The media have been adapted to serve the administrative and curriculum structures of the present education system, instead of changing education to take advantage of the most effective means of communication today—television and radio. Television and radio must be used to enable the disadvantaged to communicate with the outside world, particularly with white suburbia, and it must also be used to provide urgently needed upgraded formal education for children. Students in the classroom must be freed from the excess time used for factual learning so that they can devote that time to their fulfillment as non-mechanized human beings. If this had been done, perhaps there would not be such an atmosphere of violence and intolerance in the world. There is no problem that is not dependent on communication for optimum solution, and no area that cannot be affected in a positive, humanitarian way by the effective use of communication. Thus, one of the most significant educational investments possible to make today would be to establish a Communications University to provide needed training, education, and services. (RH)
Perspective and Prospects for Educational Broadcasting

An address to The Institute of Electrical and Electronics Engineers
International Conference on Communications

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(Those remarks of Dr. Hilliard which pertain to areas not within the jurisdiction or responsibility of the FCC or FIBC are his own as a private individual and do not necessarily reflect the approval or endorsement of these organizations.)

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We are half way through another communications convention. We have heard excellent presentations on spectrum development, propagation characteristics, relay techniques, systems approaches and other subjects vital to communications, including educational television and radio.

I, too, today, was going to talk with you about specific projects and techniques. The events of last week, however, as our national tragedies continue to accumulate unbelievably, frighteningly, make it clear to me that we have got to face up to a larger responsibility than technical systems.

Again--and let us hope once again for the last time--we must pause to take stock of our national purpose, our national atmosphere, our national behavior.

We can speak with authority, of course, only about our own field--communications. But it is precisely because of the importance of communications to the future of our country and to the world--to purpose, atmosphere and behavior--that our responsibility is so great.

Television and radio are the most powerful forces in the world today for affecting the minds and emotions of mankind. It is what we, as individuals, and as a group, do with our field that we must take stock of.

Having been asked to speak with you today on the perspective and prospects for educational television, I think it is incumbent upon me to do just that--to discuss with you the subject of communications as it involves each of us, not as technicians, but as human beings with conscience and responsibility.
Four hundred years ago there were no newspapers.

A thousand years ago very few people could read or write. People knew little or nothing about what was happening in the world outside of their own villages.

Progress—which is always dependent upon what has come before, on standing upon the shoulders of those who came before to enable us to move to the next step in human development—was slow and limited because there was virtually no communication of what had been, of what was, of what existed in the world outside the village.

That is why the great developments of civilization came in the city-states, where there could be a first-hand exchange of information and ideas, in the central market-places of vocal communication and direct observation.

But genius and intelligence have never been limited to the cities. They existed then as they exist today, everywhere. We learned this in the seventeenth and eighteenth centuries, and especially in the last 100 years when developing means of transportation and communication opened up the accomplishments of the world to more and more people. Accomplishments that had by and large been secrets limited to the few in the highly populated, information exchange areas who had access to and an opportunity for formal or informal education. But with the development of more effective communication means, more and more people came to know what was and what could be in the world, and more and more people came to contribute to mankind's development.

The most important revolution of the twentieth century has been that of communications, and communications is the reason for the fantastic
acceleration of progress in many fields of knowledge— including and 
maybe especially the sciences.

Without modern communications we would not yet have mastered atomic 
power. Without communications we would not yet be on the moon and 
reaching toward the planets. Without communications even communications 
would not be as sophisticated as they are— television, for example— and 
as sophisticated as they will soon be— the holograph and the laser, for 
example.

The most important element in human progress is and has always 
been in all ages and in all places, communication.

