A Strategy for Human Rights:
Five Internet Projects That Can Change the World

by
Lloyd S. Etheredge

> *Most movements that are self-described as radical are highly urbanistic, or nationalistic, or oriented to obsolete class structures, or to central bureaucratic planning. The changes that we can see on the horizon are much more drastic than that. They reflect the ease with which communication can operate over global distances, and the abundance of bandwidth that can now be made available to all, without producing any exhaustion of the earth's resources . . . People who think about social change in traditional political terms cannot begin to imagine the changes that lie ahead. Conventional reformers cast their programs in terms of national policies, or in terms of laws and central planning. But in the end, what will shape the future is a creative potential that inheres in the new technologies [of freedom].*
>
> - Ithiel de Sola Pool [1]

The emerging global Internet brings remarkably good news for human rights. Today, as has often occurred in the past, institutions lag in taking advantage of new technologies. But if we recalibrate our imagination, there are new capabilities for political acceleration and problem-solving that would have seemed a miracle, beyond imagining, to earlier generations of statesmen.

First, I will draw four lessons from social science to predict how new communication technologies will partly shape our future. Then I will use this framework to explain five

---

[1] Ithiel de Sola Pool, Four Unnatural Institutions and the Road Ahead (1983), in *Politics in Wired Nations: Selected Writings of Ithiel De Sola Pool*, ed. Lloyd S. Etheredge (New Brunswick, NJ: Transaction Publishers, 1998), 237.

projects - beginning with the partial redesignation of the former USIA s global satellite net - to accelerate international progress. These initiatives are not conventional political and human rights projects per se - i.e., they do not target the behavior of governments directly, and they are not databases or lectures. Rather, they are intended as system-level rewirings - complementary initiatives - that use new and unique technology to create a world order that naturally generates more rapid progress for human rights. Our foundation has been laying the groundwork for these five innovations: They are projects that institutions with a commitment to human rights can help to make possible.

I. Four Lessons and the Road Ahead

As a background, I will assume that you are aware of the continuing good news of rapid improvement in communications and computing technology and reductions in cost. These benefits will rapidly become available on a global scale: Today, the Internet has footholds into almost every country, and - breaking free of the earthbound economics of telephone wires, especially for the underdeveloped world - we are in a five-year period when we will launch more communication satellites into earth orbits than all of the satellites launched in the previous 40 years since Sputnik.[2]

[2] John Montgomery, "Fiber in the Sky," *Byte*, November 1997, 64.

Until now, communication across large distances and to many people has been relatively expensive, accessible only to a few actors, and used technologies that could be regulated easily by governments. These constraints will continue to be mitigated by the forces of technology, and by deregulation and the growth of competition in the developed and Third World. [3] [4]

Four lessons (Table 1) about where these changes will take us:

---

[3] E.g., What will be the price of this magical universal service? Surprisingly, on a per-bit basis, every company I talked to said it will be probably not much more than what you re paying for your land line services. That may seem like a pretty amazing statement, considering the investment required to get some of these systems running - Teledesic, for example, is forecasting a $9 billion start-up charge . . . But Teledesic president Daggatt thinks it s reasonable. It s a very high-capacity system. And unlike a wire-line network, where all the capacity of the infrastructure is rigidly dedicated to locations and users regardless of whether they are actually using it at a given moment, Teledesic offers bandwidth on demand, where the system capacity used is limited to that required by a particular user and a particular application at a particular moment. . . . Other system operators agree. Savatiel [Karl Savatiel, Vice President for Broadband Systems at Lockheed and President of Astrolink] says, The price can compete with underutilized T1s, like 25 percent utilized T1s. . . . [Ron Maehl, President of Cyberstar]. . . sees Cyberstar s service coming in at about $20 per month for basic service Montgomery, op. cit., pp. 70, 72. However these are wholesale prices and the charges to individual end-users (i.e., without a purchasing cooperative, discussed below) could be much higher.

[4] For a historical overview with informed discussions of deregulation see Ithiel de Sola Pool, *Technologies without Boundaries: On Telecommunications in a Global Age*, ed. Eli Noam (Cambridge, MA: Harvard University Press, 1990).
Harvey Sapolsky and et al., *The Telecomunications Revolution: Past, Present, and Future* (New York, NY: Routledge, 1992). Recent developments are summarized by Frances Cairncross, *The Death of Distance: How the Communications Revolution Will Change Our Lives* (Boston, MA: Harvard Business School Press, 1997).

Lesson 1: **Increased Capabilities for Political Acceleration and Vision-Created Futures**

The first lesson is that we will receive a windfall of increased capabilities for vision-created futures.

This lesson builds upon the work of my former colleague, Ithiel de Sola Pool, who called the new technologies, technologies of freedom. [5] By this description, he meant that the world is entering a new era. From the first era of: 1.) traditional methods of communications, humankind moved to: 2.) mass communications, especially mass-circulation newspapers in countries with growing literacy, radio and television; and, today, to 3.) a new era of computer-based high-capacity networks, of increasingly global scale, user-initiated and user-controlled, interactive, low-cost, and widely available.

Thus, the story of our new global communications order is <u>not</u> primarily 500 or more mass communication television channels on each television set. As the new era slowly dawns, the more powerful story that will emerge is the possibility for hundreds of millions

[5] Ithiel de Sola Pool, *Technologies of Freedom* (Cambridge, MA: Belknap Press, 1983).

Table 1

The Internet and World Politics: Four Lessons

- **Increased Capabilities for Political Acceleration and Vision-Created Futures**

- **New Communication Technologies Promote Cosmopolitan Identities and Universal Norms**

- **The Prediction of Mixed Blessings**

- **The Prediction of Counter-Learning**

of individuals and institutions to create global links, moving from the old Email lists to do-it-yourself global television channels on desktop PCs, that routinely can reach audiences of hundreds or thousands: Yale Medical School, for example, has prototyped a regularly-scheduled Global Grand Rounds colloquium series (http://info.med.yale.edu/EIINet) that links weekly, with audio and slides, to several thousand health professionals in 140+ countries.[6] Continuous streaming audio and video also will be increasingly available to global audiences without government regulation (e.g., www.broadcast.com - an application that is well-established for teenage music events.)

I think that Ithiel Pool's political forecast, in the quotation at the beginning of this paper, is correct: for applying this new type of technology the traditional language and categories for political activism can be limiting anachronisms: - e.g., People who think about social change in traditional political terms cannot begin to imagine the changes that lie ahead. Conventional reformers cast their programs in terms of national policies, or in terms of laws and central planning. But in the end, what will shape the future is a creative

[6] The technical steps are routine and require about 1.5 hours to edit lightly, digitize, and compress the audio component of a 1-hour presentation, and 30 minutes to digitize and compress 20-30 slides. Including the original recording (by conventional means) and later uploading to a Web site, universities report that about 3-4 hours of a technician's time is involved to make a 1-hour presentation available on the Web for global distribution, with charges ranging from $20/hour - $65/hour. This is a relatively small additional cost, given the expense of a major conference or distinguished lectures series, and it also makes presentations available to alumni and to campus viewers who were not able to attend at the time of the original presentation.

potential that inheres in the new technologies [of freedom].

