

**The Approaching Millennium:
Challenges and Opportunities
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It seems that this decade is replete with both dramatic and rapidly occurring changes as well as opposite extremes which present us with choices we can no longer put off to some undefined point in the future. On the one hand we see unparalleled technological advances, advances in scientific knowledge, discoveries concerning outer space as well as the earth's innermost core, the human body and its psyche. On the other hand there is the widest gap between rich and poor in history, unimaginable slaughter of humans by humans throughout this century, more information in the midst of less understanding than ever before, reckless waste of resources and an alarming growth of both pollution and population around the planet. These issues need discussion and decisions.

Human Invention vs. Human Relations

There is a real discrepancy between the history of human invention and the history of human relations. Human invention in the 20th century has been remarkable. In 1902 the Wright brothers made their miraculous flight of 120 feet, in a double winged plane capable of carrying only the pilot, and started a revolution in transportation. Since that time many have flown faster than the speed of sound, across oceans and to the other side of the world, and several others have even made it to the moon and back. On the ground within this century people have forsaken travel by foot or animal for the much faster wheeled means of transportation, revolutionizing daily life everywhere.

Developments in scientific theory have been equally extraordinary and have transformed our understanding of man, matter and the universe. Shortly after the turn of the century Einstein announced the development of his theory of relativity, which totally changed the way we look at the world. Scientists have since explored our planetary system and the universe beyond, using not only powerful telescopes but space satellites which have traveled millions of miles beyond our atmosphere. They have at the same time performed extraordinary studies on particles so small we can know them only by their trails, and this research has led to discoveries about power at once more destructive and at the same time more magically beneficial than anyone could have imagined a century ago.

And just a few years after the Wright brothers and Einstein made the news - the year J. William Fulbright was born - the first national radio program was broadcast in the United States, marking the beginning of mass communication. High technology now delivers not only sound but images worldwide; a news event is communicated via satellite within minutes of its happening to radios and television sets on every continent. And big business is not alone in its ability to gather news and spread information. Millions of individuals can turn on their computers and interact with

those they have never met face to face, to conduct research, join together in campaigns, or just enjoy conversations.

Modern medicine is now close to making the bionic human a reality. Transplants of hearts, livers, kidneys and other vital organs are now commonplace, and miracle medicines are bringing people with life threatening diseases back from the brink of death. The cloning of animals is a reality, which means to many that the cloning of human beings is at least close to the realm of possibility whether we like it or not.

The history of human relations has been a different story. The twentieth century is noted for two of the most destructive world wars in recorded history and a desperate worldwide depression in between, followed by forty years of cold war, when two great powers spent billions of dollars on developing and manufacturing missiles which could end all life on the planet, not just once but many times over. Even now that the Iron Curtain has rusted and crumbled, there are many hot battles in progress, often among peoples who have lived side by side as neighbors for generations.

This leads us to a fundamental paradox about human nature: as the world becomes more and more of a global village, its inhabitants become less unified, more focused on narrower identities. Former National Endowment for the Humanities Director Sheldon Hackney expressed it well in his book, *One America, Indivisible*:

“The powerful forces of modernization, including the bewildering complexity and barrage of information that assaults us throughout our waking hours, and fed by the pent-up desires of people everywhere for better standards of living, seem to create a countervailing commitment to the traditional loyalties even as those customary ways are being undermined by the new and preferred patterns of living. That is, as traditional ways of life are disturbed by the forces of modernity, people counter their anxieties by taking refuge in familiar cultural practices and revitalized traditional identities. This revives old animosities based on race, religion, language, and ethnicity. Globalism begets tribalism. So, while environmentalists may have some people thinking in terms of our common citizenship on ‘spaceship earth,’ we are nevertheless seeing ferocious communal strife in almost every quarter of the globe... The resurgence and spread of Islamic and Christian fundamentalism are in part a different manifestation of the same sort of renascent particularism.”

