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COMMUNICATIONS IN A CHANGING WORLD

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For all of my academic life, my major scholarly interest has been magazines, a happy choice of specialization that permits me to read Playboy openly in the faculty lounge instead of hiding it inside The Economist. Indeed, magazines have been a special love of mine since the long-ago days of my boyhood, when Perry Mason & Company was publisher of the Youth's Companion and not a television repertory troupe.

Last year, when I learned of a new magazine that Dr. Milton Helpern had begun to edit in New York, I sensed that an era may be ending. The new magazine is the International Microfilm Journal of Legal Medicine, and it is published only on microfilm. For $17.50 a year, you can get its quarterly issues on 4-by-6-inch microfilm cards (the six that made up the first issue held the equivalent of 889 pages of text and illustration) or on rolls of 35 mm. or 16 mm. film. Remembering the enjoyment that magazines brought to my own boyhood, I couldn't help feeling sorry for the youngster who settles down on some future winter's night with a bowl of hot buttered popcorn and a thin deck of microcards.

That new magazine leads directly to the pitch of my talk, which can

be stated quite simply: We are now in the midst of a communications revolution that will affect each of you in at least three ways. It will affect you as members of the vast audience of communications--as readers and listeners and viewers. It will affect you as users of the media to interpret your school systems, their achievements and their problems to their publics. It will affect your school systems themselves and the classroom teaching in them.

Since the revolution is already taking place, we may be no more aware of its ultimate consequences than inky-fingered Johannes Gutenberg was aware of the tremendous changes he was setting into motion when he first used movable type to print his Bibles at Mainz some five centuries ago. Let me mention a few miscellaneous incidents of the recent past to illustrate a couple of general points.

Two weeks ago the Reader's Digest took a full-page advertisement in Advertising Age to show how its audience compares with the audiences of the top television programs. There, fourth place in the rankings, was the Reader's Digest reaching 17,222,440 homes as compared with the Andy Griffith Special's 20,861,000, Red Skelton's 18,139,000 and Jackie Gleason's 17,762,000.

Early in June George E. Dashiell of the Graphic Systems Division of RCA told the Magazine Publishers Association about his company's Videocomp electronic typesetter, which uses a computer and cathode-ray tube to set type at the rate of more than two million characters an hour. The device can set the complete text of Dr. Zhivago in less than an hour; this spring it set a 200-page directory in less than 40 minutes.

Last March the Conductron Corporation announced that it had recorded a moving human being in a hologram for the first time. On a hologram, as you know, an image appears in full three dimensions. The viewer, by moving

his head, can see the sides of the photographed object. The perspective changes, just as it would in real life.

In mid-June RCA asked the FCC's permission to broadcast printed messages by television. Ultimately the proposed facsimile system could make every TV set a potential printing plant. The TV transmitter would send printed pages over the airwaves as electronic signals, which would be picked up by home TV antenna but which would not interfere with anyone's watching Bonanza or Dating Game. A facsimile device would translate the signals back into print and roll out the copy at the rate of a book page every ten seconds. Thus it would be possible for a viewer to watch the President deliver his State of the Union address on TV and have the full printed text long before he had finished speaking. It would also be possible for him to get news bulletins, stock market quotations, weather reports and a variety of other printed matter.

On the last Sunday in June, the stations affiliated with National Educational Television carried the first world-wide live telecast in history, a two-hour program beamed by space satellites. Broadcasting organizations in fourteen countries cooperated in the project, which enabled viewers in 26 countries on five continents to see simultaneously among other things, babies newly born in Canada, Denmark, Japan and Mexico, efforts to increase the world's food supply in Australia, Japan and Wisconsin, Leonard Bernstein and Van Cliburn rehearsing in Lincoln Center in New York, the cast of Romeo and Juliet rehearsing in Italy and Marc Chagall and Joan Miro at work in France.

Regard these as simply brief reports from scattered sectors of the revolution, if you like. Yet they illustrate some of the developments that are taking place in communications.