The phrase "technologies of freedom" is a social science designation, based upon Pool's analysis of the impact of the telephone, the first of these new technologies.[7] The expansion of the telephone did not automatically force a future in a tightly-coupled process. Rather, it empowered almost everybody: it gave people and institutions more options, and made them more efficient at pursuing many goals: people could call friends or schedule voluntary activities in the new suburbs, businesses could serve customers quickly and coordinate activities at greater geographical distances, gamblers could call their bookmakers to place illegal bets, and local chapters of both the NAACP and the Klu Klux Klan could call their members. You cannot predict the full range of results from a technology of freedom until you know what people are drawn to do.

I will return to the implication of Pool's view - that, in the new era, progress in human rights can be shaped more effectively by the creative potential of the Internet than by programs cast in terms of laws or government policies - several times in this presentation.

---

[7] For an overview of Pool's work, see Lloyd S. Etheredge, ed. *Politics in Wired Nations: Selected Writings of Ithiel De Sola Pool* (New Brunswick, NJ: Transaction Publishers, 1997).

Lesson 2: **New Communication Technologies Promote Cosmopolitan Identities and Universal Values**

> *"Without [the printing press], the Reformation would have been limited to a relatively minor theological dispute in a remote German province, and the Scientific Revolution, with its dependence on international communication among many scientists, would have been altogether impossible."*
>
> -Richard Tarnas [8]

Major improvements in communication technology typically widen identifications and the geographical range and scale of social, economic, and political organization. For the most part, they have been modernizing. An increasingly wired world may produce, some forecasters predict, the next step, a universal and cosmopolitan global village.[9]

Technically, since better communication technologies simply reduce the cost of a

---

[8] Richard Tarnas, *The Passion of the Western Mind : Understanding the Ideas That Have Shaped Our World View* (New York, NY: Harmony Books, 1991), 226. Tarnas (ibid.) continues, *"Moreover, the spread of the printed word and growing literacy contributed to a new cultural ethos marked by increasingly individual and private, noncommunal forms of communication and experience, thereby encouraging the growth of individualism. Silent reading and solitary reflection helped free the individual from traditional ways of thinking, and from collective control of thinking, with individual readers now having private access to a multiplicity of other perspectives and forms of experience."*

[9] See, for example, the works of Marshall McLuhan, e.g. Marshall McLuhan and Quentin Fiore, *War and Peace in the Global Village; an Inventory of Some of the Current Spastic Situations That Could Be Eliminated by More Feedforward* (New York, NY: McGraw-Hill, 1968).

ubiquitous factor of production, all institutions and agendas can benefit. But some can benefit more than others: parochial, tribal, and xenophobic sensibilities can make less use of their widening potential. By contrast, institutions and groups that wish to learn what is going-on, to reach-out and linkup, to build networks and accomplish wider projects, can do so, at low cost. New networks of relationships - commerce, science, the arts, NGOs - can expand and be readily sustained.[10]

To be sure, as I will discuss below, there is always the possibility of regression: fragmentation, retribalization, and/or the option to use new technologies for political control and to reverse progress in human rights.[11] 1984 imagined the possibilities of perfecting telecommunication technologies for the mass manipulation, invasion of privacy, and totalitarian control that Fascist and Communist states have attempted. However, the road ahead is more likely to take us further in the direction first illustrated in the Renaissance. Then, moveable type, growing literacy, and a reliable postal system first produced a genuine

---

[10] The historical shift toward a more modern, cosmopolitan, and enlightened sensibility is suggested by the human baseline observed by the economic historian Charles Kindleberger: *"Man in his elemental state is a peasant with a possessive love of his own turf; a mercantilist who favors exports over imports; a Populist who distrusts banks, especially foreign banks; a monopolist who abhors competition; a xenophobe who feels threatened by strangers and foreigners . . ."* Charles Kindleberger, "International Public Goods without International Government," *American Economic Review* 76, no. 1 (1986): 4.

[11] Retribalization does occur. Latin (once, a universal language that eased the tasks of communication and commerce) surrendered its status to the new forces of group identity and the appeals of the vernacular.

community of scientists and scholars, a humanistic sensibility, and a degree of excitement and international cross-fertilization that stimulated spectacular progress in many fields.[12]

Politically, new communication technologies also are tools that support the increased size and scope of organization, including governments. Thus, even if there are tendencies to disband large organizations and bureaucracies - as some New Age prophets predict - another mode will, if history is our guide, be a major increase in international trade, transnational corporations and alliances, international linkages involving a wide range of institutions, the expanded formation of international regimes in specialized areas, further globalization of international financial markets, etc. And there may be crosscutting linkups among global cultures: *pace* Huntington, who sees a world of traditional ethnic/religious cultures and their anticipated clashes, we have seen the rise of a global teenage culture linked through music and MTV (which has become one of the first global television channels.)[13]

---

[12] John Rigby Hale, *The Civilization of Europe in the Renaissance*, 1st American edition ed. (New York, NY: Atheneum, 1994).

[13] E.g., contrast Samuel P. Huntington, *The Clash of Civilizations and the Remaking of World Order* (New York, NY: Simon and Schuster, 1996). with Timothy Dean Taylor, *Global Pop: World Music, World Markets* (New York, NY: Routledge, 1997). and Robert Burnett, *The Global Jukebox: The International Music Industry* (New York, NY: Routledge, 1996). For an example from cuisine, see William Grimes, "The French Learn to Speak Fusion," *The New York Times*, April 14 1999.

Lesson 3. **The Prediction of Mixed Blessings**

As a counterpoint to excessive enthusiasm, the third lesson is a prediction of mixed blessings.

Advocates of new technologies - and even the public, in opinion polls - often anticipate high-minded results. (Radio would bring opera and symphonies to the masses. The Internet will allow high school students across the country to access the transcripts of Presidential press conferences, download weather reports from Kenya, and browse the Library of Congress . . .) But freedom offers no guarantee except choice: the viewership of soap operas has grown more rapidly than for real operas; scientists use the Internet for scientific communication - and it is an invaluable resource - but a multibillion dollar/year international drug industry does not operate by smuggling paper currency across national boundaries and benefits enormously from the freedoms of new communication links. And people (or governments) who want to pry may find it easier to obtain private information about anybody.

Any exercise in forecasting also should include a thoughtful reminder of the deep skepticism of mass democracy, and mankind's alleged susceptibility to demagoguery and skillful propaganda, which began with Greek observations of their own experience. By this

scenario, the road ahead also might see the hyped use of mass communications and electronic technology to create a media circus of superficiality, dizzying overstimulation and norm-challenging sensationalism, image, misdirected priorities and perhaps - depending upon who is drawn to use the new technologies - newly retribalized and impassioned societies.[14] Americans - and the world - have recently seen the potential effects of media competition for audiences on the attention that zealots can capture and the dramatization of scandal in the impeachment of President Clinton. We are in the uneasy position of hoping that the world s foreign newspapers and journalists, in dealing with international relations, will be more sober and responsible than our internal news organizations.[15]

Other results probably will differ from the more idealistic expectations, a point made candidly by Larry Ellison (founder of Oracle), one of the multi-billionaires of the new

---

[14] For a comprehensive historical overview, see Harold D. Lasswell, Daniel Lerner, and Hans Speier, eds. *Propaganda and Communication in World History* (Honolulu: University Press of Hawaii, 1979).
Harold D. Lasswell, Daniel Lerner, and Hans Speier, eds. *The Symbolic Instrument in Early Times*, vol. 1 (Honolulu: University Press of Hawaii, 1979).
Harold D. Lasswell, Daniel Lerner, and Hans Speier, eds. *A Pluralizing World in Formation* (Honolulu: University Press of Hawaii, 1980).
Harold Dwight Lasswell, Daniel Lerner, and Hans Speier, eds. *Emergence of Public Opinion in the West* (Honolulu: University Press of Hawaii, 1980).