One would think that the technology, which brings us world events in minutes and allows us to communicate as quickly with colleagues anywhere on the planet, could in fact help us break down tribal walls. Examples of ordinary citizens reaching out to like-minded citizens living many thousands of miles and oceans away are not uncommon. One recent dramatic example is Jody Williams, the resident of the small rural state of Vermont. On a Sunday afternoon in 1991 Jody sat with two friends in her living room in just outside Putney, talking about the needless maiming of innocent civilians all over the world by mines planted to hinder military action. They decided that afternoon to form an organization to stop this form of indiscriminate killing, knowing that the challenge was awesome but convinced that they had to try. The resulting organization, the International Campaign to Ban Landmines, was subsequently able, through

technology, to coordinate the activities of more than 1,000 other organizations in 60 countries and convince almost 100 governments to approve of a draft treaty banning landmines. The treaty is to be signed in Ottawa this coming December. On October 9th, 1997, just six years after that Sunday discussion, Jody Williams and her organization were awarded the Nobel Peace Prize for their efforts.

This sounds like democracy at its best: an unknown person of modest means, able to influence the world because of the power of an idea communicated through the computer and the fax machine. Technology has given great power to each and every one of us, should we perceive a pressing problem or an injustice and take the time to correct it. There is, however, a subtle and hidden down side to this development. Writer Jessica Tuchman Matthews elaborates:

“By drastically reducing the importance of proximity, the new technologies change people’s perceptions of community. Fax machines, satellite hookups, and the Internet connect people across borders with exponentially growing ease while separating them from natural historical associations within nations. In this sense a powerful globalizing force, they can also have the opposite effect, amplifying political and social fragmentation by enabling more and more identities and interests scattered around the globe to coalesce and thrive. . . Information technologies disrupt hierarchies, spreading power among more and more groups. The range of these groups’ work is almost as broad as their interests. They breed new ideas; advocate, protest, and mobilize public support; do legal, scientific, technical, and policy analysis; provide services; shape, implement, monitor, and enforce national and international commitments; and change institutions and norms... More and more groups promoting worthy but narrow causes could ultimately threaten democratic government.”

What Jessica Matthews is saying is that face-to-face interaction is as important now as it has been since the beginning of human communities - perhaps more so. This was never more clearly expressed than by a group of Russians 6 years ago when I went with my husband to visit Russia. Senator Fulbright had been invited to Moscow to receive an honorary degree from Moscow State University, and the day before the ceremony, he was asked to greet the Russian Fulbright alumni of the history department. The room we entered was packed with people - men and women sitting on chairs, on windowsills, standing in every available space. When we were seated, a spokesman began to describe the real meaning of a Fulbright scholarship. As he struggled to keep his voice from cracking, he spoke of the extraordinary exchanges with American colleagues, of the revelations about the very methodology of history they had gained, of the friendships they formed among people who had only been described in their posters as having dollar signs for eyeballs, canine fangs which sometimes dripped blood, and greedy, grasping, curled fingers. On more than one occasion, the Soviet government had tried to suspend the program, but at risk of their careers, they fought to keep it alive. This human contact in another culture was that important.

After hearing the speech, it became clear to me why the program which bears his name had succeeded beyond Fulbright’s most optimistic imaginings, becoming the biggest most enduring international educational exchange program the world has ever witnessed - a program as important today as it was when first established fifty years ago. In the last half century a quarter

of a million scholars from more than 140 countries have left the comfort and familiarity of their own communities to become immersed in an alien culture for a few months to a few years and return home, sensitive to differing values, wiser about their own roots. The experience has widened the horizons of many tens of thousands who have developed ideas and career paths far beyond what they would have had they remained at home. Equally important, it provides a better understanding of one's own roots. As one Fulbright alumna put it so colorfully: if you want to know about water and wateriness, do *not* ask the fish. Living in a foreign land not only demonstrates the validity of other values but helps clarify one's perspective of one's own country after having seen it from a distance.

Education

Education now suffers from another paradox - that of too much information, thanks to technology, and too little understanding. One year ago I was in Melbourne to attend a Fulbright conference on "The Internationalization of Education: New Technologies and New Futures." It set me to thinking about the influence of the powerful tools available today and the comparison with tools of the past. There was a time when mass publishing was in its infancy and thought to be the cure for most human ills. It was only during the Second World War when one of our more eloquent writers admitted sadly that "Education has produced a vast population able to read but unable to distinguish *what is worth reading*."