Today communications has reached a position where it is almost 
ready to be an all-pervasive force, directly affecting all people in 
the world intellectually and emotionally. It is ready to bring every 
person, every child in no matter how remote and deprived an existence, 
into the world, by bringing that world to him. Dr. Theodore Sizer, 
Dean of Harvard's Graduate School of Education, in a recent report 
deploring the conditions of the slum schools, reiterated the frequently 
heard statement that "Nobel winners do not abound in the slums." The 
tragedy is that they do exist in the slums as much as anywhere else. 
And on the farms and in the valleys and in the jungles and on the 
mountains and on the deserts and in the fishing villages. Yet, how many 
children in the ghettos, in the deprived rural areas of our country, in 
countries all over the world, are growing up today unexposed to the 
fullness of the world about them, unaware of what is possible, what is 
probable? How pitifully few of all those who might eventually make 
important contributions to the peace, dignity, freedom and well-being of 
mankind will ever do so?
Now, for the first time in human history, they can. Now for the first time, we—and I mean we, those of us in this room today—can make it possible for all children in the world to have the opportunity to contribute their Nobel winning contributions to society. Through communications. Communications which will offer them the education that they need to move their own abilities toward self-realization and toward the common good. And through communications to the controlling forces of society to educate those forces to provide to all children, all people the opportunity for such contributions. It is not enough, for example, to educate the ghetto child so that he is able to make the contributions he is capable of. It is also necessary to educate white suburbia to provide an unconditional, open, free and equal opportunity for all contributions for the progress of our country, regardless of the source.

That the key is education and that the means are television and radio have been recognized by many governments throughout the world, including ours. It is no accident that media are, in most countries, controlled by government. They know its effect. And they have used it to educate the adult and the child, formally and informally, as suits their purposes—in many instances political purposes.

In this country we have established the principle (if not yet the current appropriation) for government supported but not controlled media communications.

In 1941 the Federal Communications Commission recognized the potential importance of educational media by allocating five FM channels for noncommercial FM broadcasting. In 1945 it increased that number to 20.
Today there are some 375 educational radio stations on the air.

In 1952 the FCC reserved 242 television channels for noncommercial educational use, and in 1965 increased that number to 632. Today there are some 165 ETV stations on the air.

In 1963 the FCC authorized 31 channels in the 2500 megahertz range for instructional television purposes. Today there are more than 50 systems with over 100 channels on the air, and about the same number with construction permits.

Congress, and the Department of Health, Education and Welfare have contributed importantly to the growth of educational broadcasting. Beginning notably with the National Defense Education Act, many HEW programs have included support for educational media. The Educational Television Facilities Act of 1962 has done more to spur the growth of ETV than any other single piece of legislation. The Public Broadcasting Act of 1967 provides even greater potential, with the facilities portion of the act including radio for the first time, the Corporation for Public Broadcasting authorized to develop one or more systems and networks as well as providing the wherewithal for even more significant programming, and the instructional media study an important step toward opening the way for major legislation for the support of instructional media.

On November 7, 1968, in signing the Public Broadcasting Act, The President said: "Today we rededicate a part of the airways—which belong to all the people—and we dedicate them for the enlightenment of all the people. . . . we must consider new ways to build a great network for knowledge. . . . the time has come to enlist the computer and the satellite, as well as television and radio and to enlist them in the cause of education."
A Networks for Knowledge provision is now being considered by Congress as part of the Higher Education Act.

We are moving ahead. Our government is moving ahead. You, with ever more sophisticated technology, are moving ahead.

We are all moving ahead. But to what?

Are we using television and radio in education to meet the needs of the students, or are we using them as enrichment and reinforcement--of old, outmoded, nineteenth century approaches to teaching and learning. Unfortunately, we have been doing just that. Instead of changing education to take advantage of the most effective means of communication today, television and radio--to which young people are most effectively oriented--we have adapted the media to serve the administrative and curriculum structures of education, no matter how inadequate these structures may be to the needs of the people.