[15] See Lloyd S. Etheredge, Human Rights Education and the New Telecommunications Technology, in *Human Rights Education for the Twenty-First Century*, ed. George J. Andreopoulos and Richard Pierre Claude, Pennsylvania Studies in Human Rights (Philadelphia, PA: University of Pennsylvania Press, 1997). Esp. pp. 547-554, 559-564 for a cautionary discussion.

computer and telecommunications industry who will be bringing it to us. He was asked, in a recent interview, about emerging strategies and plans for profits in national and global markets, including such "killer applications" as video (e.g., movies) on demand; home shopping channels; video games; direct-response advertising; and gambling:

> *"[Gambling] is going to be huge. We are a bunch of sinners, as Pat Robertson might say. He will be able to come on and tell us about our sinning, and when we get tired of that we can go back to gambling. I don't think people are anxious to introduce this service right up front. I think we are all trying to be socially responsible and try to get the health care and education applications up before we get the pornography and gambling up."*[16]

New, inexpensive channels that, like small circulation journals, can serve niche (rather than mass) markets also can empower political groups that were previously unorganized, marginalized, and ignored in mass markets. We have already seen this phenomenon underway: as new technology made possible the expanded capacity of cable television, the television evangelists of the political right emerged, with organized political followings and cash incomes provided by the new technology.

Thus my second lesson, of historical currents drawing us toward more homogenized, cosmopolitan, and tolerant cultures, is not a sole consequence of new telecommunications technology. As in an ocean, currents at different levels can move in different directions.

---

[16] Larry Ellison, "Interview with Larry Ellison," *Broadcasting and Cable*, January 17 1994, 84.

Each direction will depend upon what different people want. Soon, if some people decide they really do not like one another or the homogenizing option of a mass culture, they can begin to retribalize and live within separate and fragmented realities and neighborhoods surrounded by electronic walls. Black channels, Jewish channels, Hispanic channels, Chinese/American channels, teenage channels (MTV), regional channels, etc. may grow. The new tribes may have an electronic (rather than geographic) organization. Political power within such electronic tribes may become more readily available to charismatic, demagogic personalities, now with ready and affordable access to global links unconstrained by licensing review. And some groups predictably will create Web sites that engender paranoia and/or display hostility to anybody interested to visit them.

Lesson 4: The Prediction of Counter-Learning

My fourth lesson is the prediction of counter-learning.

Since the invention of moveable type, there has been an early enthusiasm that each new communications technology will give greater voice, organizational resources, and power to the dispossessed; free citizens and society from traditional authority; and, thereby, provide a

fundamental and permanent advance for human rights.[17]

But, especially when there are challenges to powerful institutions, reliable forecasting is seldom a matter of multiplying fixed coefficients in standard linear equations. Historically, initial enthusiasms are typically over-optimistic and ignore the (predictable, dialectical) phenomenon of counter-learning. After a lag, a counter-Reformation begins: groups with opposing interests learn to adapt and organize to regain control and neutralize adversarial advantages. After the initial period of expanding freedom and enthusiasm, a period of greater regulation follows; and this in turn requires extraordinary and lengthy historical battles to regain the rights and progress that appeared, in the earliest days, to be secure.[18]

For example, Gutenberg invented movable type and the printing press in 1451 and in its early decades the technology was used relatively freely - often to publish Bibles and other established, respectable texts for those who could afford them. But as printing became

---

[17] There is truth to these claims: the development of popular democracy can be seen as a political history of a free press and literacy.

[18] Similarly, when the language of human rights comes to define progressive politics, all groups will be drawn to recast their claims into such language. With only modest casuistry, the claims of both group integration and group separatism can promote themselves for inclusion in human rights education.

The claims for respect of traditional cultures and native peoples will be an especial challenge: various myths of national or tribal virtue notwithstanding, traditional practices have - almost universally - been partially egregious; worldwide, discrimination remains ubiquitous.

more widely used as a tool for political change, restrictions followed, although with a lag: in Germany, censorship of books was introduced in 1529; the legal restriction on the right to publish was introduced in England in 1557; in 1559 the Catholic Church introduced the Index Expurgatorius.

Two hundred years later, in the American colonies, the ownership of a printing press required a government license. The idea of allowing freedom of printing was considered as dangerous as permitting the unlicensed sale of explosives.

Similarly, radio was invented in 1895 and (at first) could be used freely. Beginning in the 1920s, after the US Navy began to experience interference with its activities, the case for government regulation steadily grew.[19]

This fourth prediction - counter-learning - is also implied by the earlier lessons:

From Lesson 1: As new technologies empower more people and institutions to pursue their own visions, one result (in a world where discrimination and injustice remain ubiquitous) will be to accelerate progressive and humanitarian politics.

[19] Pool, *Technologies of Freedom*.

From Lesson 2: As genuinely cosmopolitan identities emerge, they can threaten adherents of more limited, parochial, or traditional values and loyalties.

From Lesson 3: As genuinely mixed blessings emerge, they will create motives and opportunities for restrictive coalitions linking ad hoc majorities who dislike or fear the erosion of boundaries (including empowered activities of numerous minorities, pornography, or gambling, indulgences in unrestrained sensationalism, invasions to privacy, subversions of copyright, loss of geographically-based tax revenue or changing economic benefits, or other activities) that might be reinforced by general restrictions on the new technologies.

I will turn to a full discussion of implications of this lesson - of a unique window of opportunity that may begin to close - later in this paper. At this point, let me underscore one implication for human rights strategy: ***Organize, move quickly, and take as much ground as possible.***

II. Five Internet Projects That Can Change the World

To draw implications for system-level innovations to promote human rights, I want to

use a non-legalistic, outcome-oriented framework developed by Lasswell and McDougal. This policy science tradition of jurisprudence sees the achievement of human rights as the realization of a world commonwealth of human dignity. And this is defined by better resources and outcomes for all human beings, indexed by eight categories of values: power, wealth, enlightenment, respect, rectitude, skill, affection, and well-being. It is a reasonably inclusive list (allied with the spirit of the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights) and widely accepted across cultures and countries.[20]

By this conception, the achievement of human rights becomes a broad application of social science. And the new strategies for using new communication technologies to achieve human rights need not be framed in terms of laws or the language of legal rights.