But two hundred years ago Jefferson and his colleagues were quite clear about the body of knowledge required. It was possible then to define it and consider it within the grasp of any reasonably intelligent young citizen - and at that time this meant white male land owner. These days, however, there is serious doubt about both the goals and the effectiveness of education, especially public education, not only in the United States but in many countries throughout the world, whether developed or developing. While one group shouts for "back to basics," whatever that means, another insists on relevant subject matter, a third argues for an integrated curriculum, and many parents are primarily interested in good test scores to ensure entrance into college for their children, no matter what kind of curriculum or teaching methods that entails. In the United States there is general agreement that public schools need a major overhaul, but there is no consensus on how this should happen or what form it should take.

Despite all the confusion, there is a growing awareness that the mere accumulation of information does not automatically create an educated person. Henry Adams long ago put it most forcefully when he wrote that "Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts." (*The Education of Henry Adams*). To illustrate this assertion, I would like to point out two systems of compulsory public education, which taught only filtered information to the detriment of any thinking skills, aimed at creating a compliant citizenry and did so with temporary but frightening success: the Soviet Union and Nazi Germany.

One of our great educators, Robert Maynard Hutchins, delivered this prescient and urgent message in a convocation address at the University of Chicago more than fifty years ago just prior to the exponential growth of technology:

"A world community can exist only with world communication, which means something more than extensive shortwave facilities scattered about the globe. It means understanding, a common tradition, common ideas, common ideals. The task is overwhelming, and the chance of success is slight. We must take the chance or die."

These sentiments were echoes of an even more dramatic statement made a generation before by H.G. Wells: "Human history becomes more and more a race between education and catastrophe."

Today in this modern age of mass communication, we are bombarded by 24-hour radio and television programming and an explosion of information on the internet, to say nothing of the dizzying array of published material available. Today, the Sunday New York Times provides more information than any Greek citizen living in the time of Plato or Aristotle saw in a lifetime. During the last summer Olympic games, the internet contained a web site for the Olympics - a two-week sports event - which provided enough information to fill pages which, if stacked, would rise to a height of 8 miles. This is more information than in all of Thomas Jefferson's libraries. Clearly, this information, coming at us not only in print but through sound and visual images, requires a radically different approach to learning and understanding.

Radically different as this approach must be, it should not change our timeless fundamental goals. Let me state what I think they are: 1) citizens must become literate and numerate; 2) they must be grounded in culture, which means the study of history, humanities and the arts; 3) they should be knowledgeable about the physical world through the study of the sciences and math; and 4) they should participate in some form of physical activity to promote a healthy life. What does need to change is our view of the process. Education is not just book-learning. Experience matters. Relevance to one's one life matters. Human connections matter. Thinking and problem solving matters. Goals matter and must be tempered by the conditions of the times.

Global Concerns

The last paradox in my mind has to do with the solutions to the world's problems. Until recently we have depended on technology to provide the answers to critical issues confronting humankind: if we needed more wheat or rice, we developed strains which were much more productive and disease resistant; where water was need, we created dams and desalination plants; we can now work round the clock thanks to electricity and do so efficiently with both heating and air conditioning. We have extraordinary technological solutions to so many obstacles, but we are now faced with the possible dire consequences of those very solutions. Yet most of us seem indifferent or afraid to look ahead.

About 35 years ago an article by Garrett Hardin called "The Tragedy of the Commons" created a storm by positing the idea that there was a growing number of problems in the world for which there were no technical solutions. By that he meant that merely tinkering with techniques cannot correct certain situations; these demand instead a basic change in human values or ideas of morality. Add to these situations Jeremy Bentham's "greatest good for the greatest number" and Adam Smith's notion that an individual who intends only his own gain is, as it were, "led by an

invisible hand to promote the public interest,” and the tragedy of the commons becomes depressingly clear:

“Picture a pasture open to all [in an agricultural community]. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably well for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast below the carrying capacity of the land. Finally, however, comes the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly becomes a tragedy.”

As a rational being, each herdsman seeks to maximize his gain by increasing his herd, which in turn adds to the problem of overgrazing. The poorer the rate of return, the more he increases his herd, thereby locking himself into growth without limit, which leads to ultimate ruin.