For example, let's look at the most critical internal problem facing the country today: the needs of minority groups, particular in the inner-cities. It is no accident that the U.S. Commission on Civil Rights said in 1967 that not a single compensatory educational program in the country has been successful. It is no accident that the Report of the U.S. Commission on Civil Disorders devoted an entire section to communications, making it clear that better "communication is a vital step toward removing the obstacles produced by ignorance, confusion and misunderstanding ..." To what degree have television and radio been effectively used to educate the public toward nonviolence, toward tolerance of varying attitudes and opinions, toward effective control over weapons designed to kill?
Look for a moment at the black ghettos of our country. The black child is put into the classroom surrounded by print materials that he cannot read, given tasks that he cannot do and that have little meaning to his real world, and talked at by white faces in suits and ties that drive out of the ghetto in cars every afternoon to a different society. These are conditions of Kafkaesque terror for any child; they are unreal, they have no positive meaning, and it is incredible that anybody can be expected to learn anything under them.

All children, today, including and maybe especially the ghetto child, live in an aural and visual world. Yet, virtually every education program in the country is rooted in the print world of fifty years ago. How can we expect any child to learn when we continue to use nineteenth century methods and techniques to try to solve the education problems that are part of the twentieth century revolutions of energy, transportation and—especially—communications?

The same is true for the adult in the inner-city. There has been no meaningful communication.

The black man is put into a ghetto. He is surrounded by visible and invisible barriers that are blank and threatening with no free access to the outside world. He is given promises that are not kept, projects that are temporary make-work with no true relationship to his and his family's future, organizations that result only in talk, people who come from a world of jobs and home and travel mobility that is totally unrelated and barely understanding of the reality of the black ghetto. Here is the same Kafkaesque world.
We must use television and radio to enable the ghetto itself to communicate with the outside world, to "tell it like it is." We must use the media to affect the thoughts and feelings of white America in a positive way to forward the principles of democracy and humanity. We must have increased and more imaginative use of radio and television to provide urgently needed upgraded formal education for children and formal and informal education and training for adults. We must exploit radio and television's subjective, psychological non-content effect on both the inner-city and outer-city resident.

Look at some of the photographs of last summer's riots. Think back to some of the TV news films. Did you see any of the teenagers or the adults reading newspapers or books while violence was all around them? You did see many, however, with transistor radios pressed up against their ears. Radio is a primary medium of communication reception for them.

What this means is that television and radio are not just tools divorced from teaching and informing and learning and reacting, but are part of the entire process. What this means is that if we do wish to do anything about ghetto education and ghetto problems we had better revolutionize our entire approach to teaching and learning and to public communication.

Marshall MacLuhan has put it this way—and we cannot ignore it: "All the young are in the same position . . . The discrepancy between the riches of the TV feast and the poverty of the school experience is creating vast ferment, friction and psychic violence . . .
but the new era and the new violence doesn't have an end in view... it is the process itself that yields the new image. When children go to school they are filled with rage at the puny curriculum... the children in Watts were quite right in thinking 'Why should we go to school to interrupt our education?"

We must use the media to free all people for human participation in a human society. We must use the media to free our youth in the classroom from the excess time needed for factual learning so that they may devote that time to their fulfillment as non-mechanized human beings; not memorizing, but creating; as people with minds that do not store information, but apply it; as living things with feelings and imaginations to take the mundane and make them more beautiful and meaningful for themselves and for all the world.

If we had done this, for the child and for the adult, too, perhaps we should not now be so inundated in the atmosphere of violence and intolerance that results in the murder of a John Kennedy and a Medgar Evers and a Martin Luther King and a Robert Kennedy. Have we no responsibility for the attitudes that children grown into adults bring to society and toward their fellow man? As long as we continue to permit education to stress and society to honor the competitive narrowness of information regurgitation at the expense of imaginative creativity, can we expect our youth and adults to open their minds and souls to beauty and love and respect for life?

The point is that there is no problem, no human purpose in this world that is not dependent on communication for optimum solution or
achievement, and no area of endeavor that cannot be affected in a positive, humanitarian way by the effective use of communication.

Is it agricultural equipment to provide the means to feed the increasing millions of starving children and adults? Agricultural machinery lies unmanufactured, or rotting in many parts of the world, unused and misused because it is impossible through the traditional means of education to teach people how to effectively make it and use it. Television can teach them how.