One is the enormous reach of the mass media. Nearly every family has a television set, and some families feel culturally deprived if their set does not bring them Johnny Carson in living color. Telecasts of such events as the Gemini-Titan IV space flight can reach an audience of 48.4 million households--nine out of ten homes. The Reader's Digest may have a circulation of 17.2 million, but its readership goes far beyond that. In fact, the audience for its portraits of unforgettable characters and its anthropomorphic tales of animals exceeds 40 million adults.

Another is that the media have altered our notions of time and distance. The fighting in Viet Nam is no farther away than our TV screen. NET's telecast by satellite last June nimbly straddled the international dateline; viewers saw things taking place on Sunday afternoon in the U.S., on late Sunday evening in Europe and on early Monday morning in Australia and Japan.

Perhaps most important of all, though, is the merging of print and electronics, a point that I will have more to say about later. Until comparatively recently, Gutenberg could have walked into an up-to-date printing shop and got along reasonably well, if the typographical unions would have let him; progress in printing was slow and evolutionary and rooted in the same concepts that Gutenberg used. Even today Gutenberg would have little trouble comprehending most letter-press printing. But now the graphic arts have struck off in new, revolutionary directions. In typesetting, the computer has challenged the place of the Linotype and the California jobcase. For some of the actual printing, the term "printing press" has become obsolescent, since type never touches paper.

One eventual possibility of the marriage of print and electronics is the home communications center. David Sarnoff, chairman of RCA, spoke

of such a possibility in a widely-quoted talk that he gave in December, 196[illegible] He took into account the technological advances that he thought might reach practical form by the 1970's--lasar pipelines that would enable each person to have his private line for sight-and-sound communications; microwave channels that would carry TV programs, telephone messages, telegrams, facsimile newspapers and computer data into home and office; continental and global networks of computer centers that would be instant sources of all recorded information on every conceivable subject; space satellites that would broadcast directly to TV and radio sets anywhere on earth. With all of that in mind, he speculated that

> Today's console and table model furniture may be displaced by an all-purpose television screen, mounted on the wall. It would be coupled to a sound system and a high-speed electronic printer for recording any information the viewer wishes to retain.
>
> This means that the major channel of news, information and entertainment in the home will be a single integrated system that combines all of the separate electronic instruments and printed means of communications today--television set, radio, newspaper, magazine and book.
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> The home will thus be joined to a new, all-embracing informational medium with a global reach. This medium will serve a vast public of differing nationalities, languages, and customs and its impact will be profound.

Profound its impact would be. Indeed, technological advances may some day make it hard for us to distinguish between a communication and an actual experience, according to E.B. Weiss, vice-president of Doyle Dane Bernbach, a New York advertising agency. Let him make the point in his own words:

> Scene: A luxury apartment in the city. A woman sits in her living room. On the curved walls she sees the ocean-surf--a sea gull wheeling in the sky. She is talking with a friend. The surf's boom and the cry of the gull impinge on their conversation.
>
> But the friend is not physically present. She was brought into that living room by lasar beam from a satellite. She is

> recreated, in color and full dimension (you could walk around her and see the back of her head by holography).
>
> Where [Mr. Weiss asks] does "reality" begin and end in that scene? Obviously, we are entering a new world of experience--sired by new communication technology.

Now, all of that, I grant, may sound a little like Jules Verne in one of his more far-out moments. I do not expect to be able to visit the Grand Canyon or Montmartre by holography in the next couple of summers. Yet if the application of some of this Buck Rogers technology is not exactly imminent, neither is it something for the misty, far-off future, when all of us have paid off our home mortgages. Herman Kahn and his thinkers at the Hudson Institute have done a lot of speculating on how the world will change between now and the year 2000, and among the "very probable" technological innovations they foresee for the next 33 years are a number involving communications, among them:

1. Three-dimensional photographs, illustrations, movies and telesion.

2. Practical use of direct electronic communication with and stimulation of the human brain.

3. The use of lasars, light pipes and satellites for communication in home and business.

4. Direct broadcasts from space satellites to home receivers.

5. Very small, long-lasting, battery-operated TV sets costing less than $20.

6. Personal two-way pocket phones for communication and data processing.

7. Simple, inexpensive home video recording and playback equipment.

Just when specific items of the new technology will move from the laboratory into widespread, everyday use, it is of course hard to say.

