

MASS MEDIA IN THE YEAR 2000

BY

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The mass media, as we know them today, are on the threshold of a major technical revolution, with consequences perhaps even farther-reaching than those which accompanied the rise of radio in the 1920's and '30's and of television in the 1940's and '50's. Although some media organizations have begun to prepare themselves for the events to come, most of the planning has been on the technical side, with thus far little consideration of the consequences for the content and character of mass communication.

The mass media in America and Western Europe compete strongly for audience interest and advertising revenues. This creates a tendency to think in immediate terms and perhaps inhibits long-range speculation. This paper will raise some of the problems that the mass media face in the rest of this century, without suggesting solutions.** Its thesis is that present knowledge of media and their audiences is quite inadequate to permit the kind of intelligent planning which is required to master the new technology, and that now is the time to face up to the problems which will soon be upon us.

It is hard to think seriously about the future because we take the present so much for granted. We hardly think twice about the fact that throughout the world music is a commonplace feature of daily life, at leisure and at work. We think of it as part of mankind's heritage, like sun, air and water. Yet this has only come about in the few years since the invention of the phonograph record and radio. It is as hard for my children to realize that I grew up in a world without television, jet airplanes, washing machines and astronauts as it is for me to realize that in the time of my father's childhood there were no automobiles, airplanes and moving pictures.

Since the rate of invention grows as the existing base of technology expands, the changes in the next third century will be even more dramatic

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** This paper expresses my personal views as a student of mass media rather than as an official spokesman for the American daily newspaper business, which encompasses many divergent viewpoints on the subjects I shall touch. (The ANPA Research Institute has under way, in cooperation with the Massachusetts Institute of Technology, an active program of technical research on the future adaptation of telecommunications to the press.) I write as a social psychologist concerned with mass media audiences and institutions, and I cannot speak on technical matters with the authority of a physical scientist or engineer.

than those of the last third. In that last third century we have had our communications capacities enlarged by web offset and color gravure printing, photocopying, teletypesetting, talking motion pictures and television (both first black and white and then in color), miniaturized and printed circuitry, communications satellites, audio and video tape recording, microphotography, and electronic data processing. Although the mass media which existed earlier have bent and changed under the pressure of these inventions, they have not vanished. As we try to read the future, it seems reasonable to expect that today's media will continue to exist, but also that their form, function and content will undergo radical modifications.

Most of the technical changes to which we can look forward in the remaining third century will represent refinements and combinations of machines and systems which already exist. It serves no purpose to fantasize about technology which is still beyond the horizon. We must rather ask how the techniques which are already feasible in the laboratory will enter and change the communications systems of the future. How soon new techniques will come into widespread use will depend on how soon, through mass demand and mass production, their cost can be reduced to a scale comparable with today's mass media.

It is not enough to think in terms of a rapidly evolving technology. We must also weigh the economic capacity, the cultural receptivity, and the political willingness of society to make the investment required to translate technological potential into reality.

In our developed world we can foresee a steady rise in education; in the specialization of interests; in work productivity; in income; in leisure time. All these forces point to an accelerating demand for information of all kinds, for culture, for entertainment and pastimes to fill leisure.

The great cities of the world will continue to expand in size and to absorb an increasing proportion of the growing number of people. Along with the social and psychological problems of a changing, mobile population come the material problems of urban congestion, the choking of transportation networks, the degeneration of the architectural landscape. The resulting changes in the quality of life will profoundly affect the traditional role of the mass media as expressions of a community's identity and spirit.

International press services and space satellite broadcasting are symptomatic of the growing worldwide interconnections in mass communications. If we want to be optimists we might predict that in the shadow of nuclear destruction, international politics will rely more heavily on communications and less on military power. If the future were to take this happy course, it would surely change the function of the mass media as a force for national cohesion, and expand their potential as

the principal means of creating a common vocabulary of ideas among all men.

The development of mass media will be profoundly influenced by the global confrontation of rival political forces and by the widening gap between what the eminent poet and athlete Mao Tse-tung calls the 'city' and the 'country' — the industrialized nations with a firm hold on the emerging technology and the agrarian nations for which this technology represents largely rumors and receding hopes.

