Possible Social Effects of Television

By David Sarnoff

On June 27, 1940, a social and political event took place which may well be regarded in the future as a milestone in human affairs. On that day, for the first time in history, a spellbound audience of ten thousand or more people in New York City and its vicinity witnessed the nomination of a candidate for President of the United States at the Republican National Convention in Philadelphia, nearly one hundred miles away. The members of this audience, seated comfortably in their homes and in restaurants or other public places, were aurally, visually, and immediately transported to the distant scene by the modern miracle of television. The time was a critical one in the history of the nation; the event one of traditional significance; and its outcome a subject of the greatest interest to millions of people. Many of those in the television audience saw a substantial part of the entire Convention proceedings, which were broadcast by television for more than thirty-three hours, over a period of five days; and they were so absorbed that it was given one of the highest audience program ratings of the year.1

This was one of a series of programs of the television broadcasting service inaugurated by the National Broadcasting Company in New York City on April 30, 1939. Considered as an extension of the already existing radio sound broadcasting system, this new service marks an important development in mass communication. Considered more fundamentally, however, as an extension of the power of human vision, it assumes a social significance of an entirely different order of magnitude. It is a major milestone in the long struggle of humanity to triumph over its physical limitations.

Early Forms of Communication

Ever since the beginning of time man has sought to extend the power of his senses and to enlarge his capacity to perceive and to respond to the world around him. Until a few centuries ago these instinctive strivings could utilize only the limited powers of the normal human senses and bodily capacities, unaided by scientific devices; so that adventurers wandered over the face of the earth on arduous journeys, and sailed the seas in lonely ships, to learn more of the nature of the world and to come into contact with the inhabitants of far-off places.

Writing and printing were the first means utilized by men to extend their natural powers of communication with one another. The less gifted and less adventurous spirits could then appreciate the experiences and philosophy of those who were more fortunate in their mental or physical capacities, and could thus satisfy vicariously their own instinctive desires for wider participation in the world’s affairs.

Then, little more than a century ago—a tiny fraction of time compared to the ages that went before—man stumbled upon the scientific technique. Inventive minds began to use scientific laws and principles for constructing devices which would fulfill many ancient human yearnings. Machines were made

1 N.B.C. television programs have been rated by the audience on the following basis: Excellent, 3; Good, 2; Fair, 1; Poor, 0. The average audience rating of an entire week’s programs usually lies between 2.0 and 2.3, while the best program of the week (usually a drama) may receive as high a rating as 2.6 or 2.7. The rating of the Republican Convention broadcast was 2.71.
which multiplied many-fold the capabilities of human hands and muscles; optical instruments began to enhance the power of vision; railroads, steamships, and automobiles increased the powers of locomotion and gave people the means of satisfying more readily the age-old desire for visiting other lands and places; communication devices brought distant friends and relatives close together.

One by one the shackles that chained man to the limited sphere of his own mind and his immediate neighborhood have been struck from him. Today he can move his body about rapidly, easily, and at will; he can enlarge thousands of times the powers of his hands and arms; he can extend his voice by radio to other men throughout the world, and hear them in return. Now the last shackle is about to be broken; through television his eyesight promises to become all-embracing and world-wide. And not only is he given the power to see at great distances those things which may be evident within the limited spectrum of the visible rays of light, but also those which heretofore have been invisible because they could only be perceived through the use of waves outside the visible region.

With the advent of television a new force has been given to the world. Who can tell what the power to extend vision will mean ultimately in the stream of human life? Could anyone have foreseen the vast social effects of electricity inherent in the voltaic cells of the early physicists or in the experiments of Faraday? Could we have foreseen social consequences of the evolution of tools from the primitive axes and knives of our ancestors to the complex labor-saving devices of the present day? The most audacious imagination could not have envisioned the many ramified applications of electronic devices which have grown out of Edison’s first observation of electron emission from the heated filament of a lamp.