Some of the developments mentioned by Mr. Kahn and his associates seem already knocking at the door. For instance, Venture magazine has regularly been using 3-D photographs on its covers for the past two years, and Look has carried a few 3-D photographs in its advertising, although future developments may make those accomplishments seem rather primitive. Already some retail stores are offering home videotape recording and playback equipment for little more than the cost of a fancy hi-fi set.

But communications technology often has a way of lying around for a long time before it gets put to use. Between invention and adoption, there may be all sorts of vested interests and social, economic, legal and political barriers to be overcome. Facsimile newspapers were technologically feasible twenty years ago, when the Philadelphia Inquirer and the Miami Herald experimented with regular daily facsimile editions. But the cost of equipment and materials alone was enough to limit their market. A receiver cost about $600, a 24-hour supply of paper $3.85. Without the large-scale demand for their services that would permit the economies of mass production, their use was pretty much confined to hotel and theater lobbies, clubs and stores. Television is another case in point. The first regularly-scheduled programs were broadcast nearly forty years ago--in 1928--and color TV was demonstrated as early as 1929. The first television network went into operation in early 1940. Yet, for economic, technical and legal reasons, there were only 175,000 sets in use in 1948, although some 30,000,000 persons were within range of the 19 stations then in operation. In the graphic arts industries, innovation may well continue to be retarded by the enormous investments in existing equipment and by the demands of labor unions. Offset printing for newspapers was practical by the late 1930's, when a publisher in Owatonna, Minnesota, was using it

to produce the Steele County Photo News, but it has caught on to a significant extent only in the past half-dozen or so years.

On the other hand, I suspect that there is now a much shorter time between basic idea and practical application, between invention and adoption, than in the past. Once the FCC lifted the freeze on TV channel allocations, stations sprang up across the land, and people bought sets as fast as the manufacturers could push them off the assembly line. Indeed, it took TV only ten years to penetrate as many homes as the telephone did in 80 and the radio did in 25. Consider too the rapid and widespread acceptance of other new means of communication for the home: portable radios, FM radios, hi-fi equipment, tape recorders. Or consider the adoption of new communications tools by business--of computers; of closed-circuit television; of copying machines, which are now as commonplace in offices as water coolers and which in some models amount almost to private printing presses.

Therefore, while I hesitate to predict just when holography will enable Mr. Hefner to display his Playmates in generous three-dimension and when a home video link to a central computer will enable us to shop without leaving our living room, the day may be much closer than we either hope or fear. In any event, we already have enough new tools of communication to keep us busy pondering their effective use and their social and moral implications. So far as I know, no one has yet got around to listing all of the available technology. If one tried, his inventory would surely be outdated before he got past the C's. Any list would include such things as video-screen and phone links to computers; telecopiers, which duplicate correspondence and other printed matter by telephone; blackboards-by-wire, which enable teachers to speak to and conduct visual demonstrations in as many as six different remote classrooms at a time; electrostatic presses,

which can print on such unlikely substances as eggs and avocados; and microforms, which can get all 1,245 pages of a King James version of the Bible in a two-inch square or 3,200 pages on a four-by-six-inch card.

All of the present and forthcoming technological advances are bound to have a big impact on our mass media and to affect our communications patterns. Let us explore some of the things that might well happen.