Here, for example [Table 2] are five projects that rewire aspects of the international

---

[20] The Lasswell-McDougal approach also has an advantage that it is unnecessary to derive (or argue about) justifications from Constitutions or other traditional sources of legal justification: Harold D. Lasswell and Myres S. McDougal, *Jurisprudence for a Free Society: Studies in Law, Science and Policy*, 2 vols., The New Haven Studies in International Law and World Public Order (Boston, MA: M. Nijhoff, 1991). Similar non-legalistic approaches to human rights are reflected in Johan Galtung, *Human Rights in a New Key* (Cambridge, MA: Polity Press, 1994).
Amartya Kumar Sen, *Development as Freedom* (New York, NY: Knopf, 1999). The UN Declaration and International Covenant are reprinted in Walter Laqueur and Barry Rubin, eds. *The Human Rights Reader*, Revised edition ed. (New York, NY: Penguin Books, 1989).

system so that progress in human rights can occur more quickly and naturally:

Table 2

Five Internet Projects That Can Change the World

1.) **A global CSPAN, using Internet technology**

2.) **Pre-empt the Information Scarcity Gap**
- global CSPAN
- 100,000 basic Internet terminals for UDCs ($15m - $20m)
- global purchasing cooperative for health, science, and education in UDCs

3.) **Create Large-Scale Collaboration Systems** - e.g.:
- Education - foreign languages
- Education - conflict resolution & human rights education
- Inventions Wanted . . . global Tuesday brownbag
- Visual display systems for ending world hunger

4,) **Organize Opportunities for Global Philanthropy** - e.g.:
- International Public Health Channel
- International Cultural Affairs Channel
- International Studies Channel (cooperative)
- Spiritual Inquiry Channel
- Education Research Channel - all school subjects

5.) **Organize Global Stakeholder Financing for Scientific Communication and Economic Growth**

Project 1. **A global CSPAN, using Internet technology**

The first project is a partial conversion of the former USIA s (one-way, outbound) global satellite capacity [http://www.ibb.gov/worldnet/satmap.html] to create a Global Affairs Channel, using Internet technology.[21] This channel, by analogy to our domestic CSPAN, would acquire discussions of international interest from many sites internationally and make them available on desktop PCs in all countries.[22]

[The Internet technology for a Global Affairs Channel can improve upon our domestic

---

[21] If the Global Affairs Channel begins with a rudimentary, public domain technology a one-hour presentation (audio + slides every 2-3 minutes) can be compressed to about 6-8 megabytes, that can be reconstituted by the PC at the other end. This can be transmitted globally in about 1 second over the USIA s global satellite networks that were built for commercial radio and televison during the Cold War. And, thus, each 10 minutes per week of the global satellite capacity would support 600 hours (60 seconds/minute x 10) of shared programming. The technology is good enough to begin, and steady improvement can be anticipated.

Since all INTELSAT satellites are regulated by intergovernmental agreements, another route would be to create such a global multimedia satellite backbone, to be available without charge for global projects, via inter-governmental agreement. But it will be easier if the US government begins the project by converting its underused Cold War assets.

[22] This project has been proposed in Richard Burt, Olin Robison, and Barry Fulton, *Reinventing Diplomacy in the Information Age: A Report of the CSIS Advisory Panel on Diplomacy in the Information Age*, CSIS Panel Reports, 0899-0352 (Washington, DC: Center for Strategic and International Studies, 1998). This report by an advisory group of 63 people represented a wide range of American institutions (including former government officials from both parties.) The traditional practices of diplomacy were created for a world of absolute monarchs who conducted international relations by the court protocols of the age of the Congress of Vienna (1814-1815).

CSPAN in three ways: 1.) Programming can be archived on local servers and retrieved at a user s convenience; 2.) It will be possible to skim presentations and use time efficiently; 3.) The presentations will be linked to Web sites that support discussions with presenters, retrieval of printed texts - perhaps in several languages, linkups of viewers who discover shared interests, etc.]

The Global Affairs Channel would send the right messages and build the right norms. Respect is important, in domestic and world politics, and it can convey enormous respect to have policy conferences in Beijing or Moscow available to a global audience.[23]

The Channel also will create a new degree of international due process. It should quickly become the world s most prominent forum, and it can be used by individuals and organizations to make claims and proposals and to linkup government and NGO professionals, foundations, scientists, and others with an engaged interest to respond or address urgent global issues. And it will extend the potential reach of every speaker and NGO conference to the desktop of every Foreign Ministry in the world: by contrast - today -

[23] It also can express respect for people in all countries to assure that the highest quality material concerning a wide range of global issues is universally available: A distinguished lecture series that is an international crossroads in women s health at the National Institutes of Health, for example, will no longer be restricted to people who can attend in Bethesda, Maryland. Any discussion of international interest can be available to all peoples.

when the Rockefeller Foundation organizes a conference, the audience typically is limited to those who have the economic resources to attend physically, at a specific place and time. And there are the familiar anxieties of conference organizers about attendance and - if a foundation report is issued - whether it will receive any visibility in the press and whether it will sell. (And, even if it sells, there is the deeper anxiety about how many policy-influencing people will have the time to read the report, or skim it, or even to skim the Executive Summary.) A Tuesday brownbag in international public health on a Global Affairs Channel, presenting high quality programming that nobody would miss, may only achieve an audience of 2,400 government and NGO professionals - but a presenter could have a professional audience of the key people, worldwide, who need to be linked in a common discussion (and to know that their counterparts are linked) to move agendas.

Obviously, the selection of program material is critical. In an earlier iteration, the governments of the world created the United Nations General Assembly as a forum for public discussion of humanity s agenda - and we have inherited a venue for speeches conveying the official positions of governments that is almost universally ignored by every newspaper and has become an obligatory bore even for the members.[24] Better, I think, is a plan that uses a framework of value outcomes (such as the policy science list) and bloc-

[24] Every user of on-line discussion forums and chat rooms recognizes how quickly these idealistic innovations can alienate users and kill themselves.

grants global air time to a wide range of NGOs, universities, and think-tanks in all countries who adopt a policy-analysis, problem-solving approach rather than the traditional (implicit) UN categories of nation-state interests and/or nation-state personae announcing their positions.[25] Thus, the Human Rights Program at Harvard Law School might receive a bloc grant for seven hours in 2001-2002 for its distinguished lecture series in human rights - a grant that would not involve any prior review of speakers or topics. The lecture series and conferences at the National Institutes of Health - a crossroads of the best and latest ideas in basic research, clinical applications, and areas of American international leadership (e.g., malaria and polio eradication, women's health, environmental health, emerging infectious diseases) could begin a Global Grand Rounds initiative that, overnight, will enrich the curriculum at every medical school, research university, and four-year college in the world. The National Committee for US-China Relations could receive a bloc grant to extend invitations to universities and international policy institutes in China.

In reviewing the emerging architecture of the Channel as a result of these bloc grants, a

[25] There is a list similar to the policy science list, developed by Vice President Gore's Reinvention process at the Department of State. The list includes such goals as: security and peaceful settlement of disputes; human rights and democracy; economic growth with well-functioning global markets; health; effective assistance in humanitarian emergencies, and environmentally-sustainable development. The list is bipartisan and based on wide consultation in America. It omits several goals (e.g., education/enlightenment) but it is a good beginning.

governing Board could, in the interests of fairness, add (but not censor) programming.[26]

Within the list of shared goals the Channel would seek, with journalistic integrity, to represent the views of actors sharing the commitment to progress and to support innovative projects intended for global audiences. [27]

Project 2. **Pre-empt the Information Scarcity Gap**

The second project, building upon the Global Affairs Channel, is to pre-empt the information scarcity gap - and, thereby, avoid an unproductive use of traditional political categories that can require idealistic people to struggle (unnecessarily) for decades to solve the problem.

The international development community has already started to gear-up for a major effort to frame issues in this traditional way, and mobilize reformist concern about the

[26] It also could issue invitations to countries (e.g., China) with a greater cultural distance where institutions would not necessarily apply but linkups and dialogue about global issues would be desirable.

