not accurately represent public opinion. As well, over time articles may gain value in light of new information and changes in public opinions. To address these two challenges, the cForum rating system needs to include a random opportunity mechanism for the promotion of low rated material that may have not been fairly rated. Low vote counts will also be less reprehensive then high vote counts. As these and other issues related to voting become apparent it will be up to those who best understand the science behind surveying (such as trained staticians) to design satisfying strategies. In general, rating will allow public opinions to be a factor in sorting content. Those ideas that are most widely approved of will be made most obvious, and content of little public importance could be easily ignored. But these opinions may not be representative. If one cForum enthusiast spends all their days rating content, while other users never vote at all, the ratings will favor the enthusiast's opinion over the general public. To solve this problem we need to apply a system of identification.

Authentication of Information and Users

A major issue that must be addressed when designing the cForum is that of authentication. There must be a system to ensure that information is authentic and not the result of secret manipulations.

Data must be secured to restrict 'hackers' from tampering with the many complex systems and content. I do not have enough expertise in this area to give much comment, but there maybe some answers to be found in advanced encryption theory and original IP addresses. That said, the two

main related topics that should be discussed concerning authentication is that of user identification and information stability.

For accurate and representative public opinion surveying there needs to be a system for identifying and authenticating that individuals are real and original. This will allow the system to track the distribution of voting weight, making sure ratings are not skewed artificially. This then raises the question of privacy. If the cForum can identify and track individuals, it then becomes a potential powerful tool for recording peoples personal activities and ideas. While totally anonymous users could safely contribute to the cForum without any concern for personal tracking, recognized persons could vote, use personalized services and provide detailed public opinion information. The willingness of individuals to chance privacy in return for usability, is an interesting issue related to trust in political powers; but it is too large of an issue to be resolved here. But let me further explore the potential for demographically defined authenticated cForum users.

Users who choose to define themselves through descriptive characteristics could be presented with content that best suites their needs. For example: a Manitoba woman could be alerted about issues relating to breast milk in central Canada; and European truck drivers could be made aware of changes to EU transportation regulations. By defining themselves and their interests, the cForum could potential do automatic searches to present users with important information they otherwise may have not looked for.

An even more interesting application would be to allow identified users to leave their personal characteristic "DNA" on any action they do within the cForum. This information could then be used

to track patterns that could then be used to generate a kind of history and reputation data report. Imagine if, as an identified user, a professor had a tendency to submit articles concerning information technology that others routinely rated quite highly. This information could be used to assess this professor's status as an expert on information technology. In effect, this professor's expert opinion on issues directly related to information technology could be given more prominence. Other users may then choose to search for articles, links and link-maps that this professor and other experts on information technology have authored or rated highly. While this does raise questions of equality, if everyone agreed to the mathematical systems at work and if no users were recognized outside of their cForum identity, it could prove to be an excellent method for recognizing expert knowledge and applying it to promote quality public discourse. It would be an organic, unbiased and accurate method for finding ideal public representatives on an infinite number of issues.

Identified user tracking could have profound impacts on our ability to assess public opinion. By recognizing which kind of people voted on what subjects and in what ways, the cForum could present detailed and quantitative surveys of public opinion. As well, searches could be conducted that organize articles according to author and voter characteristics to provide more qualitative understandings of public opinions. For example, a search could be conducted to find: articles about American Jazz written by German musicians; long stories concerning immigration written by native senior citizens; or the most popular political authors according to Alberta teens. This kind of system could formulate highly representative and detailed reports of public opinions.

The second concern about authenticity is the stability of data. Articles, links and link-maps must be secure in that they cannot be modified after publication. Such content can only be amended with

supplementary content. In other words, users can only add new content, they cannot delete or edit content after it has been read by other users. This is necessary to insure that other content that people have linked to an article retain the link authors original meaning. For instance, if I create an article saying that everyone should eat 5 to 10 fruits and vegetables a day, and then some one else links my article to a nutrition plan, if I go and change my article to say that vegetables are gross, it will no longer reflect the nutrition plan. As well, link maps would lose all value if the articles they contained changed in meaning. To sustain logic, relevance, accuracy and the general building of progressive knowledge, content needs to be authenticated as remaining true to its original meanings.