First and perhaps obviously, people will be getting their information and entertainment from a far greater variety of sources than ever before. I do not look for microcards to kill off the book, say, or for computerized information banks to kill off the magazine. When a new means of communication comes along, the old ones do not die, although they may change. When radio came along, it did not kill off the phonograph. True, the bottom dropped out of the record business when radio began to boom and when stations filled American living rooms with the strains of "Blow, Blow, Thou Winter Wind" sung by manly baritones and Just A-Wearying for You by plump sopranos. What radio did do, according to Erik Barnouw, was to transform the record industry and to influence the nature of popular music. The record companies, finding that radio was satisfying public demand for what Barnouw calls potted-palm music, discovered a whole new market. They began issuing recordings of jazz and the blues, both regarded as not at all respectable, for the Negro. Those records kept them in business; the blues singer Bessie Smith alone reportedly sustained Columbia Records. Young musicians discovered those records and were influence by them, and the record companies branched out from jazz and blues into folk music and popular music.

Likewise, when television came along, it did not kill off radio, although it drastically changed it. Nor did it kill off the movies, although it helped to alter the structure of the motion picture industry and to give

movies an audience such as they had never had before. Television and the movies have become allies. Under a deal announced last month, the American Broadcasting Company will finance the production of movies which will appear on TV before they are shown in theaters. In all of history, I can think of only one communications medium that has died--the broadside, which antedated the newspaper and which reported topical events in florid prose and bad verse for some three hundred years before it vanished.

Second, the new technology will continue to make communications more flexible for user and for issuer than ever before. Copying machines have already made each reader his own editor. One scholar, for instance, has cancelled his subscriptions to all of the scholarly journals. He has found it much more convenient and economical to browse through the publications in the library and to have copies made of the articles that especially interest him. Likewise, tape recorders have made each man his own program producer. If he thinks that the Jefferson Airplane's recording of White Rabbit is the greatest piece of music since Handel's Messiah, he can program an evening of listening in which White Rabbit pops up to the point of satiation. In time, I am confident, the home videotape recorder will become as commonplace as audio recorders are today. Then if we are busy during the hour that Matt Dillon brings law and order to Dodge, we can tape his good deeds for later viewing. We probably will be able to buy cartridges of our favorite programs, much as we buy musical recordings today. Barbara Streisand, I note, is retaining the rights to some of her TV specials against the day when they will have commercial value as cartridges.

Publishers too have been using technology to increase the flexibility of their media. Let me cite just a couple of highly undramatic examples. Popular Science is using the computer to give its readers individualized

information about their around-the-home projects. If you are planning to install a driveway or patio this summer, Popular Science will compute the quantity of concrete necessary for your project, estimate the cost of various concrete mixes and then tell you the difference in cost between delivered ready-mix and home-mixed concrete. Playboy now uses a computer to tell readers where they can buy the merchandise advertised on its pages. The information reaches the reader within five days or so after he has sent off his query, and it comes in specific, individualized form. Thus the magazine tells me that I can buy a Jeepster at McKinney Motors, Main and Second Streets, Foosland, Ill., and Esquire Socks at W. Lewis and Co., 113 North Neil, Champaign. Neither example represents the most spectacular use that man has devised for the computer, I grant, but I am mentioning them simply as everyday instances of communications flexibility.

To add a new dimension to their articles, some magazines have joined sound to words and pictures. In its issue covering Winston Churchill's funeral, National Geographic bound in a record with narration by David Brinkley and with excerpts from some of Churchill's best-known speeches. Practical Builder used a record to underscore its points about noise transmission in the home.

Just think of the flexibility that the proposed dial-access systems would give each of us in satisfying our wants for information, education, and entertainment. The system, which is now technologically feasible, uses a phone or video link to a central bank. By just dialing a number at any time we liked, we would be able to hear a lecture, watch a film or demonstration, get all sorts of specialized information, study a foreign language or what have you. The implications of this sort of thing for education are obviously enormous. Dr. Thomas Meyer of the University of Wisconsin

Medical Center has suggested how his Center could use the dial-access system for the continuing education of physicians. The Center would tape a number of four to seven minute messages summarizing the latest advances in medicine. Any physician in the state would have access to them twenty-four hours a day by just dialing the appropriate number. Each message would conclude with the name and phone number of the specialist on the Center staff, whom the physician could get in touch with if he wanted additional information or had questions.