[27] The partial conversion of USIA s global satellite net (and 300 downlink sites, at all Embassies and Legations) will provide a large, prepaid pipeline for Internet multimedia, a capacity that is especially helpful for links to UDCs. The support of the US government also will give high visibility to the project, dramatize the opportunity for creative global applications (with free global transmission) and should help to secure matching investments from other major players (e.g., the discussion of 100,000 basic Internet terminals, below.)

alarming and growing gap between haves and have-nots in the information age.

However, this is unnecessary. As far as information is concerned, the partial conversion of the unused capacity on USIA s global satellite nets will make possible, overnight, a daily flood of digitized data that could almost-surely be greater than anybody could want.[28]

To pre-empt the gap fully, two remaining pieces are needed. First, it would be helpful to provide a critical mass of 100,000 basic Internet terminals for health, science, and education - basic public access - for the poorest countries. And it would be useful to have a global purchasing cooperative for bandwidth, equipment, and software to assure that the lowest available prices for a rapid growth of Internet-based global applications are available to UDCs.

In principle, the acquisition of 100,000 terminals is easy - and perhaps especially so because the value of the American stock market has quadrupled over the past decade. The new (i.e., in the fall of 1999) Alcatel Internet screenphone is an example of emerging Internet appliance techn ology that can soon be purchased, in quantities of 100,000, for $150 - $200. Alternatively, $15 million is within the roundoff error of the personal wealth

[28] In addition to multimedia programming, the satellite net can be used to transmit databases such as the Index Medicus.

of a rapidly-growing number of first-generation multi-billionaires of the new information age - people who might enjoy the chance to make a critical, catalytic investment and revolutionize the world of international health, economic development, and other human rights by contributing to a historical startup package that (already) includes the global satellite time and a core of high-quality programming.[29]

Concerning a global purchasing cooperative for health, science, and education in UDCs: The character of new technology makes cooperative purchasing an attractive option: The new low-earth-orbit (LEO) satellite nets are not in geosynchronous orbits, and they are often designed so that two satellites are overhead at any location on the planet. They also are designed to handle peak loads in the markets of the advanced countries of the Northern hemisphere. But the consequence is that, as these multibillion dollar investments rotate across the underdeveloped world, they generate no revenue. If you are an individual in the Third World, you may need to pay $3/minute - and there would be few sales. But an organization that could segment the nonprofit market, and make bulk purchases for nonprofit institutions in health, education, and science in UDCs, probably could make a deal.

[29] I can attest to being an alumni of a university that recently raised $1.7 billion from its alumni - almost none of whom knew, with much precision, how the money would be used.

We already have a good model for this type of cooperative in TCI, a joint venture of the Ford, Carnegie, and Benton Foundations in the US at a time when there was monopoly pricing for long-distance telephone services. Today, the cooperative has expanded to 5,000 nonprofit members, many with international programs. It is a good jumping-off point. And if the World Bank is prepared to be the 800-pound gorilla at the bargaining table on behalf, for example, of its 43 Global Knowledge Partners (organizations who expect to be major players in information technology and development), there could be extraordinary purchasing power leveraged for the poorest countries. And these Global Knowledge Partners could make the prices available to their projects and affiliates in the Third World: if the World Health Organization wished to sponsor them and serve as an agent, for example, every hospital, medical school, and clinic in the Third World could participate. As a start, it would be easy for the cooperative to obtain for everybody the types of lowest-available-price guarantees that very large purchasers in advanced industrial countries - like the US government, in its procurement contracts - require and receive.[30] (The technology

[30] Direct contracts with global communication companies are not the only option. The world s most extensive private data network, SITA, supports the world s international airlines reservations system and has dedicated links and substantial unused capacity throughout the Third World. Ted Turner s CNN satellite net and downlink sites might add global Internet capacity at a marginal cost. The world s leading hotel chains are securing their own private telecommunications links and it would be straightforward for a cooperative to negotiate an umbrella contract with good prices for (e.g.) a AAAS meeting in a Hilton hotel to include, in the price of the convention, linkups to Hilton hotel meeting rooms in Moscow, Nairobi, and Beijing. A more detailed discussion is Lloyd S. Etheredge, *A Purchasing Cooperative for Health, Science, and Education: A Preliminary Report to the World Bank's Global Knowledge Sponsor's Group* (New Haven, CT: Policy Sciences Center, Inc.,

for large-scale, on-line global purchasing cooperatives, managed through a Web site, became available early in 2000. [31])

The new global Internet technology also would permit a global purchasing cooperative to operate efficiently via a Web site. Any company prepared to offer lowest available price guarantees and meet other conditions (e.g., international 800 numbers and multilingual support for technical assistance) could advertise today s price. Institutional purchasers (e.g., the World Bank, UNDP, etc.) could purchase directly, a model which Dell Computer has used to become the world s largest single supplier of computers. Small startup companies in UDCs, using older-generation chips and less-expensive operating systems (e.g., LINUX) for Internet terminals could find growing national or regional markets.

Project 3. **Create large-scale collaboration systems**

In addition to sending compressed multimedia files to local servers in all countries, the Global Affairs Channel satellite network can mirror high-use Web sites in all countries and routinely transmit overnight updates of high-use databases. From the Global CSPAN

1997), Xerox.

[31] Justin Hyde, "Automakers to Merge Internet Buying," *AP Wire Service*, 3:09 AM, ET, February 26 2000.
Gregory L. White, "How GM, Ford Think Web Can Make Splash on the Factory Floor," *The Wall Street Journal*, December 3 1999.

analogy, the range of global projects can expand to include support for large-scale collaboration systems. For example:

A.) Educational research. One example of a large-scale collaboration system has been proposed by MIT to accelerate applications of computers to foreign language instruction for seven languages - including English as a foreign language. They would create a global colloquia series by drawing upon the lectures at MIT s Center for Educational Computing Initiatives and two partner universities (in Europe and Latin America). The best and latest ideas could be transmitted at soon as possible to the desktops of researchers and teachers in all countries. Educational resources from all countries could be pooled and available to everybody in the world with a mouse click. Experimental materials - which now are almost impossible to evaluate with a large N of users - could be posted for use by, and feedback from, interested teachers worldwide.[32] For the first time, it may be possible to test the intuition that different students learn best by different methods - and to have first-rate materials for each

[32] Steven Lerman, *Internet Colloquium: Technology in Language Instruction* (Cambridge, MA: MIT Center for Educational Computing Initiatives, 1996), Xerox. Because of an institutional interest to improve its own undergraduate curriculum, MIT has offered to start the project for $15,000 seed money (to expand its lecture series), donate faculty time, and raise the rest of the money from a wide range of sources. Among those might be international textbook publishers who currently consider language-training texts a limited market because they do not become obsolete quickly enough. But if you generate new and better approaches, then you create marketing opportunities to induce the school systems of the world to scrap their earlier generations of textbooks.

method available.

The shared commitment to education - and to learning one another's language - would be a good step in realizing a human right (education) and conveying another value (respect.)