A more simple issue is that every article in the cForum must have a Unique ID to aid in identifying it and verifying its authenticity. Similar to how every book has an original ISBN number to maintain its original place in book databases, so must each article have an original ID that can be referenced to and from, online and offline.

Interfaces

All content in the cForum will be authored and accessed through some kind of interface. Interfaces may include touch-tone phones, printed booklets, posters, mail in forms, TVs, radios and most importantly online computer applications. These computer applications will be like a new super generation of web browser/web authoring tools. Similar to current browsers (eg. Internet Explorer or Netscape Navigator) the cForum access applications will be able to display a variety of content types. But they will also provide very powerful navigational options well above and beyond the "back", "forward", "stop" and "favorites/bookmarks" of contemporary browsers. They will also enable content searching, interpretation and authoring all within the same tool. A comparison could be the ICQ interface, which seamlessly combines authoring, searching and transmission in one

application.

The cForum will have many different computer applications for interfacing with the system. Since the system is based on open standards set out in the publicized cForum guidelines, anyone can create an interface to the system. Similar to the World Wide Web which has over a hundred different browsers (browserwatch.internet.com/browsers.html) or email, which can be administered by dozens of different client applications, so will the cForum encourage programmers to design their own interface applications.

Different interfaces will suite different demographics. For instance, the older generation may prefer telephone and mail-in interfaces, very young computer users may like simple large button interfaces with a minimal of options, while complex interfaces with dozens of options and short-cuts may be the preference of veteran users. Kids may prefer colorful and fun interfaces, while traditional computer scientists may desire to only use command line (like DOS or UNIX) interfaces. In any case, with no limiting on who can create applications, a full diversity of interfaces will become available. This diversity is most important for usability in a community that has a diversity of members.

Just like all other aspects of the cForum, interfaces will be rated. The main criteria for rating interfaces will be usability. This will promote searching, navigating, selecting, interpreting, rating, storing and authoring to all be a part of an easy, efficient, enjoyable, continues, integrated and seamless user experience. Interfaces that best compliment the users goals for working with the cForum will be recognized through ratings and thus will increase in popularity and support. As well, there will always be options for users to submit suggestions for improved interface design within the

cForum itself. The more designers and developers that support the cForum, and the more people that critically assess the designs, the better the interfaces will become.

One of the most fundamental functions of any of the dynamic interfaces will be to constantly filter and sort articles and their links to only present users with manageable options. Complex and innovative strategies for organizing content according to user requests, preferences, histories, demographics, and content characteristics and ratings and the relationships between them, will need to be employed in order to fight information overload. For example: an interface may present the top ten expert rated articles and link-maps concerning the requested topic, along with the top 5 most popularly related topics among users with similar demographics. Research and theory from the fields of librarian studies and Human-Computer Interaction will be most useful for developing these organizing interfaces.

Presenting and navigating content will also require innovative interfaces. While some kinds of navigation will best be served with an ordered list, many will not. For example: browsing by date could be done using a time line; and searching by location could be done using a map. The effective use of graphics, animations, sounds and hardware devices will drastically affect the usability of the technology for navigating through content.

Special options may be provided for users who are most interested in engaging in challenging debates. Methods for following, understanding and attacking arguments will be important aspects of debating interfaces. Techniques that help reinforce the building of logical well-supported arguments will help enhance debate constructiveness. For instance, interfaces could give options for specifically

finding highly rated conflicting points, particular supporting research, or certain link patterns that demonstrate strength and weakness in logic and reason. The potential for applying complex math equations to the philosophies of debating could create some very interesting and powerful ways of coming to conclusions for public benefit.

Finally, to promote communication clarity the interfaces should be designed to encourage the following of language and formatting standards in content authorship. Part of the rating of interfaces should include how well the technology follows the cForum guidelines. While some users may want to be able to break out of the guidelines for one reason or another, interfaces that follow the standards help promote a common, accessible and effective public discourse.

