AMERICAN TELEVISION DIRECTORY

PRICE FIVE DOLLARS

1946

OFFICIAL YEARBOOK OF THE AMERICAN TELEVISION SOCIETY, INC.

"We'll be bringing Television"

"We in the Bell System now furnish the networks for radio broadcasting and we'll be on the job with networks for the transmission of television, too.

"For nearly a quarter of a century we have kept pace with the radio broadcasting industry, supplying network facilities where they were needed at the time they were wanted. We have acquired a wealth of experience and skill in the minute-to-minute operation of these program networks.

"As the television picture unfolds, our function will be to transmit sight and sound programs from place to place. We can do it over wire lines, coaxial cables, radio or combinations of these.

"We have made considerable progress in extending our coaxial cable system, which is particularly adapted to television, and we intend to develop it rapidly toward a nationwide coaxial network. Micro-wave radio-relay is another way we will have to carry television programs.

"We intend to use the best, most dependable and most economical means possible to meet the transmission needs of television."

BELL TELEPHONE SYSTEM

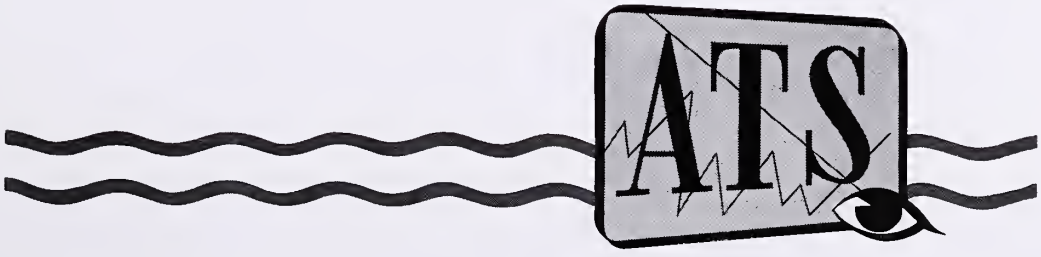
Most of us have concluded from the events of 1945 that it is imperative that foreign hates and suspicions must be supplanted by trust and understanding if life in the future is to be worth living. Television holds the promise of being the medium that can bring the peoples of far places emotionally face to face with one another's manners, customs and problems and thus make them understand that they are all essentially human.

The first realization of this design depends on the establishment of national networks to gather the peaceful spirit of America and international networks to send it world-wide.

Probably no one can at present accurately predict the ultimate physical means of accomplishing these national and international objectives and bringing to realization television's "one world" possibilities. Any facilities which may be developed and any technique which showmen may know must be available to our statesmen, churchmen and educators to carry that message to the world.

Television Productions Inc.

THE 1946 AMERICAN TELEVISION DIRECTORY



FIRST ANNUAL EDITION

Published by AMERICAN TELEVISION SOCIETY, INC.
271 MADISON AVENUE, NEW YORK 16, N. Y.