B.) Conflict resolution and human rights education. The creative opportunity to use these catalytic investments (the Global Affairs satellite net, the critical mass of terminals for health, education, and science in UDCs, and the purchasing cooperative) to support teachers and curriculum development in foreign language education (MIT's proposed project) brings me to a parallel strategic recommendation for a global colloquium series and large-scale collaboration system to build curriculum for human rights and conflict resolution, especially in public schools, and especially with a psychological component. Today, we can post materials on local Web sites and, in the global scavenger hunts of Internet searching, people may eventually find it. But if we begin with a high-visibility Global Affairs Channel, and a regularly-scheduled global colloquium series to discuss issues and current projects in human rights education drawn from many international sites, we can organize and support a global education movement.

I emphasize the inclusion of conflict resolution (and a psychological orientation) in human rights education because young people, in the teenage years, become interested in other people and relationships. To engage young people and to create the empathy for conflict resolution and principled settlements, the language of psychology can be more helpful than the traditional language of law.

Social science research has begun to illuminate how much of the world s violence, in teenage gangs, tribal and ethnic violence, and armies, involves recruiting young males with a wide range of appeals to discipline, self-sacrifice for a group, ideals of honor and loyalty, strategic calculation, and other traits. . . .[33] If we view the extraordinarily youthful age structures in the developing world - especially in areas that may be highly prone to tribal warfare and violence - it would be timely to use these new technologies to get there first. For teenagers in the world s public schools, if we can build a curriculum that links to their interpersonal interests - and conveys a message that people engaged in human rights advocacy and conflict resolution have admirable qualities of honesty, strength of character, astute insight, maturity, moral reasoning, and idealism that are called forth by this work - the human rights

---

[33] E.g., Michael Ignatieff, *The Warrior's Honor: Ethnic War and the Modern Conscience* (New York, NY: Henry Holt & Co., 1997).
Robert Alan LeVine and Donald T. Campbell, *Ethnocentrism: Theories of Conflict, Ethnic Attitudes, and Group Behavior* (New York, NY: Wiley, 1972).

movement can enroll young people in a good cause. If there are local public school teachers, anywhere, who want to develop such courses, a large-scale collaboration system for sharing curriculum materials, supporting them, and affording global peer recognition for contributions, might be an extraordinarily beneficial long-term investment.[34]

C.) A Tuesday Global Brownbag: Inventions Wanted . . . A related proposal for a large-scale collaboration system: an Inventions Wanted . . . series, a global Tuesday brownbag for the international scientific community. The purpose would be to discuss breakthroughs that scientists and engineers are trying to achieve - and where they are stuck. It would be an invitation to think about a new problem and to work together in a creative process, across disciplines and national boundaries. For example, it would be attractive to gene-splice seaweed and cash crops, thereby being able to plant crops in the desert, irrigate with salt water, remove the salt biologically - and make the deserts bloom. A few people are trying to do this, but everything they have invented tastes terrible . . . and thereby begins a global process of scientific engagement and creative potential.

---

[34] A wide range of worthwhile topics is suggested in George J. Andreopoulos and Richard Pierre Claude, eds. *Human Rights Education for the Twenty-First Century*, Pennsylvania Studies in Human Rights (Philadelphia, PA: University of Pennsylvania Press, 1997).

Another example: it is typical to discuss soil chemistry by reference to inorganic chemicals - e.g., this soil needs more nitrogen or phosphates - and the application of chemical fertilizers to effect the change. But scientific analysis of highly fertile soils now shows that a wide range of microbes make a contribution. And one research project has recommended that a selection of 27 different microbes now might be packaged together in a nutrient solution, sprayed onto soil, multiply, enjoy a life in ecological balance, vastly enhance soil fertility, and reduce the need for commercial fertilizers to 1/3 or less.[35] And the excitement of a high-visibility global colloquium - as any scientist will recognize - is that the mixture, SC27, is only a first draft . . . and research scientists and undergraduates around the world can immediately begin to use SC27 as a jumping-off point, testing how it could be improved upon for different initial soil and climate conditions, crops, etc. An Inventions Wanted . . . global collaboration project can orchestrate new lines of global work, for amateur and professional inventors, for the common good.[36]

D.) Visual Display Systems for Ending World Hunger. Shared visual display

---

[35] The product is being manufactured in the US by Martin Marietta Technologies Corporation: Martin Marietta Technologies Corp. Optimum Yield Inc., *SC27: A Live Microbial Product* (n.d.), Pamphlet.

[36] The National Research Council has a project underway to identify potential scientific contributions to the goals of American foreign policy, which could be one source of ideas.

systems also can help NGOs to organize resources. In seeking to end world hunger, for example, it would be helpful to create and regularly update an on-line map with each village in Africa, where infant mortality exceeds a threshold value (an index of malnutrition) marked in red. Like fund-raising for local charities, donors could watch the map slowly change color as a result of their activities - and perhaps use the challenge, visually displayed, to mobilize new resources to speed the process.

(Each of these projects - and perhaps especially the large-scale collaboration systems - embody an early lesson from the development of Radio Free Europe/Radio Liberty and Voice of America. Their original belief was that programs of rock-and-roll and jazz entertainment would enroll audiences, who then would stay-tuned for the news shows - which would be the pro-democracy, pro-human rights, political messages. But, over time, it became clear that rock-and-roll was a political argument. It conveyed the case for freedom, individual self-expression, and democracy effectively for generations of young people. Likewise, global Internet projects can be a political argument if they are linked to a global satellite distribution network that assures universal access, supports exciting and effective projects for global collaboration, and, with high visibility, expands the space of imaginative possibilities.)

Project 4. **Organize opportunities for global philanthropy**

The final two projects address the problem of financing. Many good causes already compete for the limited funds of foundations. Unless new sources of revenue can be organized, the future of well-intentioned and idealistic people may be to struggle for years to secure even the modest funds needed to build creative Internet applications for the common good. And it will help the cause of human rights if these decades of struggle can be bypassed.

Domestically, we have expected large communication carriers (who use such public resources as radio frequency spectrum and satellite parking orbits without charge) to contribute to the public good. Our domestic CSPAN is an example: it is supported by annual donations from the cable industry, provided in lieu of regulatory requirements or otherwise needing to alter the programming of individual members.

At this point, we are in an unusual historical period where the United States government has pressed passionately for global deregulation of the communications industry. And yet it has, at the same time, remained silent about the global civic obligations of the new multibillion dollar global communications oligopolies.

There has been a logic to this silence. First, American foreign policy has sought to

secure the great and overriding advantages of deregulation - and business opportunities for American companies to compete in global markets - without permitting other political issues to interfere with a broader pro-market swing in public policy. Second, there has been a legitimate fear that any public discussion of international public service obligations would open the door to political abuse, as hundreds of local claimants step forward in 180+ countries (including, in addition to legitimate causes, profit-seekers waving idealistic banners, suspect advocates of political fairness and other mischief from the earlier days of UNESCO s history, etc.) and threaten to reinstate government regulation.

My suggestion is that we end the silence about public service obligations, and simultaneously address the concerns that erected these barriers, by creating global vehicles for corporate and private philanthropy in the common good. For the global communications industry it would be an opportunity - like our domestic CSPAN - to write checks that would pre-empt inevitable political difficulty and a growing resentment of extraordinary profits (and the free use of public resources) without a civic conscience.