The worldwide explosion of population (which shows no serious signs of abatement and cannot be stopped except by emergency measures) will in twenty years outstrip mankind's existing food supply capacities. How, in the case of famine, can we fail to foresee continuing political tensions and upheavals — quite apart from those directly inspired by ideology? How can there fail to be a continuing material and psychological dependence on the technically advanced countries by the impoverished peoples?

The gap between rich and poor nations will for some time to come cause new and old mass media systems to coexist at sharply different levels of technology — just as today there are nations which have no television and even a few without indigenous mass media of any kind.*

Parallel to the divergence in outlook between the advanced and backward countries is the growing difference within the advanced countries between the technical elite and the untrained mass, between those who feel a sense of participation and control over the changing course of society and those who think of themselves merely as consumers. The continuing contradictions, variations and antagonisms within human society will in themselves insure the continued existence of parallel mass media systems — primitive and advanced — on both the local and international levels for many years to come.

What do we know about media?

How much can our existing knowledge of communications help us to understand what is about to happen? There are only a handful of generalizations from mass media research which might provide some relevant insights:

1. Communication is a selective process which operates at a number of levels. We choose the programs and periodicals that interest us. We remember those messages that interest or concern us most, among all

* The problem is not solved by transplanting the hardware of an advanced technology to a relatively primitive one. A friend who recently returned from an educational television project in Africa reported to me just the other day on the fearful problems that are encountered with a magnificent new transmitter, because no one has the skills required to replace a tube or make a minor adjustment.

those we see and hear and read. But there is also selection in the earliest stages of sensory perception. For instance, when we open a newspaper page, the eye's focus is actually attracted to the items which have the greatest meaning for a reader. For the psychologist, attention may be defined as the elimination of unwanted information*. Today, the mounting flow of information creates a mass immunity to unwanted messages. Too often this 'perceptual defense' serves to shut out information which is really useful. In every advanced country, opinion polls continually reveal the spectacle of massive public ignorance on matters which are widely disseminated by all news media every day. The greatest challenge before the publisher or broadcaster is to make people aware of the important realities they would prefer to avoid because they are either unpleasant or dull.

2. Communication via print is at the user's speed and to his specifications, whereas in time-bound broadcast communication the communicator controls the pace of transmission. For this reason, print is a more efficient informational medium than broadcasting for people of higher intellectual skills.

3. Media experience reflects the life cycle. As children mature they use media in different ways. Their reliance on informational media, as distinct from broadcast entertainment, reflects not only the direct influence and requirements of school assignments, but the fact that maturity carries with it a greater diversity of roles and interests.

4. When people are confronted with a choice of mass media content, they will generally take the easier way. They prefer to get communications through minimum effort. They prefer simpler to more complex and demanding content. They will normally prefer entertainment to information.

5. Exposure to mass media for entertainment appears to be largely a matter of pastime activity. For example, there is remarkably little elasticity in the amount of time people spend with television. Changes in programming or in the number of program choices available do not strongly affect the total time spent viewing. When newspapers disappear, the circulation of the survivors does not go up proportionately, but other forms of reading matter may serve as substitutes.

6. The mass media have expanded to fill the hours of leisure. Radio and even television have also become companions during the workday. Although television has taken over a great deal of time, its growth has coincided with an increased exposure to print (most of it in different

* I owe this definition to Norman Mackworth.

forms than before) and with continuing substantial exposure to radio (especially at times and places formerly beyond reach of the mass media).

7. The mass media (except for the movies) have historically tended to represent increasingly individual experiences for their audiences. When few people knew how to read, they read to others. With universal literacy, reading has become entirely a private matter, except in the case of parents reading to young children. With the transistor, radio — once the family entertainment center — has become portable, personal and intimate. This is now becoming true of television as sets become smaller and mobile and as more families acquire more than one set. In the United States, nearly a fourth of the families already have more than one set and the proportion will grow as color comes along. This means more differentiation of program interests and selections. At the same time there is an increased range of choice as the number of broadcasting stations and publications continues to grow. In the future no industrial nation will be able to survive with only one national television channel or radio program, any more than it could with only a single newspaper.