Third, the audiences for communications will continue to become more and more segmented or splintered or fractionated or stratified or whatever other adjective you wish to use to describe a drift toward selected, like-minded audiences within the total population. To me one of the fascinating developments among the mass media since World War II has been their tendency to address themselves to ever more clearly defined targets. The media may define their audiences on the basis of cultural interests, educational level, geography, income level or some leisure-time activity. Whatever the basis, they are addressing themselves to increasingly homogeneous audiences, and I am willing to bet that the trend will continue.

To illustrate this point, let me remind you of what happened to the book clubs. Forty years ago, when the Book-of-the-Month Club sent members copies of Sylvia Townsend Warner's Lolly Willowes and Elinor Wylie's The Orphan Angel, it was the only club. It was neither highbrow nor lowbrow, and every middle-class American was a potential prospect. Today my directory lists some 135 book clubs, and they appeal to every taste, interest and inclination of mortal man. There are book clubs for people interested in antiques, circuit design, the classics, gardening, guns, horses, the mystic arts, pastoral psychology and the behavioral sciences. There are book clubs

for accountants, artists, Catholics, children, coaches, conservatives, Episcopalians, grade teachers, humanists, Irishmen, Jews, mechanical engineers, school administrators, gamblers and lovers of large-sized type.

In a way, I suppose that this specialization of the book clubs was an inevitable marketing technique. With interest I noted that last spring marketing men called on the nation's packaging industry to take account of similar differences in retail shoppers. Said Nathan Zechter of Venet Advertising Agency: "We must replace buckshot marketing--and packaging--with the rifle shot approach. We must identify the needs of various groups and learn to respond to them." Specifically, he urged the packaging industry to find answers to such questions as these: Will blue-collar housewives respond more readily to different color combinations on a package than high-income housewives? Will one type of illustration appeal more readily to the appetite of the Negro shopper, another to that of the white shopper? Will one group of consumers respond more readily to cans than to glass or plastic containers?

Now, a similar screening of audience has been going on among all of the mass media. Newspapers have narrowed their audiences geographically. They have joined the mass movement of the population from the cities to the suburbs, where their constituencies are far more circumscribed. Although the large metropolitan dailies have been dying or merging, the suburban press has been flourishing.

Magazines, too, have been narrowing their audiences geographically, largely for the benefit of the advertiser. Today more than 200 consumer and farm magazines, by offering split-run and regional editions, allow advertisers to buy space in only a part of their total circulations. Although a few magazines had been offering regional editions for years, the

big attempt to carve the magazine-reading public into itsy-bitsy pieces began less than a decade ago. Originally, regional editions circulated over broad marketing zones, but recently they have zeroed in on ever narrowing territories so that now an advertiser can buy space in copies going only into Los Angeles or Atlanta or Cook County or Milwaukee. Look is a nice case in point. In 1959 it had seven regional editions; today it has 75.

But magazines have been sorting out the population into specialized groups of readers in yet another way. One of the big turns in publishing over the past couple of decades has been the remarkable spread of special-interest magazines, magazines of sharply-focused editorial appeal. Let enough people become interested in going on religious pilgrimages, banning nuclear war, dining out in the Far West or collecting old steamboat timetables, and someone will get together a magazine for them. Perhaps as good a way as any to show the diverse and specialized interests that magazines are now designed for is simply to mention a few titles: A.A. Grapevine ("to promote the cause of sobriety"), Grant Data Quarterly ("a comprehensive journal of grant opportunities in all areas of interest"), Elegant-Teen (for Negro teenagers), 'Teen, Teen Screen, California Living, Large Family Living, Antique Airplanes, Sportsfishing, FM Listener, Budget Travel, Skin Diving, Big Ten and Pet Fair.

