

Society, Cyberspace and the Future

Bruce Murray
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How Can New Interactive Communication Technology Enhance Harmonious and Functional Communities at all Scales Worldwide ?

Abstract

Rapid growth in population and consumption will place unprecedented stresses on natural resources, on the global environment, and on current economic and political systems through the next century. Stable, harmonious communities will be essential for dispersed leadership at all scales as traditional command-type political and of economic structures diminish in significance. New interactive communications technology can -- and must -- play an essential role in connecting individuals within diverse, dispersed communities. However, as with previous new technological developments in communications, negative effects on the stability and functionality of communities are also latent. In this report, we visualize both potentially positive and negative effects on communities and identify specific near-term actions and policies which can enhance broad, informed participation in content-rich networks in the future.

1. Introduction

The forbidding challenge of the next Century looms over the Present. Rapid growth in population and consumption will place unprecedented stresses on natural resources, on the global environment, and on current economic and political systems. The outcome of this fateful confrontation between humankind's inexorable growth and the planet's finite carrying capacity will ultimately depend on the behavior of billions of diverse individuals, who develop in and identify with an enormous range of communities.

Communications technology has progressively extended individual awareness beyond the child's face-to-face community since at least Gutenberg. Books, newspapers, transistor radios, cassette players, and video have each contributed to major historical change. Some new communication technologies like magazines in the late 19th and first half of the 20th Century have proven to be an integrating force socially. Some, like broadcast video, have undermined traditional communities more than they have helped develop new functional communities based on shared values and mutual obligations.

New interactive electronic communications during the early decades of the 21st Century will strongly impact individuals and groups, perhaps as profoundly as broadcast radio and video shaped the 20th Century. Inexpensive access to easy-to-use, two-way, content-rich networks are likely to attract enormous participation, at least in the developed regions of the world. Thus, it is important for those trying to fashion policies and actions leading to sustainable and enlightened conditions through the next century to envision how the transition

from one-way electronic mass communications to interactive and networked communications may impact communities of all kinds and thus modify the basis of behavior and governance in the century ahead.

That was the objective of a small exploratory workshop sponsored by the Markle Foundation of New York City and hosted by The Aspen Institute Communication and Society Program at Aspen, August 27-29, 1994. Here we present a brief summary of the general views that emerged.

2. Community and Communication

2.1 The Nature of Community. John Gardner has singled out the unifying notion of "community" as the key to viewing social and individual behavior generally. At the most basic level, members of any community are fundamentally bound by shared values and a sense of mutual responsibility. Face-to-face communities (the family, extended family, school, neighborhood) are where individuals first learn these shared values and mutual obligations. As individuals mature they identify to varying extents with larger, dispersed communities -- professional and economic, recreational and sports, ethnic and religious, political and geographic, social and "moral". However, for communities to be harmonious externally as well as internally they must provide not only a sense of belonging and wholeness for their members, but incorporate and tolerate diversity as well. This intrinsic tension between bonding internally and a sense of separateness - even hostility - externally is a universal attribute of community !

2.2 Worldwide Obsolescence of Hierarchical, Command Institutions has characterized the second half of the 20th Century. The abrupt collapse of the Soviet Union was the most dramatic example of the diminishing power of central governments worldwide -- but, similar patterns are prevalent in the US, Western Europe, China, Africa, Central America, Japan. The prevailing global trend now is strongly toward dispersion of authority and responsibility downward and outward with the need for increased two-way communication, as manifested by privatization of traditional government functions, downsizing of large corporations, and growth of small enterprises worldwide.

2.3 Dispersed, Self-organizing Leadership on an Unprecedented Scale is required in this emerging post-Cold War world. There is the necessity to go beyond just interacting to enhancing positive relationships and problem solving. Communities must offer members bonding beyond shared materialistic needs (they must incorporate subjective values). There is a uniquely modern need to reinvent community with each generation - the consequence of the unprecedented rate of social and economic change driven by accelerating technological change.

2.4 Conflict Resolution. Leaders need to receive feedback from community members. Hence, the importance of interactive communications. Interactive links are needed to bind communities large and small, nearby and remote, familiar and strange. There are successful examples of conflict resolution through interactive face-to-face communication, especially at the city level, but also in more dispersed communities. The potential of interactive networks to resolve or to exacerbate conflict needs to be better publicized and understood.