8. Items of media content reinforce each other. They also reinforce direct personal experience. Media enrich and create new life interests. But on the other hand, people turn to the media to rehearse or review experiences in which they have personally participated. The theatergoer turns the next morning to a review of the play in the newspaper. The football enthusiast wants to read the press report or the radio commentary of a game he has seen. By the same token, people who have heard a broadcast of an event have more interest in reading about it. Media support rather than detract from each other.

9. Tastes can be molded. Public tastes reflect what is familiar. People learn to accept and value the media content and style to which they have become accustomed. Those who control mass media content therefore bear a responsibility for shaping the tastes they seek to satisfy. By the inherent nature of their role, media operators are sensitive to public taste, even when they are firm advocates of a fixed position. Regardless of the political system under which they operate they customarily seek to expand their audiences and their influence.

10. The world of the media no longer mirrors the world of real events. It helps create it. The mass media, especially television, have given broad masses of people the illusion that they are eyewitnessing — and thus in a sense participating — in great affairs. A few centuries ago, the doings of kings and ministers moved from the sphere of fantasy, rumor and occasional proclamations to become a matter of daily chronicling in the court calendar and so on to daily comment in the press. These powerful

figures no longer seemed quite so grand and superhuman as they became less remote. With the coming of motion pictures, radio and television in this century, new power was added to the illusion of knowing the mighty, and the media define the roles appropriate for politics and public life. But, paradoxically, these media created a whole new class of public personalities, the 'stars' who were invested with precisely the attributes of glamor and power which belonged to the monarchs of the past.

Generalizations like the ten just listed are useful in understanding the habits of audiences for the media of today. However, they offer but slender guidance for understanding audience behavior in the year 2000.

The five areas of technical change

The technology of communication is being transformed in five areas: in assembling information, storing it, retrieving it, compressing it, and reacting to it.

1. In the graphic arts, we are getting higher quality color reproduction by a combination of graphic techniques within the same production sequence. Telecommunication makes possible decentralized production and printing at great speed and with simultaneous operations at separated places. Computerized typesetting and photocomposition, already a reality, will be more broadly used to expedite and reduce the effort required to transmit information from its source to its users.

2. Electronic recording instruments, in combination with the computer, make it possible to store aural or visual communications, transmitted at extremely high speed, for rediffusion or play-back at the option, and to the specifications, of the individual recipient. This is true not only of communication through the alphabetic symbols of print, but of the direct reproduction of sound and sight which we now experience through radio, cinema and television. The familiar tape recorder, already adapted from audio to video, is but the forerunner of far more sophisticated home recording systems that permit information to be stored and played back to suit individual specifications, needs and tastes.

3. Microphotography has given us the economical visual storage of miniaturized records which can be classified, punch-coded, retrieved through the computer, and rapidly enlarged and reproduced. This is already revolutionizing librarianship, business record-keeping and a host of other activities which require the rapid assembly of related information drawn from varied sources. New processes now make it possible to achieve microfilm quality without developing film chemically. Electrostatic reproduction, in combination with improved data recording mechanisms, provides the means for widely dispersed facsimile reproduction of the conventional forms of print media, giving substance to the old idea of a newspaper produced in the home.

4. We have vastly increased facilities for transmitting huge flows of information. 30 million words, the equivalent of 108,000 typed pages, can be transmitted in an hour through a television scanning system. Space satellites using solar energy will make it possible for vast quantities of messages to go directly from transmitters to home receivers in any part of the world. The internationalization of the broadcast media will proceed apace, inhibited largely by language and by localized tastes. Throughout the world, radio and television become more and more universally accessible; more homes are linked through the telephone into communication centrals which ultimately will be put to diversified uses, as in the United States has already happened with community cable antenna TV systems. Lasers permit complex messages to be transmitted along hitherto unexploited reaches of the energy spectrum; through holography they allow us to reconstruct three-dimensional images, reduced or magnified in size. The hologram may replace microfilm for information storage, and could permit the transmission of 2,000 type-written pages a second.