In the future, some magazines of fairly broad-based editorial appeal may use the new technology to tailor the content of each issue to the interests of the individual subscriber. Carroll Streeter of Farm Journal has speculated that a decade hence his magazine might have information about each reader's interests stored on electronic tape. As the copy intended for a given subscriber moved along the assembly line of the bindery, the tapes would enable a computer to drop in selected material of special

interest to him. As a result, each reader would have a magazine edited just for him.

Movies too have become somewhat selective of audience, although to much less extent than magazines. The movies shown at drive-ins and on television may still appeal to just about everyone. But the producers of the new wave of "underground" movies and the operators of art theaters are certainly going after audiences with something other than commonplace tastes.

Radio was once an almost universal medium, and millions of people at a time sat before their sets listening to Charlie McCarthy and Jack Benny. When television came along, radio began to sift its audience, although with a rather coarse screen, and it went through the splintering process that I have been talking about. Today some stations devote themselves exclusively to news and public affairs, good music, non-music and various aspects of the ethnic and teenage subcultures. Portable radios have become electronic companions which sing and talk to us when we drive to work, sun ourselves on the beach or putter around the house, and listening has beome a highly personal thing, almost point-to-point communication.

Television is the massiest of the mass media, one with an audience distinguished chiefly by its enormous size, but I doubt that it will remain immune to segmentation of audience. For a while longer, the novelty of color will bring entire families to a given program. But when the two-set home becomes commonplace, when miniature portable receivers find widespread use, when home videotape recorders free the viewer from the need to be on hand when a program is broadcast, when community antenna systems expand the viewers choice of program fare, when UHF stations find it increasingly feasible to beam programs at cultural and ethnic minorities, television probably will become even more selective of its audience than radio is now.

The ultimate in audience fragmentation will come when each of us has his own phone and video link to a central computerized information bank and can get answers to specific questions whenever we feel like it.

Four, I look for the walls among the various media to collapse. They have already begun to crumble. Today, for instance, a good deal of mass media content is pretty much interchangeable. The television networks have gone into motion picture production as a way of getting program fare. Books are based on motion pictures and on television series. Magazines carry a good deal of content that later turns up in book form. And some books have become enterprisingly journalistic in both the literal and pejorative meanings of the word. In June the Israelis took six days to rout the Arabs. Rifles had scarcely cooled before several U.S. publishers had brought out a number of books, hardbound and paperback, about the instant war. Bantam Books brought out Strike, Zion by William Stephenson, who holed up in the Tel Aviv Hilton from June 12 to 18, wrote for 20 hours a day except for dashes to the battle scenes, and turned up in New York, heavy-lidded, on June 20 with his 25,000-word manuscript. New American Library brought out Six Days in June, a paperback by a dozen Los Angeles Times newsmen. Other books in print or soon to be there include the AP's Lightning out of Israel, UPI's Swift Sword, the Churchills' Israel Breaks Out and Clive Irving's The Holy War. In a sense, then, books have come full circle, for newsbooks--topical accounts of events--actually antedate the newspaper.

When print and electronics become even more securely joined than they are now, the walls among the media will really topple. The offspring of that marriage may resemble both parents, but they may resemble neither. If RCA eventually sends printed information into a few million homes via a facsimile device on the television set, it would seem artificial to regard television and newspapers as completely separate entities.

Five, I look for the wedding of print and electronics to have great implications for the schools with which you are associated. In recent months, a good many publishing firms have walked to the altar with electronics firms--Time Inc. with General Electric; American Book Company with Litton Industries; Reader's Digest Association with Sylvania; Newsweek with 3-M; Charles E. Merrill Books with Bell and Howell; Holt, Rinehart and Winston with CBS; and rather bigamously both Random House and Harcourt, Brace and World with RCA. Behind those marriages seems to be the idea that one partner can contribute its editorial experience and resources, the other its knowledge of technology, and together they can tap the $50 billion educational market with instructional materials. Last May, when Harcourt, Brace and World, one of the five largest educational publishers in the U.S. agreed to prepare materials for teaching equipment devised by RCA, the publisher's lawyer remarked: "This has provided a forceful answer to those who said book publishers would have no role in the new information technology. The role of the publishers remains the same--the question is whether RCA is replacing the printing press."