2.5 New Interactive Communication Technology (NICT for the rest of this report) can help communities to function better by facilitating dispersed leadership in the post-Command Era. But it also can erode a community's hold on members who will become more capable of interacting remotely with other, competitive communities. Like nearly all new technologies it offers hope and problems simultaneously. Our goal here is to help identify these potential benefits and liabilities, and to delineate near-term actions and policies that will tend to shift the balance toward benefits. First, however, we must consider the emerging nature of NICT.

3. Enabling Technological Trends

The new interactive technology bursting upon the scene in industrialized countries is the result of the confluence of diverse technical developments. Here we summarize the most important trends which we believe foreshadow a very broad and deep penetration of NICT.

3.1 Access to and use of nets for information and services will be fueled by enormous increases in ease-of-use and affordability :

- Continued cost reduction in computing and communication capabilities is universally expected by producers and users alike.
- Local-to-global access to nets is already drawing major corporate investment, including the prospect of universal wireless connectivity through very large numbers of low-cost, low altitude satellite relay links accessible even by hand-held devices.
- Easier use by a growing number of diverse individual users will be enhanced as networks incorporate automatic language translation, and as speech synthesis and recognition simplify the user interface.
- An increasing level of individual capability worldwide due to growing education and experience will continually expand the potential user base.
- The recent availability of color graphics on Internet with Mosaic and Netscape, and the prospect of video, highlight how rapidly user interfaces for networks are evolving to fully engage users. Ultimately, virtual reality can be expected to be commonly included in user interface with networks.
- The prospective merging of interactive TV, phone pad services, and virtual reality with cable and telephone networks to provide entertainment and a host of services has become the basis of major evolution of the entire communications and media industries.

3.2 Self-organizing properties of net users has been exhibited most vividly in the explosive, bottom-up growth of Internet. Although originally driven by a highly expert core of professionally-involved computer users, the current growth reaches far beyond such origins and indicates that self-organizing patterns of unsophisticated users will grow rapidly as more capable and easier-to-use access becomes commonplace.

3.3 The motivation for widespread use of the "Net" will derive from :

- Individual empowerment, "private" 2-way communication, multi-point, anonymity, multiple personalities, virtual personalities.
- Increasing availability of attractive and affordable services, individually selectable, not driven so much by least common denominator tastes as are broadcast TV and radio.
- Emergence of new benefits for both customers and suppliers of goods and services alike, such as record-generating capability of transactions, and cooperative relationships with potential consumers to receive relevant comparative product information when interested in contrast to present inefficient use of mass media to reach a tiny fraction of mass audience who are actually potential customers.

4. Primary Consequences

4.1 NICT enhances horizontal relationships and institutions, often at the expense of vertically-organized endeavors. This tendency reinforces the broader trend toward organizational downsizing and flattening which is already accelerating in developed locales and regions. It also might help empower villages in the future, where most of the world's peoples still live, and perhaps help stem the devastating mass migration from the countryside to urban sprawl that looms in the coming decades.

4.2 NICT generally will enhance the operation of markets and participation of individuals and groups in governance. However, it also facilitates instantaneous assessment of opinions, which may lead a representative governing system to be so driven by short-term mass opinions as to become incapable of sustained governance. A Representative Democracy, which traditionally incorporated to time for leaders and citizens alike to evolve attitudes and compromise, may not survive in the face of instant polling and publicizing of those instant opinions. "Wholeness incorporating Diversity" may be difficult to sustain in an era of instantaneous opinion generation and tallying.

4.3 The role and structure of societal "intermediaries" will evolve rapidly. NICT will enable individuals and groups to bypass existing sources of "news" and information, as well as established controls on access, e.g. 900 telephone numbers, etc. New intermediaries will arise to authenticate "information" and to facilitate access and use. Who will play this key political and social role in the future ?