These complex systems of processing communication raise new problems of information cataloguing and retrieval. Eventually these problems will be solved by indexing information successively in terms of cross-reference points which permit progressively finer expositions of detail. The translation of such machinery from the laboratory to the stage of a mass communications system is obviously limited by the fact that greater complexity requires great expansion in the band of electronic frequencies required. But this obstacle too will be overcome.

5. We will soon have the means to make mass communication a two-way process. Through a home or office console unit, tied to a computer, an individual can feed back questions, demands and other reactions to his communications source. He can control not only the flow of information but the by-products of information. In most countries the public is already accustomed to this kind of feedback in the form of opinion and marketing research. We see it in American pay-television systems, in which people pick the programs they want and pay accordingly. We see it in automated vending and mail ordering of merchandise. Already there exists in prototype the push-button ^{store} in which the consumer selects the items he wants by remote control and has them assembled and packaged for delivery. It is only another step to link the home and the warehouse directly. In short, computerized selective access to goods as well as to information may represent a public utility as generally available in civilized society as water or electricity, metered and paid by the same kinds of accounting devices.

The home information system of the future may have its visual center in a large mirror on the wall, a mirror which at our command will

present an illuminated reproduction of any kind of information we want. This information may take the form of written language — letters and words as they now appear on the daily newspaper or magazine page. We can summon up these messages to our command by pre-designated codes which will yield the particular kind of information we are interested in. Through another system of controls (perhaps using an electronic pencil) we might get pictures to illustrate the words which interest us, just as we might be able to get the full story if the headline is intriguing. A news article about a speech by a public figure could give way to a photograph of the occasion — and in either case we could instantly get a facsimile copy. Another control might bring us the sound of the speaker's voice or the filmed visual record.

Today a few pennies can buy a newspaper or magazine, or hours of radio or television. The systems just described would be prohibitively expensive to install and operate in today's economy, and with today's information needs. And yet can anyone doubt that the time is not distant when they will represent reasonable and economical methods?

The changing function of media

The sharp distinction between broadcast and print media, as we now know it, is likely to be dimmed and perhaps even to disappear in the world of the near future. This sharp distinction rests on two essential differences:

1. The differences between the visible, tactile, permanent record of a print communication and the intangible, evanescent, impermanent nature of broadcast messages. This distinction will disappear as the mechanisms for home recording of broadcasts become more simple, inexpensive and widespread.

2. The distinction between space and time media in the degree of control which the recipient exercises over the flow of information.

The great advantage of symbolic communication through print is that it may be skimmed or scanned and then dipped into selectively for the information that the reader wants to absorb in greater depth. The reader of a newspaper or magazine, like the reader entering a public library, is simultaneously engaged in two different processes of handling information.

1. He has certain expectations and wishes which he can fulfill by turning immediately to the probable source of what he is interested in. In the library he may go immediately to the shelves which deal with books on a certain subject or by a certain author. In the newspaper he can turn immediately to the pages which carry the stock market quotations, the sports results or the motion picture reviews.

2. But in either case the great advantage of having an open visual display in a storehouse of information is the opportunity for chance discovery of unanticipated treasures which arouse interest and further investigation. The browser in the library finds books on subjects that he had not thought of reading about. The reader of a newspaper or magazine encounters articles on subjects which he could not possibly have expected in advance. We very quickly filter out, from all the information which confronts us visually, the particular bits which arouse our interest and encourage us to further pursuit. This kind of skimming cannot take place with the same efficiency in a time-bound medium. We can flick the radio dial until we come upon the particular kind of music we want to hear or until we hear a station that speaks our language. But to hear a program which we anticipate with pleasure, we must inform ourselves in advance and adjust our time schedule to that of the broadcaster.

Thus, in contrast to the selective pattern of print media, broadcasting is inevitably a matter of mass and uniform exposure. Because of the economics of broadcasting, fewer channels of information can be diffused simultaneously than in print within the confines of a given language and national culture. The result is that the choices for the broadcast listener or viewer have been fewer than in print. This condition changes as a result of some of the technical developments to which I referred earlier. Soon broadcasts on radio or television will be frozen through recordings; they will be automatically sorted; vast quantities of them will be economically transmitted in a tiny fraction of the time required to play them back at normal speed. In short, it is now possible to think of the skimming or scanning process as one speeds up the playback on a tape recorder to get at the parts of a tape one wants to hear.