There are many concrete present-day examples of the tragedy of the commons - one of the most obvious being the over-fishing of waters all over the globe - but storm created by Hardin’s article has not only subsided, it has been largely forgotten. It brings to mind a cautionary tale told recently by David Hales, Director of the Global Environmental Center at the U.S. Agency for International Development.

“One dark night the lookout of a large battleship noticed a converging light off the starboard bow so he report this to his commander, who signaled, “Approaching from the east and note we are on a collision course. Suggest you adjust your course 20 degrees.” The random flashing ahead then turned into the following reply: “Suggest you alter *your* course by 20 degrees.” Now this startled the commander, who was used to giving orders, not receiving them, but he kept his cool and flashed back: “This is a battleship. Suggest you alter your course by 20 degrees.” But again the answer was not acquiescent; instead it was merely a repeat of the original response: “Suggest you alter your course 20 degrees.” At this point the naval commander had had enough, he intensified both the candle power and speed of his message, which was, “I AM AN ADMIRAL, AND THIS IS MY FLAGSHIP! ALTER YOUR COURSE!” The response was sent at the same measured speed as the first and signaled: “I am a lighthouse.”

David Hales went on to say that the modern version of the story would probably have a civilian leader from the economic, social science or corporate world on the bridge, and this scared him since he was quite sure that the admiral would alter course, but the civilian leader might just assume that the lighthouse wasn’t there.

And we are facing a number of “lighthouses”: population growth, pollution, climate change being three of the most important. In less than 150 years we have gone from a global population of 1 billion souls to one which is well over 5 billion, and more than $\frac{3}{4}$ of these people live in developing countries. In the year 2000 there will be more people living who cannot read or write *at all* than there were people living in 1900. Sometime next year, for the first time in human history, one half of the world’s population will be living in cities. That means that we will go

from being surrounded by nature to surrounding it. These projections can mean the greatest threat to living organisms and natural systems in human history.

David Hales in another section of his talk listed more powerful facts:

We are the first generations of humans to become a force of geological proportions;

We no longer affect just weather, we affect climate as well;

We no longer just affect crop yield on a regional basis, we affect the very process of photosynthesis.

We have synthesized endocrine disruptors - copycat hormones - that invade the bodies of animals, including humans, and disrupt the endocrine system, changing life's basic processes in ways we cannot imagine or anticipate;

We will continue to lose habitat; and we lose biodiversity daily. With the loss of both, we reduce our capacity to respond to the stresses of everyday life, not to mention the extraordinary events that happen from time to time.

Finally, the unequal distribution of resources - human, natural, educational, technological, and financial - amount to unequal distribution of the ability to respond to these stresses.

These are frightening facts but not overwhelming. There is still time as we approach the new millennium to study the lessons of *The Tragedy of the Commons*, to use the amazing advanced knowledge we have gained in this century and combine it with our democratic ethic, our sense of morality which leads us to look at the common good as one of our highest values.

People the world over must open their eyes, minds and hearts to adapt to rapid change with intelligence and understanding. The wealthy can no longer ignore the grinding poverty of those who live in the same city. War can no longer be considered an acceptable extension of diplomacy. Corporate profits can no longer take precedence over environmental concerns. Democratic governments can no longer allow individual liberty to overshadow collective responsibility. In the words of former Senator Bill Bradley:

“Democratic government can and should express public opinion in a focused way, but unless the people themselves care enough to participate - as citizens, and not simply as voters - there can be no assurance that government will be effective. We need to pursue our collective future with the excitement that galvanized the explorers of the New World centuries ago.”

Bradley goes on to state that the world today requires “bold thinking, along with a clear idea of right and wrong, in the face of the thorny issues in areas such as biotechnology and computer science.” This requires both the international vision and the self awareness best developed through a view from a distance, both physical and cultural, in collaboration with others. It

requires democracies everywhere to give education the highest priority. The democratic countries of this world can add insight to bold thinking and enhance creativity by removing the blinders of parochialism which, thanks to today's technology, can lead to absolute ruin. Now that the cold war is over, that empathy and understanding across national borders is more important than ever to help us focus on a sustainable lifestyle and an improved quality of life.

Thank you.