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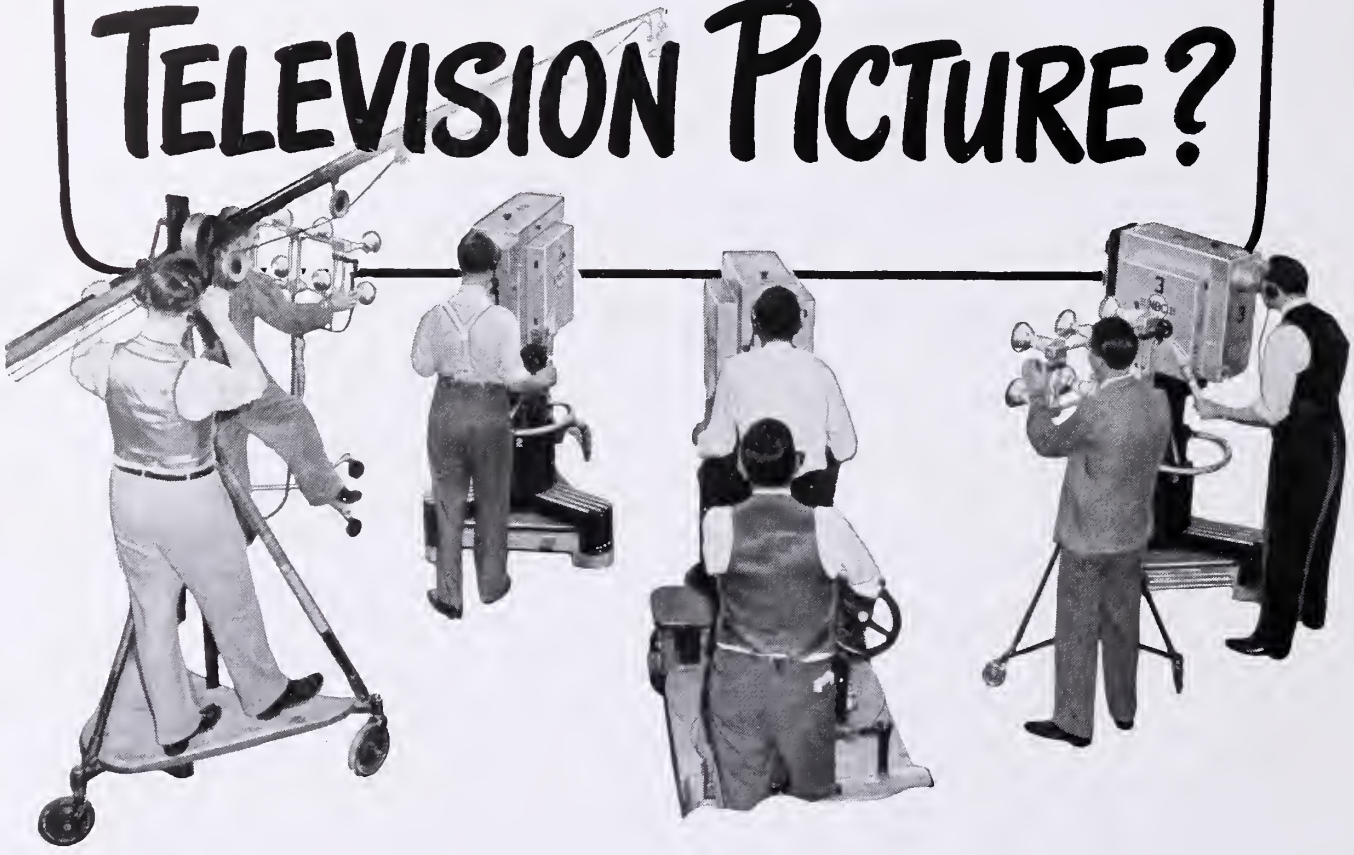
When are YOU going to get into the TELEVISION PICTURE?



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IN LESS TIME THAN YOU PERHAPS SUSPECT. That's why there'll never be a better time than *now*—to gain a practical, working knowledge of this complicated sight medium. There'll never be a better time than *now* to equip yourself to make the most successful commercial use of television, to adapt your advertising skill and experience to this new medium.

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A SERVICE OF RADIO CORPORATION OF AMERICA

FOREWORD

THIS is the *first* American Television Directory and Yearbook. It is also the *first* comprehensive roster and handbook of a great new industry poised on the threshold of swift peacetime expansion. It is fitting that this Directory should be sponsored by the American Television Society—the acknowledged, organized voice of all fields directly and indirectly interested in the advancement of this magnificent new medium of communication, entertainment, education and sales promotion. The Society—with its large membership—has long provided a valuable forum for the industry. This Directory—by offering a vast amount of television information in easily available form—will provide a focal center of 1946 television activity.

The Board of Directors of the American Television Society wishes to express its gratitude to the many members who have contributed so freely of their time and talents to make this Directory a truly useful inventory of television's progress and potentialities.

We are especially grateful to Buchanan & Company for allowing Ralph Rockafellow to serve as editor. Mr. Rockafellow's long and successful career as an editor and advertising man, his almost limitless knowledge of television and its many problems, and his willingness to pitch in and get the job done eminently fitted him to fill this position.

To contributors, advertisers and workers alike we extend our deep appreciation for their efforts in the advancement of television.

AMERICAN TELEVISION SOCIETY, Inc.

George D. Shupert

George T. Shupert, *President*

IN TELEVISION DuMONT SETS THE PACE!

DuMONT'S JOHN WANAMAKER TELEVISION STUDIO, STATION WABD

DuMONT TELEVISION engineers, who have designed and built more television stations than any other company, will soon complete the world's largest television installation. They are now transforming more than 500,000 cu. ft. of the great John Wanamaker store in New York into the first "Television City."

The largest studio (50′ x 60′ with a 50′ ceiling) boasts 4 cameras—the first studio to be so well equipped. A balcony accommodates 700 spectators and a rear glass wall of the control room permits sightseers to watch rehearsals and broadcasts. Two other "live talent" studios are equipped with 3 and 2 cameras each. Several cameras are mounted on a new type dolly providing extreme ranges of elevation and camera angle. A telecine studio has projectors for both 16 mm. and 35 mm. film.

DuMont Television broadcasting equipment embodies all the flexibility and refinements accruing from more than 4 years of continuous and increasingly elaborate programming experimentation. Simplified precision control—the keynote of DuMont design—assures high efficiency and rugged dependability at low operating cost. DuMont leadership means adequate training of your technical personnel, and the finest craftsmanship for the least outlay.