The new techniques will make it easier and cheaper to combine and reproduce messages culled from a variety of central sources. Will this make every man his own publisher in the sense that Benjamin Franklin two centuries ago could gather the news, write it up and print it himself? Hardly! A publisher or broadcaster provides far more than the technical resources for disseminating messages; he gives them credibility and the authority of his selection, even when they emanate from another source.

As we increase our technical capacity to manipulate mass communications selectively for our individual purposes, its borderline with private communication becomes more and more indistinct. The essence of mass communication is that it makes possible the wide diffusion of identical messages, but this characteristic is lost as each recipient determines the particular form and sequence of the messages he receives.

The telephone is a private instrument. But we use the telephone as a mass medium when we call a number to get a recorded announce-

ment of the exact time or the weather forecast or a report on traffic conditions. When the housewife calls the butcher to ask the price of lamb chops she is using it as a private medium. But she does not merely get information from the butcher; she can use the system to order what she wants; communication works both ways. And soon, as the existing telephone system becomes more complex, ordering, record-keeping and billing can be handled more efficiently, though also more impersonally, without the presence of a human being at the other end of the line.

The creation of a twilight zone between private and public communications can hardly mean an end to the mass media as we know them. But today's mass media are unlikely to keep their present form and function in the world of the future. The content of existing media may undergo drastic change, just as (in the United States at least) fiction has been almost eliminated from general magazines and drama has almost disappeared from radio as a result of less than two decades of television. We can best assume that for a long time to come there will continue to be diverse systems of media operating in competition with each other at different stages of technological sophistication, subject to different kinds of regulation and financial support.

It would be silly to suggest that the graphic arts which our Western world has used for some 500 years are doomed to oblivion within the next 50. The facsimile system does not provide the answer to the tactility and mobility of newspapers or magazines which are picked up many, many times by each reader and taken from one reading location to another to be perused in a different context. The tactile aesthetic satisfaction of good print reproduction will continue to remain important.

Radio and television, with their obvious capacities for instantaneous, direct communication, will continue to be major means for people to enjoy and inform themselves. One great attraction of existing media is the simultaneous sharing of experience which is incompatible with communication that is both one-way and unique in content. There is a basic satisfaction we get from knowing that other like-minded people are reading the same newspaper editorial or magazine article, listening to the same radio concert or watching the same play on television.

Radio and television acquire much of their force from the fact that the listener who tunes in feels himself in direct communication with the broadcaster, in real-time. He speaks to us *now*. We feel this strongly as spectators of a televised public event. But this sense of immediacy has already been lost in television's stock entertainment fare because the economics of program production increasingly dictate filming in advance. In the United States this accounts for Hollywood's new vitality and for the fact that fewer and fewer evening programs are broadcast live.

The need for specialized broadcasting channels and publications will

inevitably continue in the era of entirely new technology. There will always be interests too narrow or local to justify electronic applications in the short-term future.

There may be a new role for the motion picture precisely because of its involving and overwhelming character as an experience for audiences in the mass. The growing opportunities to be selective in our use of the mass media may make us all the more receptive to the live performing arts. People will always want to go out to experience a spectacle away from their usual home environment, within the order and security of an enclosed space and in human company. Even when lasers are used to produce the illusion of having others with us in three dimensions, this will be a different matter from the direct confrontation of performers with an audience or the members of an audience among themselves.

Entertainment and information

As we move into an age of greater leisure, is there any sense to the conventional dividing lines between the mass media of entertainment and the mass media of information? Information may be taken as entertainment. Poetry, drama and fiction all inform as well as entertain, since they instruct us on the aspirations, joys and perplexities of other men. The non-verbal arts — painting, sculpture, music and dance — may also carry over nuances of this kind of communication, but they are not informative in the sense that we can evoke and integrate their meanings in any other ways than memory or imitation.