The creation of these philanthropic vehicles follows, in sequence, from the startup of the original Global Affairs Channel and prototype large-scale collaboration systems. They could evolve into a core of other global CSPANs that support both global colloquia and other large-scale, Internet-based collaboration systems. Each could be spun-off to have a

life of its own with philanthropic support from corporations, foundations, and other actors. For example:

A.) An International Public Health Channel. Perhaps the most dramatic project to accelerate the achievement of a world commonwealth of human dignity would be in public health, a visible commitment to the physical well-being of each person on the planet. An International Public Health Channel could include Global Grand Rounds from the world s leading medical schools available on the desktop PCs of medical professionals in all countries. Overnight transfer of changes in the Index Medicus and other high-use medical databases and Web sites. A series of best practices reports about projects to address public health problems at the local level in UDCs. A core group of on-line teaching resources to train nurse practitioners. Research colloquia on malaria and polio eradication and emerging infectious diseases, and women s health. Planning conferences and experiments for the development of telemedicine. A research colloquium series on applications of new technology to assist the disabled. Etc.

B.) An International Cultural Affairs Channel. A consortium of multinational corporations could, through support for an International Cultural Affairs Channel, provide core grants to one or more leading national museums in each country (e.g.,

Smithsonian Institution). These grants could be used to develop a Web site of key holdings and also to digitize (for their own citizens and distribution to worldwide audiences) 15 hours/year (x 180 countries) of current lectures, symposia, and exhibits concerning their national history, cultural heritage, visual and performing arts, etc. Web sites for each national museum could include museum reproductions and add revenues derived from global audiences.

C.) An International Studies Channel. The US Department of Education provides grants for international and area studies to American research universities - often, grants to 10-15 universities for each major area of the world. The grants include funds for speakers programs and outreach. It would be a simple step to bring these American lectures and research conferences, for each area of the world (e.g., Chinese studies) into a global Channel. And the next step - because it is rather limiting to have American academics talking to American academics about China - would be to provide basic startup authoring-technology grants of $15,000, plus $5,000 for annual costs, to leading universities worldwide (including Chinese universities) to contribute to a Chinese Studies Channel cooperative. Each university would contribute its own best materials, x hours per year, and receive, in return, many times its own contribution. And everybody worldwide - not just the university

members - would benefit.[37]

We also have many scholarly societies who might be willing to get these projects underway. Especially so if the project could be organized with a global boldness and visibility to appeal to corporate philanthropy and to convey genuine respect for all cultures.

D.) A Spiritual Inquiry Channel. I suggest the option of a Spiritual Inquiry Channel (in our secular Western age) because we may neglect, to our peril, the origin of much of human rights progress in religious traditions, at least in their more universal expressions of spiritual growth. It might be wise to nourish this. And also to recognize that intergroup conflicts are often intensified and become more violent from the linkups of the political/ethnic right and the religious right.

As a scientist, my intuition is that there is a common core of spiritual growth across religious traditions - independent of the contents of beliefs or dogma - and it would be an interesting inquiry to linkup.[38] The Channel could begin with a

---

[37] It might be revealing to learn, from an American Studies Channel, what universities in other parts of the world are teaching about us.

[38] E.g., Ken Wilber, *The Marriage of Sense and Soul: Integrating Science and Religion* (New York, NY: Random House, 1998). takes a different angle on the same question.

selection of the best sermons and spiritual teachers each week, from around the world - and in many areas of the world that are less cosmopolitan and pluralist it might come as a revelation that there are common sensibilities about spiritual growth. Even specialized topics (such as forgiveness - why should you forgive those who have wronged you?) which are especially relevant to the difficult processes of resolving prolonged conflicts, might be addressed in ways that become useful to curriculum development in conflict resolution.

E.) An Education Research Channel. It would be easy to expand the large-scale collaboration system that MIT has proposed (above) across a wide range of school subjects that are generic in all countries: reading (including the latest research ideas and aides for diagnosis and treatment of learning disabilities), algebra, geometry, high school biology, calculus, computer programming, technical skills. Research discussions and conferences could be linked to global audiences of educators to stimulate the creative process, and updates of new teaching resources could be transmitted to local servers overnight. Once these vehicles are established, a comparatively modest boost from corporate philanthropy ought to make it possible for any student or teacher, anywhere, to have on-line access to the best education resources in the world.

Project 5. **Organize Global Stakeholder Financing for Scientific Communication and Economic Growth**

A final project of system-level innovation to enhance revenue, unleash a creative potential for global collaboration, and accelerate scientific innovation and economic growth is the development of stakeholder financing for scientific communication along the lines of the Industrial Liaison Program at MIT. Under MIT s program, corporate sponsors make annual donations and receive, in return, access to preprints and briefings of state-of-the-art research, 1-2 years before print publication. Revenue is shared and, in return for their participation, individual lecturers and research centers receive financial credits.[39]

In most scientific fields, it would be possible to generalize the MIT model to a global scale. The best and latest ideas concerning renewable energy research, for example, could be acquired from all sources and arrive on desktop PCs of academic researchers and corporations as quickly as possible.[40] A Renewable Energy Channel could be financed solely as a cooperative, with each leading university - for example - spending $5,000/year to

[39] While these cannot be taken as personal income, they can be used to pay for professional travel, to purchase books and additional equipment, and other research expenses.

[40] A good model, alongside MIT s, is the Technology Transfer Institute of Japan which routinely interviews American NSF grantees and other researchers and produces a 20-minute daily satellite television program for corporate viewers through Japan.

put its 10 best lectures on the channel, with the expectation that every other leading university and scientific society would put lectures worthy of international attention into the channel, and receive many times its own investment. But it also would be interesting - and revenue-generating - to ask leaders in R&D-oriented industries what technologies they believe to be crucial for the future of their industry - and to use this list to inform priorities and organize stakeholder contributions.

Thus, for example, the international automobile industry might identify key technologies related to environmentally sustainable development to be photovoltaics, battery design, efficient manufacturing, plastics, and synthetic fuels. And from this list, the programming and donations could flow.

In each case, of course, corporate supporters will be agreeing to compete on the basis of their ability to recognize and use good ideas, the efficiency of capital markets, the alertness of management, etc. - rather than on proprietary and exclusive access to information.

Several years ago, the Sloan Foundation sponsored an interesting study that suggests that advertising revenues from global scientific channels might become substantial. (In addition to products, companies also could advertise for new employees - 5-minute multimedia recruiting ads, carried on several weekday evenings in the early fall, with job

opportunities for petroleum engineers, etc.) Perhaps it will not surprise you to learn that a 4-color, 2-page ad in Scientific American sells for $70,000+ and that the information recall of a 1-minute television ad, compared with such a magazine ad, has been estimated at a 3:1 advantage.[41] For a mere academic, however, even the thought of selling 100 minutes/year of global advertising at these rates starts to exceed the amount of money that might be needed. Perhaps (and readily) there can be money for programming - and a great deal more, besides.

Today, nobody knows how much advertising revenues for Internet channels, or sponsorships, could secure. But it might be attractive to develop limited partnerships of stakeholders, all of whom agree that the revenue streams they seek are in the flow of creative and usable new ideas to desktop PCs- and perhaps the growth of scientific capacity in a field - alongside any immediate monetary return.

III. Conclusion

In conclusion, we have a windfall of new technologies to accelerate political progress and

[41] Gary Welz, *SETN: Information for Advertisers* (New York, NY: Association for Computing Machinery, 1993), Xerox.The business plan for a Science and Engineering Television Network study was developed in both non-profit and for-profit versions. The advertising rates are from the early 1990s.

build a world that begins to work for everybody, across a wide range of outcomes [e.g., Table 3]. New technology also makes available a wider range of strategies than traditional political advocacy. And the new options are available at a surprisingly affordable cost that does not exhaust any of the world s resources. A strategy of five system-level innovations, adopted now, can accelerate progress.