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TELEVISION STUDIOS AND STATION WABD, 515 MADISON AVENUE, NEW YORK 22, NEW YORK

CONTENTS

RALPH ROCKAFELLOW, *Editor*

SYMBOL af the Electranic Age: NBC's sight (crass-bars) and saund (ring) transmitting antenna atap New Yark's Empire State building.

LIVE TALENT in actian. Abe Lincaln caurts Ann Rutledge in WNBT's fine presentatian af Rabert E. Sherwaad's "Abe Lincaln in Illinais."

DRAMA: WNBT presents "The Black Angel" — but studia visitars sense still greater drama in the action of icanascape cameras, microphane boam and flexible light banks, cleverly, swiftly and silently manipulated ta catch every changing mood, and catch it artistically.

BEYOND TOMORROW —WHAT?

The "ether" is still a half-discovered wilderness with endless opportunities for exploration both in the vastness of space and within the infinitesimal electron.

By BRIG. GENERAL DAVID SARNOFF
President, Radio Corporation of America

FIFTY YEARS have passed since the epochal experiments of Marconi laid the groundwork for radio and in this time the world has been amazed by the continuous growth of radio communications and by the benefits which peoples of all nations have gained from these expanding developments. Even greater and more spectacular advances should be made in the next fifty years. Certainly, the prospects and promises, as we view them today, justify the highest optimism in this respect.

Our vision of the future, sharpened particularly by the wartime performances of radio, our faith in scientists who will create new instruments and new services, and our confidence in the American spirit of enterprise and initiative will continue to lead the way to new and greater destinies in television, radio and associated fields.

Television promises to take the lead in the radio industry as sound broadcasting did a quarter of a century ago after World War I. How rapidly this transition will occur is a subject always open to revision, for the problems of creating and maintaining a nationwide television service involve financial and political considerations as well as technical.

Long before V-J Day, science had laid the groundwork for the new television service. The end of the war was the go-ahead signal. The pace of progress will quicken rapidly as facilities become available. By 1970—25 years from now—broadcasting may be known as telecasting because of the standardized combination of radio sound and sight. Eventually, television will reach every area of the globe now covered by sound broadcasting.

Television Is Tomorrow's Radio

More than 50,000,000 broadcast receivers are now in American homes. The day will surely come when all of them will be replaced by receiving sets which can see as well as hear.

Those who purchased a "radio music box" in the early days of broadcasting enjoyed concerts, lectures, music recitals and sports events which were advertised as "going on in the nearest city." Within the next decade or two, those who acquire television receivers are destined to go sight-seeing by radio to cities across the continent and even across the seas. Through the magic "window" of television, rich and poor alike will see, not only the small world around them but the larger sphere of which they are a part.

Television, faced from its inception with obstacles so formidable that some engineers doubted that a practical system could be developed in less than a quarter century, already has proved its technical soundness. The flickering, poorly illuminated peephole receiver of mechanical television in the late '20s has developed into the latest model electronic television receiver with its large screen image, equal in brightness and resolution to 16mm. home movies. Television no longer is a scientific toy; it promises a new service of entertainment for the family, a service that will become as essential to the average home as the present broadcast receiver and the telephone.

Radio broadcasting came of age when programs were made available to listeners in distant cities through network lines. To provide similar network facilities for television, thousands of miles of interconnecting systems, using both radio relays and coaxial cable, must be established.

Portable Television Sets

Speeded by pressure of war, developments in electronics will be reflected in new and better communication devices and systems. Television has been improved by the intense application of science to the perfection of radar and similar weapons. New types of tubes, the results of wartime research, will have their counterparts in television receivers. These will provide better pictures, ultimately in full color. They will decrease the size of television receivers, eventually, perhaps, making possible portable television sets which can be carried around as easily as the popular "personal" radio of today.

Other radar research, applied to peacetime uses, will result in television cameras so sensitive to light that any scene which the human eye can perceive by day or night can be reproduced in the home with the same clarity and detail as the original.

Exploration of the very high frequencies, an area which was a sort of electronic "no man's land" before 1938, has shown the great use that can be made of that portion of the spectrum. It is probable that not only television but numerous other services as well, will find it advantageous to move to the very high frequencies and thus provide improved service to the public.

Now that radio can see as well as talk, the art promises most interesting employment opportunities. Directly and indirectly, the industry will need the minds and hands of many thousands of people, including technicians and artisans, business men and industrialists. It will call for producers, cameramen, directors, musicians, film experts, scenic designers, advertisers, merchandisers and many other skills.