What is informative for one person may be merely entertaining for another, and vice versa. Nor is the boundary between information and entertainment a matter of what is timely. The fundamental difference is that information exists largely outside of time. Most people would prefer to acquire a knowledge of calculus or Chinese painlessly overnight with the help of some type of magic electrodes inserted into the pillow. To be sure, there is also an aesthetic element involved in acquiring information, — the pleasure of discovering the solution to a problem of mathematics or grammar; finding the relationship between something new and something already known. But information is mainly an end in itself rather than a tool for the pleasure of learning. Entertainment and culture are pastimes which must be savored within the time dimension. It seems reasonable to predict that in the future informational media must strive for ever greater economy and speed of presentation, whereas the audiovisual media will continue to stress entertainment that flows through time.

More and more mass media exposures represent uniform messages from the teletype or film archive rather than the individualized messages of the past. Unlike newspapers, television, which in advanced countries

makes the greatest demands on leisure time, is national or international rather than local in its content.

While the increased demand for information has produced a tremendous proliferation of publications of all kinds, the production of fresh entertainment matter has not kept pace with the requirements. The film libraries of the world are already on the verge of being exhausted by the insatiable appetites of television. Old programs are rerun repeatedly. In developing countries, modern mass media systems are only now arriving at the point of making real demands in the realm of content. We are on the verge of a tremendous expansion in the worldwide market for information of all kinds, for new ideas, for talent, for the arts.

This in turn raises the question of balance between what people want and what is 'good' for them in the eyes of publishers and broadcasters. Elite and popular culture are generally regarded in terms of the requirements of different sectors of society, when they really correspond to different aspects of the same people. All of us tolerate cultural experiences below the level of our highest tastes; we even enjoy them. By the same token, people whose routine cultural exposure is at the most vulgar level are not incapable of being reached and moved by art or high purpose.

Today's mass media, even when regulated by the philosophy of giving the public what it wants, permit and encourage accidental exposures to elite culture in the context of programming or texts with broader appeal. Such chance exposures would not take place if people had complete freedom to select whatever interested them. A small child who knows only a few bedtime stories asks to hear the same ones over and over again.

There is a weakness in those mass communication systems of the future which assume a high degree of purposeful choice on the part of the audience, which assume that they know what they want and what they are seeking. This leaves no room for the element of fortuitous discovery, the accidental encounter with stimuli which arouse our curiosity, remind us of forgotten interests and lead us into new paths of exploration.

Technology and the control of information

In the past, new inventions were produced by chance combinations within the existing base of knowledge. Today, the creation of new inventions and new technology is a matter of purpose, of will, of investment, of decisions made by institutions and states rather than by individual inventors.

Mass media are big business. This is true in the gathering as well as the dissemination of information. It can cost an American newspaper between \$ 50,000 and \$ 75,000 a year to maintain a foreign corre-

spondent. In the United States a daily newspaper with a circulation of 10,000 was sold recently for a million dollars. The media of the future will be even more complex, more demanding of capital and manpower.

Within the United States we have recently seen some interesting ventures initiated by the combined efforts of giant print and electronic organizations: Cowles and Westinghouse; Time-Life and General Electric. Their interest is in the application of the new technology to the field of education.

As technology evolves, it requires greater capital investments and greater aggregations of specialized talents. All of this could lead to greater concentration of control within the communications system.

Although, in some countries, several telephone and electrical systems coexist, it is not normal to find the same residents served by two or more suppliers of electricity or telephone service. By the same token, it would be uneconomical in the future to expect home communications facilities to be serviced by more than a single transmission system. There may be, as in English commercial television today, a number of competing companies supplying messages, but the distribution arrangements are likely to be centralized in the form of a public utility, whether or not this is privately or publicly owned.

As enormous resources have to be coordinated and brought into play, we move farther and farther away from the individualistic expressions which are the roots of modern journalism. We are indeed remote from the tradition of the 18th century feuilleton (or, for that matter, of the Red Guard wall newspapers of 1967 Peking).

While complex technology concentrates power, that power is vulnerable to the rise of even more complex technology. In the United States and United Kingdom, the rise of motion pictures and broadcasting has brought up new forces to mold public opinion and taste, and has shaken the preeminence of the great newspapers and magazine publishing houses.