POSSIBLE EFFECTS OF THE CFORUM'S IMPLEMENTATION

How the cForum will precisely effect a community is not knowable, but some educated guesses point to some very promising potential results. Increased public discourse would be the most obvious of possible effects. But what does this mean and in what other ways would a system of hyper structured, collaboratively rated and interactive communication affect a society?

One most common suggestion that has been around since the 'information super-highway' was first discussed in political circles, is the idea of improved democracy. Sometimes described as "tele-democracy" (Cross 180) or "e-democracy"(www.e-democracy.org) it has been tried in a limited scale through telephone systems, TV and websites. Attempts in Canada have resulted in minor and unrepresentative participation and the decisions made had almost no relationship to the opinions expressed by the participants (Cross 181).

The cForum system may have more success at tele-democracy than recent attempts through traditional media, but I argue that it is not the technology so much as the political system and culture of the communities involved that effect democratic participation. If people have traditionally not been involved with or even educated about the direct democratic process, they will not see why they should participate. There are also obstacles of over work, distractions and the perception that there is no value in a single person's opinion. More importantly, if there is no policy that ensures that what participants express will even affect decisions made, why would they bother? As stated in the first chapter, for direct democracy to work in any form, the people of the community must desire to participate in the process and must have ability to affect decision making by those in power.

That said, with supporting education and policy in place, the cForum could have a dramatic effect on how self-government is conducted. The key features of important information distribution, accurate public opinion surveying and constructive debating could lead to much more intelligent, informed and representative leadership. To take it even further, the cForum could be the foundation for direct democracy where collaborative rating would actually be the decision making process. I would suggest that if any community did want to attempt such a venture, they should begin with small controlled experiments to see where weaknesses in the system reside. But with close monitoring and a gradual maturation of the process, direct democracy could be practiced on a cForum like system even within the largest of mass societies.

John Willinsky, author of "Technologies of Knowing" has some interesting guesses how a cForum like system might also affect a community. In his book he describes a fictional "Automata Data" system for publishing social science information in an online database/forum type of environment.

Although similar to the cForum, Willinsky does not include important features such as cross-media publishing, a rating system, contextual linking, guidelines, flexible interfaces and many of the other ideas presented here. But his general ideas are close enough to the cForum to provide some insight in to what effects such a system might have. He suggests that informed debating would intensify , that average persons would become more adept at online research, that important communication would become more precise, standardized and structured, and that there would be a much better social return on investments in research.

I will extend Willinsky's ideas to suggest that if a cForum like system was embraced by a community, not only would communicating structured important information and debating intensify, but that the actual thinking process of average citizens would in effect become more structured and logical. As media theory has taught us, every communications technology fundamentally affects the people that use it. The more people use a medium that promotes compartmentalization, classification, relating, judging, and reasoning, the more people will apply these activities into their every day thought process. Much like how the 'cable TV generation' has created a culture filled with attention deficits, so may the cForum change the way people relate to their world. Exactly how, whether it is a good or bad thing and how it should be moderated are important issues to understand for any community that wishes to adopt such a powerful technology.

The cForum could also have dramatic effects on the world of academia. Not only would the cForum replace the informational need for published journals, lectures and organized conferences, but it may also encourage new forms of study all together. Similar to how the introduction of broadcasting created media studies, and how computers introduced us to programming, interactive design and even changed the way we study the human mind, so might the cForum promote new

kinds of research. Fields of study concerning the presentation and relating of information could explode into the spotlight. New methods of applying math to sort and relate information in meaningful ways may become an exciting field of research. Collaborative structured debating mechanisms could forever change philosophy and politics. While the early Internet has already changed our perception of community and interaction, the use of the cForum may require whole new definitions of many human relations.

If a community decided to embrace the tracking of their online personalities, new celebrities, leaders, visionaries and geniuses would emerge from the collaborative rating system. Those that consistently received high ratings would become superstars in their field of expertise. cForum stars would be recognized not for their character or appearance, but for their intelligence, social empathy and originality. Similar to how after years of ridicule and contempt, computer nerds are now appreciated and rewarded for their abilities, so might those who are most socially progressive and intelligent in their field be recognized by the masses.