Invitation to Youth

But television does not exhaust the possibilities of radio today, any more than broadcasting marked its limit in 1920. There are still endless opportunities for radio research and for the exploration of space. The "ether" is still a half-discovered wilderness. It invites young men and women with new ideas to continue pioneering, to learn the secrets of Nature scattered in the vastness of space or hidden within the movements of the infinitesimal electron.

Equally important are the by-products of television. Much is still to be learned of the part which television devices will play in marine and 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 processes; 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 many other fields where an automatic, never-failing substitute for the human eye will prove useful.

(*Continued on page* 140)

SIXTY MILLION JOBS ... AND TELEVISION

By PAUL RAIBOURN

President, Television Productions, Inc.
Economist, Paramount Pictures, Inc.

OUR PROBLEM

In 1929

11,059,000 workers—at 1939 prices—produced $17,800,000,000 worth of goods.

In 1944

16,300,000 workers—at 1939 prices—produced $43,000,000,000 worth of goods.

Query

What medium other than television can be the mass salesman for mass production?

WHEN GAS RATIONING was over, a seven-year-old girl received her first-remembered 100-mile automobile ride across the lovely New England countryside. She exclaimed delightedly over the ever-changing vistas. She was amazed to discover that there were gas stations everywhere with attendants eager to serve. She expressed her delight in the fact that automobiles could be used for something besides transportation to store, church and school.

Here, compressed in a few hours, is an experience which many of us went through in the period 1900 to 1930. We hardly realized then that anything was happening to us. But looked at from the vantage point of a few hours' distance, the acquisition of a new standard of living and new outlook is a tremendous adventure.

In like manner, most of us have seldom stopped to analyze what has happened to life in the United States in the last 75 years. We do not inquire into the basic reasons why many unusual and advantageous things have happened to us.

Seventy-five years ago, there were produced for *each inhabitant* of the United States, physical goods worth about $200 dollars per year, figured at 1939 prices. In 1941, our last prewar year, the comparable figure is around $800.

The most commonly quoted explanation of this unusual growth is "mass production." But sober thought will convince one that this really explains little. Before the products of "mass production" could be sold there had to be a means of communication which would make people desire the products of such concentrated mass effort. There had to be a means of national advertising to allow everyone to know and appreciate a large factory's products. This rise in worldly goods available each year to each of us has been paralleled and preceded by a corresponding increase in postal receipts, the growth of magazines and of national advertising.

To national advertising which, in a great measure, sponsored the others, must go much of the credit for making mass production possible and causing our per capita income in physical goods to increase so unusually.

Those who are still doubtful as to these relationships should ponder for a moment on these facts: postage stamps were first authorized in 1847; city delivery service in 1863; rural delivery in 1896; and parcel post in 1913. The "Chic Sales" encyclopedias—Sears Roebuck's and Montgomery Ward's catalogs—were products of the last decades of the eighteen hundreds.

Production has risen just as fast and only as fast as demand existed which wished to be supplied. It will, in the future, continue to rise just as fast and only as fast as demand for its products increases. These last two sentences will be true whether we are functioning under an individualistic free or a managed economy.

Jobs for All Who Wish to Work

There is now much discussion of 60,000,000 jobs for Americans. Our able and analytical Secretary of Commerce, Mr. Wallace, is the apostle of the idea that we must reach that level of economy by 1950. This figure appears to have been first used by the late President Roosevelt in a speech at Chicago in October 1944. He probably selected it because it represented a figure somewhere near the total of the number of people gainfully employed in the United States or in its military service at that time. It meant a job for everyone in military service and a level of employment, as we all well know, where practically everyone desiring it could have employment at a wage rate satisfactory to him. It thus represented the natural goal of an individual who never allowed custom or precept to cause him to swerve from his responsibility to all of the people.

There are certain figures available, prepared by reliable sources, by which employment in the 1944 period can be judged in comparison with previous periods. The years chosen here are a period of prosperity, namely 1929, to which many look back with much longing; a prewar year, 1939, before our economy was modified by war, and 1944.

Employment Peaks Compared

	Number employed (000's omitted)		
	Last prosperity period 1929	Last prewar year 1939	1944 Partly estimated
Agriculture	10,539	10,739	10,250
Forestry and Fishing	267	198	175
Minerals	1,067	707	650
Manufacturing	11,059	10,517	16,300
Construction	3,340	1,610	1,100
Transportation	2,465	1,871	2,800
Public Utilities	1,167	934	1,000
Trade and Finance	8,007	7,511	7,400
Service Industries	6,403	6,256	6,600
Government (prewar basis)	2,337	2,984	3,500
Miscellaneous	1,012	928	1,400
Total	47,663	44,255	51,175
Emergency Government Labor Force—CCC, WPA and NYA	—	2,959	—
Military	263	369	11,500
Government (war extras)	—	—	1,042
Total employed	47,926	47,583	63,717
Population	121,300	130,880	137,000
Percentage employed.	39%	36%	46%

The Census Bureau estimates a population of 143,000,000 in 1950 which, on a 60,000,000-job basis means an employment of 42 per cent.