We are already witnessing a rapid obsolescence of existing communications, and of the machines and technical skills required to operate them. The *status quo* may have powerful support from existing institutions (both on the management and labor side), but who can doubt that change will come anyway?

The operators of mass media must always be motivated in some degree by power — whether of ideas, prestige or profit. This is true in the Western democratic tradition, and it is surely also true on the Communist side.

Over the past 300 years I suspect that more publishers have been interested in ideas than in money. This has been the case in Europe, with its tradition of national newspapers with strong political party ties, but is probably also a reasonable generalization even for the United

States. No doubt the proportions have changed since the rotary press produced mass circulations, and since the growth of advertising caused newspaper profits to multiply. But even those publishers who think of themselves primarily as businessmen rarely relinquish a taste for the power of ideas.

If information tends more and more to flow through centralized channels which have the character of a public utility, how can new (and unpopular) ideas obtain a hearing? How can we engineer the mass media of tomorrow so that they serve the clash of ideas and foster the diversity of expression and experience which is essential for human progress?

We cannot answer this question except in relation to the economic base, in which advertising, in the Western world, has the predominant part. Where does advertising fit into the scheme of media in the future? Obviously advertising's place today differs throughout the world, depending on the economic system, the level of economic development, and the presence, or regulation, of commercial broadcasting. With the rise of the electronic media, advertising has changed its function. Far less of it is aimed to inform the public; far more of it is intended to persuade.

I don't think there can be much doubt that advertising will have an important place in the mass media of the future, since most advertising represents information which consumers actively seek and which they will continue to demand even when they have complete power to select what they want. The effects of technical change in the media are bound to be greatest in the case of advertising on commercial radio and television, since broadcast advertising messages are more likely to be persuasive rather than informative. They are more apt to be imposed on the viewer or listener, and not sought out to the same degree as advertisements in print. (It is of interest to note that one of the fastest growing categories of advertising in the United States is classified newspaper advertising, which now is at the level of one and a third billion dollars a year, and which has grown in the last three years at a 50% faster rate than TV).

Advertising will have to change radically in the next third century, not only in its use of media to reach the consumers who are being sold, but also in its content and style, in the very philosophy of selling consumer goods in a competitive market. As advertising changes, so (necessarily) will the economic base of the existing media. Is it really too soon for the leaders in mass communications, in advertising as well as on the media side, to ponder the long-run implications of impending change, as well as the immediate short-run policy decisions, and to begin the serious research required to ease the transition?

The problem of 'Cultural Lag'

Many years ago the American sociologist William Fielding Ogburn described what he called the 'cultural lag' between technological innovation and the capacity of society to change its institutions in a way which permits technical change to be used to best advantage. Today, in the field of mass communications, technical changes are feasible far beyond our capacity to take advantage of them. But cultural lag with regard to communications media is especially important because they are such a great influence on the public attitudes and values which must change if mankind is to intelligently master the new technology.

The developments which are in the offing for mass media exemplify the great changes taking place in *all* spheres of life. There seems to be a tremendous resistance to accept the imminence of these great changes and to face up to their social consequences. When the prospects of space flight were familiar only to a relative handful of specialists, policy makers and social scientists alike showed little response, in fact even resistance, to the idea of confronting its social implications. Who, if not the mass media, has the responsibility of preparing mankind to cope with the challenge of technical progress? Who, if not the media, can goad a reluctant society to come to grips with the emerging problems that arise from space exploration, extension of the life span, eugenics and the development of new forms of energy?

No one knows better than our generation that the most advanced technology can be used on behalf of the most ignoble ends, or that brilliant means may be used to convey banal content. The educational authorities in one of our states recently engaged a firm of specialists in advanced instructional techniques to develop a system to improve the reading skills of children in the elementary school grades. The materials included some drawings of farm scenes with various domestic animals and their names. Among these drawings was one of a fully mature cow, with all of her basic equipment. The authorities took a look at it and ruled that the udders be removed. Perhaps nothing better symbolizes the problem we face than the spectacle of the latest technology of programmed learning being used to teach children how to spell 'cow' — without udders. Let us hope that what men have to say in the future will be worthy of the new means by which they will be able to say it.