**Power Inventions**

It would indeed require courage to attempt to estimate the ultimate effects of television and all the scientific or social consequences which may flow from its introduction. We know only that inventions which gave us new powers have had far-reaching results in the history of the human race. Professor W. F. Ogburn has made a special study of the social effects of inventions, and in one of his papers he has pointed out some striking instances. For example, it is said that the use of gunpowder was a powerful factor in breaking down the system of life built around the feudal lord and his castle; the use of steam in connection with machinery greatly changed family life by taking industrial production out of the home and into the factory; important inventions of the past fifty years such as the telephone, the automobile, the airplane, the motion picture, and radio are producing far-reaching effects on the family, government, education, industrial production, the habits and beliefs of people, and the economic well-being of nations. The social effects of inventions such as the airplane, radio, and rayon have only just begun, comparatively speaking, and the effects of the telephone, the automobile, and the motion picture are far from being completed.

As an illustration of the far-reaching effects of important scientific developments, let me quote Professor Ogburn with respect to the “power inventions”:

The primary effect of the “power inventions”—namely, steam, gasoline engines, and electric motors—has been upon the economic or industrial organization of the family; women went to work outside the home, children were employed in factories, and the father ceased to be much of an employer or manager of household labor.
There followed a shift of authority from father and home to industry and state. In cities homes became limited as to space, and more time was spent outside by the members of the family. In a similar way, these inventions impinged upon government, because of the growth of large corporations for manufacturing and for providing services which were made possible through power inventions. The regulatory functions of government increased, and taxation methods were modified. Many more government activities were assumed or engaged in through the force of the circumstances created by the changed economic organization. Finally, another derivative effect occurred in connection with modifications of social views and philosophies. Attitudes toward a philosophy of laissez faire are undergoing changes as more and more governmental services are demanded. Attitudes toward recreation and leisure time have changed, with city conditions and repetitive labor in factories.2

Television will bring to people in their homes, for the first time in history, a complete means of instantaneous participation in the sights and sounds of the outer world. Aural radio already has demonstrated the greatly heightened psychological significance, to the listener, of feeling that he is present at the radio performance, as a member of an audience listening to living performers. The sensation that one is participating in an event actually taking place at the precise moment of hearing it is quite different and much more intense than the sensation one has in looking at a picture or hearing a record of the same event, later on. With the advent of television, the combined emotional results of both seeing and hearing an event or a performance at the instant of its occurrence become new forces of great significance, and under the influence of the quiet and intimate background of one's own home these are much greater forces than anything we have yet known. The emotional appeal of pictures to the mass of people is everywhere apparent. We have only to regard the success of motion pictures, tabloid newspapers, and modern picture magazines, to be convinced of this fact. But with television, we are entering upon a degree of appeal that greatly transcends any of these.

Program Material

Let us consider next what sort of program material television may present to its audience. Radio programs today cover almost every conceivable type of material that may be of value as entertainment, instruction, and news. But while the potential scope of television programs is equally broad, it is becoming clear that the relative emphasis on various types of subject matter can be changed to advantage. In aural radio we tend to emphasize program material that may be enjoyed without the use of vision; hence music forms a major part of aural radio programs. In television, as shown below, it is natural to emphasize types of program material where the addition of visibility will enhance the emotional effects, such as drama, news, or sporting events.

During the past eighteen months the National Broadcasting Company has been carrying on extensive experimentation in television programs. These have been broadcast for approximately two hours per day, during the afternoon and evening. The material originates in the studio, from "live talent" or film, or is picked up outside of the studio by means of mobile equipment. The program content has been guided by audience response, as expressed by returns of special post cards which have been supplied each week to over one thousand

owners of television receivers in the New York area, upon which these listeners have indicated their ratings of each program feature seen during the week. An analysis of the constitution of the first eight months' programs resulting thus from audience preferences is shown in the accompanying table.