Table 3

The Internet and World Politics: New Global Outcomes for Human Rights

Value	Examples
Power	High visibility Global Affairs Channel with due process for non-US & NGO actors; creates a more open and improved global democratic policy process.
Enlightenment	Large-scale collaboration systems accelerate educational research, share educational resources across all fields globally; new Channels (e.g., Global Affairs, cooperatives in International Studies, International Cultural Affairs, scientific research and health) enrich the curriculum of all educational institutions.
Wealth	Inventions Wanted . . . series and stakeholder-financed global scientific channels to accelerate scientific innovation, incl. key environmental technologies. Pre-empting information scarcity for UDCs. Global Affairs Channel supports NGOs concerned with sustainable development.

Well-Being	Best and latest ideas from NIH and other medical capture points available globally. Regularly-scheduled colloquia on global health issues (polio, malaria, emerging infectious diseases, etc.) from CDC, Yale Medical School.
Skill	Building empathy & democratic skills via youth-oriented conflict resolution/human rights education.
Affection	Spiritual Inquiry Channel. Widening networks of mutually-beneficial relationships.
Respect	Making global public access and international public goods a high-priority norm in the emerging world order. Opportunities for input (e.g., International Cultural Affairs) from all countries and cultures.
Rectitude	Global public commitment to advance widely shared values. Establish norms of global civic contributions from multinational corporations.

Bibliography

Andreopoulos, George J., and Richard Pierre Claude, eds. *Human Rights Education for the Twenty-First Century*, Pennsylvania Studies in Human Rights. Philadelphia, PA: University of Pennsylvania Press, 1997.

Burnett, Robert. *The Global Jukebox: The International Music Industry*. New York, NY: Routledge, 1996.

Burt, Richard, Olin Robison, and Barry Fulton. *Reinventing Diplomacy in the Information Age: A Report of the CSIS Advisory Panel on Diplomacy in the Information Age* CSIS Panel Reports, 0899-0352. Washington, DC: Center for Strategic and International Studies, 1998.

Cairncross, Frances. *The Death of Distance: How the Communications Revolution Will Change Our Lives*. Boston, MA: Harvard Business School Press, 1997.

Ellison, Larry. "Interview with Larry Ellison." *Broadcasting and Cable*, January 17 1994, 84,86,132.

Etheredge, Lloyd S. "Human Rights Education and the New Telecommunications Technology." In *Human Rights Education for the Twenty-First Century*, ed. George J. Andreopoulos and Richard Pierre Claude, 547-564. Philadelphia, PA: University of Pennsylvania Press, 1997.

_____. *A Purchasing Cooperative for Health, Science, and Education: A Preliminary Report to the World Bank's Global Knowledge Sponsor's Group*. New Haven, CT: Policy Sciences Center, Inc., 1997. Xerox.

_____, ed. *Politics in Wired Nations: Selected Writings of Ithiel De Sola Pool*. New Brunswick, NJ: Transaction Publishers, 1997.

Galtung, Johan. *Human Rights in a New Key*. Cambridge, MA: Polity Press, 1994.

Grimes, William. "The French Learn to Speak Fusion." *The New York Times*, April 14 1999, D!, D4.

Hale, John Rigby. *The Civilization of Europe in the Renaissance*. 1st American edition ed. New York, NY: Atheneum, 1994.

Huntington, Samuel P. *The Clash of Civilizations and the Remaking of World Order*. New York, NY: Simon and Schuster, 1996.

Hyde, Justin. "Automakers to Merge Internet Buying." *AP Wire Service*, 3:09 AM, ET, February 26 2000.

Ignatieff, Michael. *The Warrior's Honor: Ethnic War and the Modern Conscience*. New York, NY: Henry Holt & Co., 1997.

Kindleberger, Charles. "International Public Goods without International Government." *American Economic Review* 76, no. 1 (1986): 1-13.

Laqueur, Walter , and Barry Rubin, eds. *The Human Rights Reader*. New York, NY: Penguin Books, 1989.

Lasswell, Harold D., Daniel Lerner, and Hans Speier, eds. *Propaganda and Communication in World History*. Honolulu: University Press of Hawaii, 1979.

_____, eds. *The Symbolic Instrument in Early Times*. Vol. 1. Honolulu: University Press of Hawaii, 1979.

_____, eds. *A Pluralizing World in Formation*. Honolulu: University Press of Hawaii, 1980.

Lasswell, Harold D., and Myres S. McDougal. *Jurisprudence for a Free Society: Studies in Law, Science and Policy*. 2 vols. The New Haven Studies in International Law and World Public Order. Boston, MA: M. Nijhoff, 1991.

Lasswell, Harold Dwight, Daniel Lerner, and Hans Speier, eds. *Emergence of Public Opinion in the West*. Honolulu: University Press of Hawaii, 1980.

Lerman, Steven. *Internet Colloquium: Technology in Language Instruction*. Cambridge, MA: MIT Center for Educational Computing Initiatives, 1996. Xerox.

LeVine, Robert Alan, and Donald T. Campbell. *Ethnocentrism: Theories of Conflict, Ethnic Attitudes, and Group Behavior*. New York, NY: Wiley, 1972.

McLuhan, Marshall, and Quentin Fiore. *War and Peace in the Global Village; an Inventory of Some of the Current Spastic Situations That Could Be Eliminated by More Feedforward*. New York, NY: McGraw-Hill, 1968.

Montgomery, John. "Fiber in the Sky." *Byte*, November 1997, 58-61, 64, 66, 68, 70, 72.

Optimum Yield Inc., Martin Marietta Technologies Corp. *SC27: A Live Microbial Product*.:, n.d. Pamphlet.

Pool, Ithiel de Sola. *Technologies of Freedom*. Cambridge, MA: Belknap Press, 1983.

_____. *Technologies without Boundaries: On Telecommunications in a Global Age*, ed. Eli Noam. Cambridge, MA: Harvard University Press, 1990.

_____. "Four Unnatural Institutions and the Road Ahead (1983)." In *Politics in Wired Nations: Selected Writings of Ithiel De Sola Pool*, ed. Lloyd S. Etheredge, 227-237. New Brunswick, NJ: Transaction Publishers, 1998.

Sapolsky, Harvey, and et al. *The Telecomunications Revolution: Past, Present, and Future*. New York, NY: Routledge, 1992.

Sen, Amartya Kumar. *Development as Freedom*. New York, NY: Knopf, 1999.

Tarnas, Richard. *The Passion of the Western Mind : Understanding the Ideas That Have Shaped Our World View*. New York, NY: Harmony Books, 1991.

Taylor, Timothy Dean. *Global Pop: World Music, World Markets*. New York, NY: Routledge, 1997.

Welz, Gary. *SETN: Information for Advertisers*. New York, NY: Association for Computing Machinery, 1993. Xerox.

White, Gregory L. "How GM, Ford Think Web Can Make Splash on the Factory Floor." *The Wall Street Journal*, December 3 1999, A1,A8.

Wilber, Ken. *The Marriage of Sense and Soul: Integrating Science and Religion*. New York, NY: Random House, 1998.