5. Potential Obstacles

Any new technology usually threatens the previous infrastructure in some way. New capital investment is usually required as well. So there are inevitably institutional and other obstacles to the introduction of NICT. In addition, the enormous potential impact of NICT on beliefs and actions will inevitably lead to attempts to control or subvert it. Some of the possible obstacles to NICT we foresee are :

5.1 Consolidation of providers of access and services, resulting from normal market forces, could lead to price barriers to access, monopolistic control of access, and even to supply-side filtering and manipulation. Thus, the possibility cannot be entirely ignored of an Internet "wasteland" arising analogously to how a few channels of black and white broadcast television once seemed to promise a widely available and affordable source of information but instead evolved into many tens of color channels completely dominated (and corrupted) by entertainment needs.

5.2 Will Net anarchy lead to Net control ? How can diverse and decentralized users who never meet face-to-face incorporate mutual obligation with shared goals and thus become a continuing community ? If this cannot be maintained on a voluntary, communal basis (continuing the bottom-up approach of Internet) there inevitably will be a call for top-down control.

5.3 Tendency of political and religious authority to seek control of such a powerful new means of human discourse and interaction is likely. For example, will there be :

- Attempts to control receivers ? This practice may be unworkable, like fax machines in China.
- "Moral" prohibitions from listening and, especially, from interacting ? That approach may be tried in Fundamental religious communities, e.g. Shiite Moslems.

5.4 Information Overload and Saturation could become the most significant barrier to utilizing the potential of the Net for all but the most sophisticated users. Will software "agents" and "filters" really empower ordinary individuals and small groups to navigate the vast ocean of information, trivia, misinformation ?

5.5 Equity Issues. Lack of sophistication, expertise, and capital in the countryside, as well as within the urban underclass, could lead to :

- Technical interference as a manifestation of anger and disempowerment.

- Opposition to government funding on the basis of unfairness and unequal access and preparation.

6. Near-Term Desirable Actions

6.1 Encourage societal activities that can accelerate growth and broad use of NIAC, such as :

- Encouraging inexpensive and user-friendly connectivity for schools so that skills are developed early and naturally.
- Mandating and funding NIAC in government services and operations.
- Creating additional private incentives, such as accelerated depreciation for investment in NIAC.
- Mandating and encouraging separation of ownership of entities involved with content production from those that provide access.
- Enhancing the education of potential users of all ages leading to increased ability to select, use, and interpret what they can access on the Net.

6.2 Develop Means to Enhance Participation of Countryside and Urban Underclass

- Expand positive city experience with interactive communication to countryside through subsidized demonstration links.
- Increase the ability of countryside and urban centers to compete in use of refs with city dwellers through subsidized access and training.
- Make more credible the oft-promised benefits of telecommuting and the ability to work from rural and inner city locations through networking.
- Encourage local ownership of access systems and encourage local involvement in some content production.
- Develop incentives to mitigate possible negative reaction by developing peoples and regions to perceived "cybernetic colonialism", such as early, subsidized involvement of poorer regions.

6. Next Steps

The purpose of the small, informal Aspen conference was to explore how new interactive communications were likely to affect human behavior in the coming century. This is a useful way to engage part of the larger problem of collective visualization of future possibilities and the developing of consensus for near-term moderating actions. From the point of view of the participants, the Aspen conference was quite successful in better defining the topics and the issues. Indeed, some well-focussed conferences start with a well defined "terms of reference". In our exploratory case, we were delighted to end with such which became the basis of this report.

The ultimate objective of this kind of work is to catalyze visualization of the future, especially concerning well defined technological themes like interactive communication. Such widespread visualization can stimulate constructive responses by the very communities we allude to in our report - governmental, private, and non-profit at local, national, regional, international scales.

As far as the direction now for the effort reported here, it is desirable to broaden the dialogue and discussion and to improve and extend the analysis. Secondly, it is important to gather relevant, factual information. For example, are there examples of interaction on electronic networks that have been important in conflict resolution and in building community ? We must also ask if they have had the opposite effect. Thus, we are circulating this report for comment.

An immediate approach by Murray will be to make this report available on the World Wide Web and solicit

discussion of and inputs to it through Internet, especially factual current and past examples that may be relevant to our projections.

The resulting improved analysis, with richer details, then can form the basis of other kinds of interactions in other media.