To many these questions will arise: Where did the people come from who were at work in 1944? and where were they in 1939 and 1929? As the answers have a bearing on our future conclusions with respect to television it is well to digress a moment to explain.

The Census Bureau figures for 1940 show the make-up of our population as follows:

	(000's omitted)		
	Male	Female	Total
Under 15	17,753	17,240	34,993
15-19	6,180	6,153	12,333
20-65	38,749	38,596	77,345
Over 65	4,406	4,614	9,020
Total	67,088	66,603	133,691

In 1939, there were around eleven million women employed. There were relatively few males or females employed in the 15-19 year and over-65 year groups. So, when we have nearly 64,000,000 employed in late 1944, this means that the *extra* wage earners came, probably as many as 4,000,000 to 6,000,000, from the 15-19 and over-65

male groups and some 10,000,000 to 12,000,000 from the female group.

Certainly, after the war there should be little reason for the 15-19 and over-65 age groups to work. By 1950, the 20-65 age male group will have increased by 8 percent to 43,000,000 leaving 17,000,000 employed to come from other age groups and from the female list (as compared with twelve million female employed in 1939) to reach an employment level of 60,000,000. This means we must either (1) increase employment in proportion to population and also add 5,000,000 more jobs by increased production and distribution or (2) spread jobs through shorter hours. Any increase in military forces over the 369,000 in 1939 will be an additional offset.

Product Valuation Is Important

The most interesting fact about the employment statistics quoted for 1929-1939 and 1944, is found in the agriculture and manufacturing figures. The trend in agriculture is down slightly; in manufacturing it is down in 1939 and up in 1944.

But if one examines "value of product" for each year, reduced to 1939 dollars in Department of Agriculture and Bureau of Labor Statistics indices, he arrives at a very different figure—and sees the proportionate contribution to national income.

	Agricultural Production	Manufacturing Production
1929	$4,560,000,000	$17,800,000,000
1939	5,230,000,000	16,965,000,000
1944 (est.)	7,200,000,000	43,000,000,000

In other words, an equal amount of human effort in agriculture through this period showed an increase of over 50 per cent in production. And a 60 per cent increase in human effort in 1944 over 1929 (after taking into account relative hours worked) resulted in an increase of two and one-half times in manufactured production.

Many people have seen this situation. To quote Walter P. Reuther, CIO vice president: "We have mastered technology and possess a complex, high octane B-29 production machine. But our productive genius has always been stalemated by our failure at the distributive end." Paul H. Appleby, formerly Under Secretary of Agriculture, stated it was the conclusion of the International Food Conference at Hot Springs, Va., that the problems of agriculture were not in farm production and that the world could be better fed if the proportion of the world's productive man hours going into agriculture were reduced and this surplus devoted to distribution.

Advertising Lifts Living Standards

We must conclude that the machinery of large-scale production, which came into being as a result of advertising and the rapid distribution of information, has shown a remarkable ability to outrun its progenitors. Of course, a certain amount of goods and services, food, shelter and clothing, at least the minimum for subsistence, will be purchased without any advertising or other medium for acquainting people with their existence. In many countries where advertising does not exist, the people live on just about that low level. All the additional cultural and emotionally satisfying values which make life so enjoyable must be displayed to the customer in their attractive and satisfying values for them to be desired.

We have before us, today, a new medium which can do that job in a way none has ever done it before. In a few hours, in the quiet of the home, one will be able, with television, to see what goods are attractive and satisfying to others. This can be achieved without even any attempt to sell, in the same way our American motion pictures have sold our standard of living to the rest of the world.

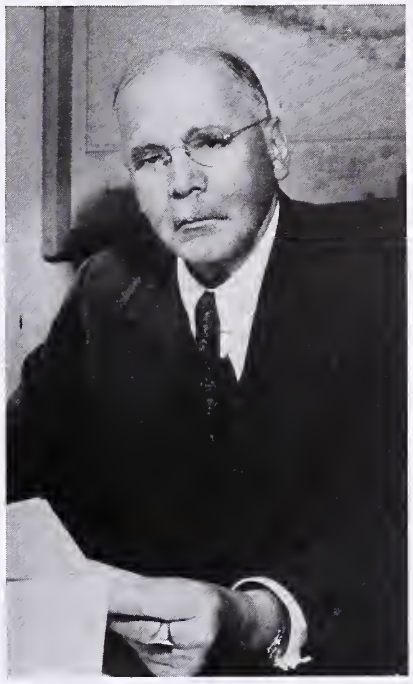
To Outpace Mass Production

We have a medium of appeal which can go into a home and demonstrate by *sound* (which the sound radio can do), by *sight* (which magazines and newspapers can do), and also by *action*, which none of them can do. It is the only medium on the horizon which possesses the potentialities of a high octane B-29 distribution machine. It is the only medium which may be able to outpace mass production and continue to raise our living standard.