The firms entering what has come to be called "the learning industry" seem to have set themselves very broad objectives. Possibly they foresee the day when they will be able to offer your school boards the complete package--a neatly programmed curriculum from kindergarten through high school and all of the equipment for teaching it. All you will have to furnish is the pupils; they will do the rest.

Six, the changes in our communications system will confront us with a multitude of legal and ethical problems and with serious questions of public policy. Such things as computers, copying machines, facsimile printers and community antenna systems all raise a host of questions about copyright protection alone. Space satellites, involving the entire world, raise far more

significant questions. There are those who see direct broadcasts from satellite to home receivers as a boon to the underdeveloped nations but as bad public policy for the United Stations since they would make local stations anachronistic and would thus jeopardize the whole system of commercial broadcasting. There are those who fear the potential of satellite broadcasting without adequate international safeguards for its use. There are those who see community antenna systems as enlarging the TV viewer's arena of choice and others who see it as having the opposite result. Even the simple copying machine raises ethical questions. Once when a person sharpened his goosequill and wrote a letter, he was reasonably sure that it would be seen by only the intended recipient. But today private letters can be easily and quickly reproduced in quantity for widespread distribution, as indeed they often are, and personal correspondence has lost its privacy.

Finally, I think that the new technology has some important implications for communications content. The new technology does not necessarily mean that tomorrow's communications will be characterized by a dismal and dangerous conformity. Even today, communications media have helped to sustain various subcultures within our population on a nation-wide scale--the teenage subculture with a distinctive language, system of values, style of dress and musical idiom, for instance, and the anti-establishment subcultures reflected in such hippy or activist periodicals as the Berkeley Barb, Los Angeles Free Press, Realist and East Village Other. None of that will necessarily vanish because of the new technology.

On the contrary, a lot of tomorrow's communication may well be among like-minded segments of the population. The fragmentation of audience that I mentioned earlier suggests that it will be. The communications revolution, then, far from restoring mankind to one vast, tribal village, as Marshall McLuhan suggests, may in fact encourage a conglomeration of different little publics, each reading and viewing and listening from the perspective of its own special tastes and interests and concerns.

Lest we all expect the communications revolution to bring us a bright, happy world of cloudless days, let me conclude with two points. For one thing, a good deal of the new technology strikes me as being better suited to communicating facts than to communicating what the facts mean, to providing information than to providing understanding. In any event, the channels can be no better than the content they carry, and therein lies the challenge for us tired old journalism professors. For another thing, the Model 1967 human being is not vastly different from the Model 1867 human being. It may come in larger sizes, and it may last a while longer, but in most significant ways it is still the same old model. It cannot absorb communications any faster than it could a century ago, and it shows little more inclination than it did then for using those communications to build a world of sanity and compassion. True, Herman Kahn speaks of the possibilities of direct electronic communication with the human brain, which would certainly speed up the intake; given the proper combination of signals and electrodes, we could presumably teach a child Sanskrit or the logarithmic tables overnight. But information is not understanding. Despite the sophistication of our communications techniques, when the people of the world feel long oppressed, they still resort to the most elementary form of communication--violence. And despite the vast outpouring of our communications system, I am not persuaded that the Model 1967 human being uses it any more wisely, any more humanely, any more for his ultimate good than earlier models did. Let me end with this quote from one of my favorite weekly magazines:

> It is a gloomy moment in history. Not for many years...has there been so much grave and deep apprehension; never has the future seemed so incalculable as at this time....In France the political caldron seethes and bubbles with uncertainty; Russia hangs as usual, like a cloud, dark and silent upon the horizon of Europe; while all the energies, resources and influence of the British Empire are sorely tried, and are yet to be tried more sorely.
>
> Of our own troubles, no man can see the end.

The magazine was Harper's Weekly, and the issue was October 10, 1857.