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Per Cent of Total Time</th>
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</thead>
<tbody>
<tr>
<td>Children's</td>
<td>0.7</td>
</tr>
<tr>
<td>Dancing</td>
<td>1.5</td>
</tr>
<tr>
<td>Drama</td>
<td>29.1</td>
</tr>
<tr>
<td>Educational (talks, demonstrations, etc., chiefly from film)</td>
<td>17.0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.9</td>
</tr>
<tr>
<td>Music</td>
<td>3.5</td>
</tr>
<tr>
<td>News, special events, sports (chiefly from outside the studio, via mobile unit)</td>
<td>33.4</td>
</tr>
<tr>
<td>Variety shows</td>
<td>11.9</td>
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</tbody>
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Sound radio already has made extensive contributions to novel dramatic forms and materials. Experimentation is constantly going on, under the daily pressure of providing ever changing programs. Famous dramatists, actors, and producers have turned in increasing numbers to radio as a new and important medium, and the intellectual standard of much radio drama is in the best tradition of the legitimate theater. With the advent of television a new impetus is being given to this form of art, and we may expect it gradually to assume a vital place in this newest field of radio.

While some television dramas may be recorded on film, for convenience or for network distribution, it is not certain that the standards, methods, or artistic ideas of the present-day motion picture industry will control the material presented. Radio has always been an independent force, and has broken new ground in what it has done. A first-class radio program is unlike any theatrical or motion picture presentation. It is a new thing in the world. Similarly, it is quite likely that television drama will develop in novel directions, using the best of the theater and motion pictures, and building a new art-form based upon these.

It is probable that television drama of high caliber, produced by first-rate artists, will materially raise the level of dramatic taste of the American nation, just as aural broadcasting has raised the general level of musical appreciation.

**As Advertising Medium**

What of advertising, or sponsored programs? In order to support television as a business venture, television stations eventually must sell time for these as is done by sound radio broadcasting systems. The National Broadcasting Company has studied and analyzed television as an advertising medium for more than five years, and has had more than a year of experimentation with programs presented over the air to the public.

Advertisers and advertising agencies have been kept constantly informed of the progress in television broadcasting, through lectures, letters, monographs, and visits to the studios. In addition to these forms of contact, invitations have been extended to members of the advertising industry to work with us in creating programs having advertising value, at no cost to the sponsors during this experimental period. As a result of this, 148 individual programs of this character were developed during the first eight months of operation, in conjunction with sixty-seven advertisers representing sixteen major industries. A large amount of data has thus been accumulated on the advertising potentials of television, and the audience response to these experimental programs has been excellent.

A properly conceived television advertising program is believed by some advertising experts to be much more effective in sales influence than any other method heretofore employed. This is
because it combines sound, pictures, and motion, the three essential ingredients of an effective selling medium. When we add to these the heightened emotional effect of witnessing the sponsor's program in the intimate atmosphere of the home, it is clear that we are dealing with a field of enormous possibilities for the presentation of powerful sales messages in highly concentrated form. Perhaps the oral commercial announcement employed in sound broadcasting will be largely reduced in television by a visual demonstration of the advertised product. Both the power of suggestion and the attention of the viewer-listener to the sales message may thereby be enhanced.

Political addresses are certain to be more effective when the candidate is both seen and heard, and is able to supplement his address with charts or pictures. Showmanship in presenting a political appeal by television will become more important than mere skill in talking, or the possession of a good radio voice; while appearance and sincerity will prove decisive factors with an audience which observes the candidate in close-up views.

An outstanding contribution of television is its ability to bring to the listener news and sporting events while they are occurring—while the outcome is still in doubt. The widespread public interest in sound broadcasts of such events is well known. It may readily be imagined what the results are when television adds to the effect of reality by projecting the vision as well as the hearing of the audience to the scene of action. In experimental television broadcasting, news events have proven among the most popular features with the audience.