However, should television fail of this ambitious goal, it may aid importantly in another way. It may make millions of people—especially that proportion of the 20,000,000 or so women, recently employed, for whom even a 60,000,000-job level does not provide employment—want to stay at home and look and listen to their television sets. Certainly, if hours must be reduced to spread possibilities of employment, television provides the ideal basis for making those extra hours much more pleasant for us all.

The distribution authorities of America will have failed to contribute their allotted part to the goal of 60,000,000 jobs if they do not make full and immediate use of television's potentialities.

TELEVISION'S TREMENDOUS PROMISE



By

H. V. KALTENBORN

NBC Commentator

Televisian can anly became a greot social farce if thase who cantral it have a praper sense af sacial respansibility. Neither radia nar the maving picture has yet perfarmed that full measure af sacial service af which each is capable. Far same years ta came, television will be far less prafitable than either. The temptatian, therefare, will be to subordinate public service ta private prafit. That temptatian must be resisted.

The infinite passibilities of this new medium af sight and saund must be fully utilized. Television can enrich aur lives by praviding better infarmation, better educatian, better entertainment. It can give us intimate persanal cantacts with our natianal leaders. It can both explain and illustrate the grave natianol prablems on which we are asked ta poss judgment. It can make us mare canscians af the integrated pastwar warld in which we live. It can bring the latest advance in humon culture and the last word on scientific achievement inta the home. It con da this in a mare convincing way than is passible far any other medium.

As the mon who first used radio ta explain and analyze current events, I hape it will alsa be my privilege to utilize this much mare vivid medium to translate ta the eyes and ears af the great American public the kaleidoscopic changes af aur postwar warld.

IS TELEVISON TOMORROW'S RADIO?

Predicting the future of television and the revolution it will bring about is today's most fascinating pastime. Our guesses may mold the future of the video art.

By EDGAR KOBAK

President, Mutual Broadcasting System, Inc.

"WILL YOU PROPHESY? Will you submit to cross-questioning?" is the way I think the American Television Society might have worded its request that I write an original article for its first Television Directory. At that, the letter came pretty close: for it not only bent the title into the shape of a question mark, but it was alarmingly specific on a number of queries to which safe, airy generalities could only be worse than no answers at all.

With this preamble, partly to explain the question-and-answer form of this "piece" and partly to disclaim any special familiarity with the future not justified by a projection of today's facts, let us skip a few years and imagine ourselves in the Sixth Decade of the present Twentieth Century.

Will Television Supplant Radio?

Question: "Is Television Tomorrow's Radio?" Or, to paraphrase, "Will television and radio grow side by side as sister mediums, or will television supplant radio, much as sound motion pictures supplanted silent movies?"

Answer: My belief is that television will not replace radio, at least not in the foreseeable future, and not on the national level. To begin with, we have to think, these days, of radio not merely as AM but also as FM. Most authorities in broadcasting seem agreed that even FM (with over 500 applications on file with the FCC as of the middle of 1945) will not entirely supplant AM; that while the regional and local stations may give way before the onslaughts of FM, the high-powered clear channels will remain to cover the wide, sparsely-populated farm, ranch and prairie areas for a long time.

The radio picture we must look at, therefore, is an AM-FM combination with the possibility of 3000 stations (instead of 933) and possibly several more national networks (instead of the present four and one coming up).

What this means is that if television is to supplant radio it will have to erect a perfectly gigantic plant, at an enormous cost, to furnish nationwide service on the scale of the present AM and the future AM-FM combination. With only nine stations operating and some 130 applications now on file, the distance to be covered is still great.

Another point to remember: FM networks will take considerably more money than AM to establish, engineer and operate because of the large number of stations needed as the result of the limited coverage areas of each station. I can't think that, if the industry in general expected television to be the radio of tomorrow, it would pour so much money into the development of FM which would become, in a short while, a detour from the straight line of progress.

The suggested parallel "much as sound motion pictures supplanted silent movies" is too facile. Also, it is inaccurate, measured in terms of financing. Sound-pictures cost much more to produce than silent; the same is true as between television and radio programs. What we have is probably a stand-off. But the wiring of a theater for sound is far from comparable to the cost of building and equipping a television station. Furthermore, when a movie theater converted from silent to sound, the costs were paid off in increased admissions—but there will be no admission fee charged for television in the home any more than there is for radio.