Is it medical care? Medical supplies and equipment sit idle in many places throughout the world because traditional means of communication cannot teach people how to use the supplies even as a basic technical aid in emergencies. Television can teach them how.

Is it housing? There are enough building material resources in the world to shelter all people properly. But the resources go unprocessed because the usual means of education are insufficient to teach people how to manufacture enough to meet all the needs. Television can teach them how.

Is it jobs? Millions of people in this country, tens of millions throughout the world are unable to get jobs, not always because there is no need for labor, but frequently because they lack the skills to perform some jobs, or lack of knowledge of availability of jobs and how to get them, or are the victims of employers whose prejudices deny jobs to people whose creed or color or ethnic origin they don't like. Television can educate all of these people.
For some time I have felt that one of the reasons we were not yet using the communications media to their fullest potential was because we have not been adequately prepared to do so. Those of us in the field have come into it from either another discipline, have been educated in only a small portion of it, or have been limited to broad and incomplete overviews of it.

There is not, in this country or anywhere in the world, a single center that offers to the student, to the communications industry, to government, to education, to the professions, to all the varied fields needing communications expertise, the kinds of communications training, experiences and services most vitally needed in the world today. There are so many needs: international service; socio-political, including inner-city, applications; management and industry production, distribution, sales, training; federal government agencies; state and local governments; nongovernmental professional and citizen organizations; many specialized fields such as medicine, religion, law; and others.

If we are to make greatest use of the potential of the mass media, we have got to recognize the importance of communication, we have got to give it the resources, respect and prestige of other fields, and provide it with personnel of the highest quality.

Just as the future scientist can go to M.I.T. or Cal Tech, shouldn't the future communicator or broadcaster also have a high quality University to learn in, in a field that is at least important to the future of the world as are the disciplines now learned at MIT and Cal Tech?
About a year ago I first proposed the establishment of a high quality Communications University to provide the needed education and services. In the past few months, particularly, the response and support have been highly encouraging.

Within this Communications University I have proposed two special institutes: An Institute of International Communications, and an Institute of Urban Communications. In addition, the University should have a first quality research center; a workshop, conference and convention center; a special training center for government personnel; consultant services to all potential users in all areas, including such things as systems planning; a production center for all communications needs; a special center for innovative production and publication; and, perhaps most important of all, the highest quality inter-disciplinary undergraduate and graduate degree and non-degree program.

I believe that one of the most significant educational investments we can make today is to establish a Communications University maintaining the highest academic standards and services, not only for transmitting ideas, but for relating people with people, and for reaching people with both content and non-content motivation. I hope you will join with me in seeing such a University reach fruition.
Now, we have been talking about philosophy, purpose, use, need and not a word about technical systems. So, what relevance is what I have said to a conference of electrical engineers?

Your jobs, your professions, your responsibilities are not those of theoretical engineers, or systems analysts, or manufacturer's representatives, or engineering consultants. Yes, you do all these things. But what you can do with all these things go far beyond designing a high school system, or helping a college set up a television station, or providing suitable equipment for a city school project, or keeping a national network on the air, or inventing a new communications satellite.

You are at least responsible for the future of mankind in your development of communications as is the scientist who works on the hydrogen bomb. In fact, your responsibility is the greater, because the way in which communications is used will determine how the force of hydrogen will be used.

Whether you like it or not, as I said earlier, television and radio are the most powerful forces in the world today for affecting minds and emotions of mankind. And whether you like it or not, you are responsible for their creation.

Without you television and radio cannot exist. It will not be used for anything unless, in each and every individual instance, you create or provide the means of transmission and the means of reception. You can, of course, refuse to take the responsibility for whether and how it is used to serve the needs of humanity all over the world.
But if you do, the next time you read a newspaper headline about violence or injustice, the next time you wonder about the inadequate education our children are getting, the next time you think about the worldwide shortages of food and housing, the next time you talk about the problems of the economy, the next time you sweat at the prospect of continued or expanded war, and wonder what can be done about it all—you just go over and look in the mirror!