A MEDIUM FOR PROPAGANDA

Some social scientists have pointed to the greater possibilities of propaganda when presented by television. The great mass of the human race is not critical, and temporarily at least may be swayed by appeals to the emotions rather than to reason. In European countries which have succumbed to dictatorships extraordinary changes have been brought about in a very short time, with the aid of radio propaganda, in the expressed beliefs and actions of vast populations. These have been led to accept whole ideologies contrary to their former beliefs, because of skillfully presented ideas which have been spread to every home in the land with the speed of light and with a minimum of effort. The advent of television makes it even more important than heretofore to preserve for radio broadcasting in our country the precious right to freedom of discussion, and to guard against its exploitation in transmitting propaganda intended to arouse destructive class struggles, racial animosities, or religious hatreds.

Educational institutions are gradually adopting mechanical inventions as aids to teaching, and radio receivers as well as phonographs are becoming increasingly familiar sights in schoolrooms. Because of these the children of today have heard immeasurably more good music, and are more keenly conscious of world history in the making, than those of the previous generation. The possibilities of sound motion pictures for vitalizing and dramatizing scientific subjects, geography, and history have been demonstrated; but schools are slow to make use of these because of the expense of the films and the lack of organization among the hundreds of thousands of school administrations where co-operation is necessary in such a large-scale undertaking. With television we may find the educational uses of radio increasing; for while children may be bored and restless when merely listening to a speaker without seeing him, living
talent or motion pictures broadcast at a certain time to all schools in a given area will capture and hold their interest. The fascination of television for children has already been demonstrated in the homes of those now possessing television receivers in the New York area.

There is another aspect of television which is important, and this is the nature and effects of its by-products. New instrumentalities have been specifically developed for the purpose of transmitting visual intelligence by radio. These include iconoscopes, or devices for converting a light image into electric currents, amplifiers of wide frequency range, high-powered ultrashort wave transmitters, and kinescopes which reproduce the original image by converting electric currents into light. All these devices are beginning to find applications in fields remote from television, and as familiarity with them grows their fields of application no doubt will be extended.

The whole subject of electron optics, or the control of electron beams by electric and magnetic fields, has received great attention because of its importance in television apparatus. This has led to a new magnifying device, called the electron microscope, which is at least fifty times as effective in studying minute objects as the best types of optical microscopes known heretofore. Applications of this to biological research, and in other fields where great magnification or a high degree of resolution are required, have already commenced.

Some of the fields in which these television devices may bring about important advances are in marine or aerial navigation, by permitting vision at night or in fogs through the use of infra-red rays; in metallurgical, chemical, physical, and biological research; in manufacturing processes as substitutes for human vision or for control purposes; in national defense; for advertising or display use in department stores, in showing goods exhibited at a central point throughout the store or in show windows; for personal or business communication in transmitting visual intelligence as we now transmit the voice by telephone; in printing and copying devices; in new photographic or motion picture devices where "light amplification" may be used to advantage; and in any other fields where an automatic, never-failing substitute for the human eye may be useful.

Life in the Future

I have suggested some of the more immediate possibilities as to the effects upon society of the advent of television. What of the more distant future, or derivative effects?

It seems to be the general opinion of authorities on population trends that life in the United States several decades from now will differ in important respects from that of the present time. The chief events which are anticipated are a continued increase in leisure time, an increase in the average age of the population, and a greater geographic decentralization or distribution of industry. The application of television devices will affect and be affected by these occurrences.

The average length of the full-time week for industrial workers has decreased from nearly sixty hours in 1890 to less than forty hours at the present time. Improvements in manufacturing methods have had the effect partly of raising wages and partly of decreasing the working week. There is every reason to expect a continuance of these processes, considered on a long-time basis. The combined ingenuity of the social and physical scientist, encouraged by a sympathetic government, should in time produce the much desired results of more pay, shorter hours of labor, and longer hours of leisure.
At the same time, if the birth rate continues its present declining tendencies, the distribution of population in accordance with age will alter materially. Population experts have estimated that whereas in the 1930 census only 23 per cent of the population was over forty-five years of age, by 1980 we shall have 38 per cent of the population in this age group. The whole tendency will be towards a predominantly middle-aged and elderly population.