But while, in my opinion, television will not supplant or replace radio, I can definitely see the two developing side by side, not necessarily as sister mediums (they are likely to develop along entirely different lines, with the family resemblance getting more and more nebulous as time goes on) but as complementary mediums.

Let me illustrate. Technicolor is almost as old as sound in the movies, yet technicolor has not replaced the monochromes. No, the majority of pictures—and what you might call the run-of-the-studio output—continues to be monochrome; and Technicolor is reserved for those occasions when a studio or a director wants to make a splash with some "supercolossal" featuring Esther Williams and Van Johnson and designed to be a high-point in the movie fan's fare — a special to knock his eyes out.

Here, then, is what I can see: Radio will continue to be the bread-and-butter, the entrée of the airwaves fare for American homes—and television will be the chocolate éclairs, the pies à la mode. The majority of the entertainment, news and public service broadcasts will still go out via sound; but when something special comes along—let us say the reception which New York City accords General MacArthur; or a World Series; or a national convention—these events will be televised.

But, you might argue, that is what we have today! Won't we have any more than that? Let me concede that we will probably have more television as time goes on—that our production of technicolor pictures (to continue the comparison) will increase—but until such time as television can blanket the country, my guess is that it will continue to be a complementary service to radio.

I want to emphasize again that all this applies only on the national level: I think that the picture on the local level is entirely different.

For one thing, there is not the problem of networks to consider, nor the problem of covering distances and areas. You have just the city—and the variations in cost would probably not be prohibitive. Then if ways and means can be found to program a local television station with any degree of consistency for a substantial part of the day—I would be inclined to think that television, while still not supplanting radio, would come close to being a parallel service. Not just dessert, any more; but a full course meal—in a different restaurant.

Strong Competition?

Question: "Many see television expanding in strong competition with radio. Do you?"

Answer: I believe that my answer to the first question paints a fair picture of how competitive I think television will prove to be on a national scale. I can't see any overwhelming volume of national advertising on television within the foreseeable future: and I say that as impartially as any, because when television comes along, I want to assure you that Mutual will be among those present—and very present.

Question: "Do you see television

stealing the popularity of radio sport broadcasts? And tele-newsreels getting a bigger play?"

Answer: In those areas where television service is established and the number of television homes is sizable in proportion to radio homes, I believe that television will steal a march on radio in the handling of sport broadcasts. But, I believe that before such broadcasts become really popular, the image must be clear and a technique of covering sports events developed which will introduce movement and variety. You could get very tired of looking at a game through the lenses of one television camera: but with four or five cameras spotted around the field and a quick shift from one to another, always being nearest the action—we may well get exciting "viewing."

As for the amount of time devoted to television newsreels, presumably in newsreel theaters, the only authority is the public. Whether or not an audience will sit through a television football or baseball game in a theater I won't undertake to say. Presumably, too, theaters will charge admission and whether a televised game will be considered worth money is also another problem for the future to solve.

Two Techniques Needed

Question: "Do you see television developing visual art to accompany musical programs—which need not be watched to be enjoyed?"

Answer: I believe that when sound hit the silent films, the technique of presenting stories on the screen underwent radical and fundamental changes. The medium was no longer one predominantly of pictures, helped out by as few captions as possible. It became a blend of sight and sound and approached theatrical technique—with, of course, the advantage of unlimited stage sets. When sight hits broadcasting, the same revolution may be expected to take place.

We all know that a special technique of writing and presentation had to be developed for sound broadcasting. In radio, the scene is set with a brief description by the narrator and the action is painted with sound effects—a stealthy step on the gravel path, the squeak of a door, a shot, a scream, the thud of a falling body. The listener's galloping imagination does the rest.

Action vs Method

Television will lose this imaginative co-operation from the listener; and what it will do to established radio technique is open field for speculation. It does seem to me that a group of people in their street clothes, clustered about a mike or two, reading their parts from scripts clutched in their hand—while adequate for such shows as the daytime dramas and even such stellar stanzas as the "Seven Up" and the Joan Davis shows—is a practice doomed to extinction in television. What people want to see is action—not method.

I think television is going to need two separate techniques: first, the ap-

(*Continued on page* 122)

Photograph by Larry Colwell

TELEVISION's entertoinment potentiolities ore slowly unfolding through intensive experimentotion. "The Singopore Spider," obove, wos produced by WOR's tele-stoff ot WABD.

DEVELOPING commerciol techniques for future use: Conover Cover Girls demonstrote the lotest in foll footweor ond correct moke-up methods in WOR experiments at Station WABD.

VISUAL COOKBOOK. The General Electric Home Institute suggests on oppetite-whetting possibility in tomorrow's food odvertising by o kitchen demonstrotion at Stotion WRGB.