The organizing and collaborating possibilities of the cForum would also promote the creation of new more niche interest groups. Easy access to specific information and ideas could be both dangerous and inspiring. The Internet has already allowed extremist, social activists, humanitarians and bigots alike, from around the world, to exchange ideas and collaborate on grand projects; the cForum will only enhance their capabilities.

The use of the cForum definitely raises questions of copyright. In a world of networked digital multimedia computers, content that can be recorded, can be copied and duplicated, and as any

computer scientist knows, as long as the base layer of the network protocol remains based on open standards, no policy will be able to restrict mass duplication and exchange of content. Copyright cannot be imposed in a society of skilled computer users. Ownership of communication is not enforceable in today's mass networked world and more importantly; ownership of communication restricts the exchange of knowledge and imagination and thus restricts the progress of humanity. For these reasons it is my prerogative that the cForum system should ignore copyright. I agree that communicators should be rewarded for their contributions to society, but alternative means need to be found to ensure that important information is not restricted to a privileged minority. (For more discussion on this topic, please research contemporary writing about "open source", "open content" and "copyleft").

Generally, one of the central goals for the cForum, (and many other educational technologies) is mass enlightenment: that every person have a better understanding of their world and the complex relationships that exist within it, and that people become empowered with knowledge and understanding to make smart choices and productive decisions. While such a Kantian ideal is possible, I think it would be rather naïve to assume that just by introducing yet another information technology that a new enlightenment would naturally come about. What will ultimately determine the affect of this technology, will be the people that use it.

FINAL CONCLUSION

Contemporary communication theorists understand that "organizations now have to work at creating and sustaining effective systems and cultural climates which promote the sharing of information and

knowledge" (Chun 27). It is my hope that the sum of the information and ideas in this paper will help this movement towards enlightenment: that it will teach people what public discourse is and how it functions to progress our communities; that it will show how communication technologies can both limit and excel our ability to perform the important pragmatic functions of public discourse; that it will be a resource for understanding the potential of our current technologies for public discourse; and most of all, that it will provide a plan for the development of vastly improved future public discourse technologies.

I believe that as much potential as such a technology as the cForum may have, it will be many other factors that will decide our future. The cForum will have little benefit in an undemocratic community with an oppressive government. Public opinions will have no merit if they are constantly being shaped by public relations professionals. More information will be of no value if our environment seizes to sustain human life. Insight will go largely ignored if we continue to only expect entertainment from our mass media. Without a thorough and heuristic education, the people of any community will not have much knowledge to contribute to any public discourse system. Without equality of access to the public discourse technology, discussions will only reflect the interests of the privileged. It must always be remembered that any public discourse technology is only a means to an end and that there are always other important factors in achieving that end. At best, the technology can help us coordinate and learn so we may find solutions for the greater problems in our society. In the end, the effect of any technology depends on how people make use of it. Just like how a knife can be used for cutting bread, cutting throats or simply left to rust, so will the results of the cForum rely on how people decide to apply it. Similar to Willinsky and others who have proposed new systems for enlightenment, it is my hope that the cForum will come about and raise awareness and understanding in society. At best, people will use the system to exchange important ideas and

information, begin to question the way things have been done and start to plan and organize for a better future. I believe that once discussed and understood, others will realize the value of such a technology and it will come about as a matter of course. The question is how and when.

Thank you for your time and effort.

*ADDENDUM - THE CFORUM AS AN OPEN SOURCE GLOBAL
COMMUNITY PROJECT.*

I will not go in to any depth here, but to answer the question "How would the cForum be created?" I recommend making it an international open source development project with public funding. I believe this method will allow the system to best achieve its goals of being freely accessible, unbiased and benign in its nature. Maybe even more importantly, making it a global community project would create a new sense of world pride and trust in our own ability to achieve our goals. Similar to the United Nations or the public Genome Project, this system could be another mark in the progress of humanity. Maybe I am overstating the importance of this system, then again, maybe I am not.

A good start can be found at www.advancethe.net

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