A decline in the population of large cities is expected by the National Resources Board to set in some time between 1945 and 1960, with people moving into "satellite" areas within the metropolitan districts. We have already observed how the introduction of the automobile spurred the development of suburbs of large cities. With steadily cheaper cars and increased and improved highways, it is anticipated—and the tendency is already clearly evident—that rural communities within perhaps fifty miles of the cities will increase in population and develop in scope.

All this provides a picture of a population which may increasingly center its interests once more in the home; a population with ample leisure time, of predominantly mature years, and widespread distribution, in individual small houses which they will be able to afford because of the development of low-cost home construction and increased income per family. With such a setting, television will be a vital element in the lives of these people. It may become their principal source of entertainment, education, and news. It will link together in mind and spirit these vast numbers of individual homes, as the high-speed automobile roads and airways will link them together physically.

**Cultural Standards**

We may also anticipate a rising standard of culture, with universal education of both adults and children. New York State is now considering the extension of the present high school courses to six years; if this plan is widely adopted, we will soon have the equivalent of junior college training established as the minimum standard for graduates of our public school system. In the distant future of which we speak, it may be assumed that most persons will have an education at least on this level. What this may mean in terms of the type of material to be broadcast, and its place in the cultural life of the community, is stimulating to the imagination.

We have seen how the general level of musical taste in this country has been raised by the widespread radio broadcasting of good music. People to whom such privileges as grand opera and symphonic music were unknown fifteen years ago are becoming increasingly familiar with them. With television, a similar widening cultural development in appreciation of the best in drama, the dance, painting, and sculpture may be expected. Through television, coupled with the universal increase in schooling, Americans may attain the highest general cultural level of any people in the history of the world.

What of the effects upon existing institutions, such as motion pictures, the theater, schools, and churches?

The motion picture industry may become an important source of supply of recorded programs to television broadcasters, where such recordings may serve the purpose of program material more conveniently than direct transmission of a "live" show. There are other possibilities also for co-operation between the motion picture industry and television. Each should be able to stimulate the other and this should result in an enlarged service to the public.

With the rising cultural level, we may expect also an increase in the number
of creative artists working with the materials of the theater. Such artists will be used not only by the television broadcasting systems; they will find additional outlets for their creative energies. Through these new developments we may see a rebirth of local community theaters for the production of legitimate drama, musical performances, dances, and the like.

The school systems will probably make increasing use of television as part of the educational program; for with this medium it will become possible for the best teachers in the land to give carefully prepared and illustrated lectures simultaneously to millions of children.

Religious broadcasting will rise to new spiritual levels, for with television large audiences can participate intimately in the services of the great cathedrals; they will not only hear the ministers and the music, but they will see the preacher face to face as he delivers his sermon, witness the responsiveness of the audience, and observe directly the solemn ceremonies at the altar.

Thus, the ultimate contribution of television will be its service towards unification of the life of the nation, and, at the same time, the greater development of the life of the individual. We who have labored in the creation of this promising new instrumentality are proud to have this opportunity to aid in the progress of mankind. It is our earnest hope that television will help to strengthen the United States as a nation of free people and high ideals.

David Sarnoff is president of the Radio Corporation of America, New York City. Starting as a messenger boy for the Marconi Wireless Telegraph Company of America, he occupied positions of increasing importance and in 1919 when the newly formed Radio Corporation of America purchased the assets of the Marconi Company he was made commercial manager. He subsequently became vice-president and in 1930 was elected president of the Company. He is a director of the Metropolitan Opera; a member of the Council of New York University; and is chairman of the board of the National Broadcasting Company.