FCC HOPES AND EXPECTATIONS FOR TELEVISION

The television industry's bold experiments in the ultra-high frequency band may well solve this medium's serious traffic problem, this Government expert says.

By PAUL A. PORTER

Chairman, Federal Communications Commission

OF ALL the peacetime pursuits to which we can once again turn our hand, none has aroused more curiosity, hope and enthusiasm than the development of television.

Television opens up vistas of education and entertainment hitherto undreamed of. The citizens of tomorrow will know their nation and the world they live in better than any generation before them because of the magic of television. Television will help us far along toward the goal Thomas Jefferson had in mind when he said: "I look to the diffusion of light and education as the resource most to be relied on for ameliorating the condition, promoting the virtue and advancing the happiness of man."

The entrepreneurs in the television field are confronted by technical and economic problems of great magnitude. That is the common lot of so many of the new fields of endeavor opening up to us in this postwar reconstruction era. It is the keynote of these challenging times. These pioneers will deserve the friendly interest and support of all of us in their efforts to conquer their obstacles and bring this new marvel into our homes.

Television was one of the casualties of World War II. Just as the art was on the edge of accelerated advances, it was frozen in its tracks by the bombs that fell on Pearl Harbor. Frozen, that is, in an economic sense. In a technical sense, television was catapulted ahead from 10 to 15 years. The most intensive coordinated scientific teamwork this nation has ever seen resulted in miracles which overwhelmed our enemies and which now give us the brightest promise for peacetime production.

While television production was marking time, the public has had its appetite whetted for this new wonder. Granted a reasonably efficient conversion from a wartime to a peacetime economy, the American public should soon be in a position to support the television industry.

The leaders of the television industry can help to assure themselves of that support if they will profit by the experience in the standard broadcasting field and resolve to keep this new dimension of American life on the highest possible plane. They have it in their power now to decide whether this great invention, so extensively benefited by the wartime exertions of science, shall be weighted down with the shoddy, the trivial and the dubious or whether it shall realize its full potentialities.

The Federal Communications Commission, for its part, has already taken steps to promote the highest development of the art. Thirteen channels below 300 mc were made available for immediate commercial use by the Commission in its frequency allocations. However, this is insufficient space for the expansion of television into a truly nationwide and competitive system. In view of this, the Commission allocated a generous portion of the spectrum—from 480 to 920 mc—for experimentation with television employing wide channels and affording color pictures and high definition monochrome pictures. This superior type of television for commercial operation will find ample room for expansion in this region of the spectrum.

With this in mind, the Commission is encouraging the television industry to move ahead boldly with comprehensive experiments in this upper band. Aided by inventions now being released gradually by the military from wartime laboratories, the experimenters in this ultra-high frequency band should make heartening progress. The culmination of these experiments will make it possible, from an engineering standpoint, for every city in the land to have adequate television service.

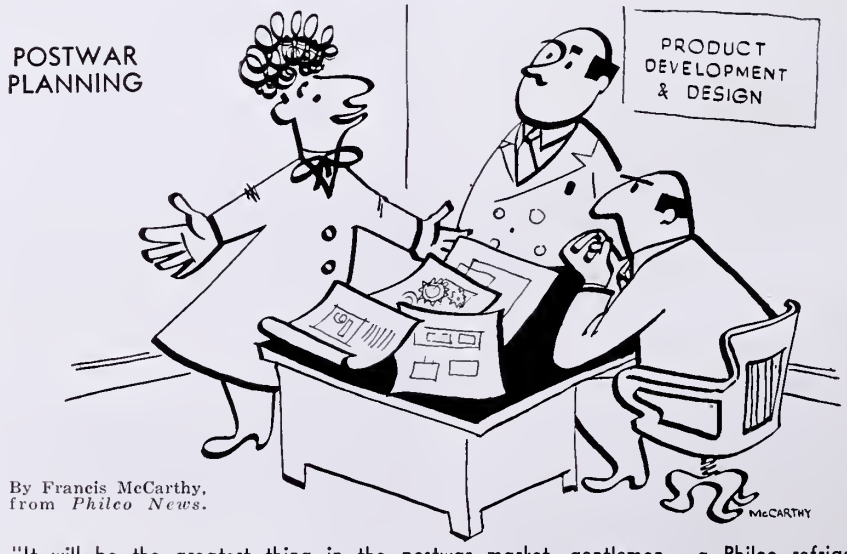
The Commission is moving as expeditiously as possible to promulgate rules and regulations which will make it possible for broadcasters and manufacturers to make definite plans for the promotion of television's future.

With 130 applications already on file, there is every indication that there will be lively competition for the available channels in the region below 300 mc.

I am highly gratified by the vigorous experimentation being carried on by various concerns to solve one of the biggest problems of a nationwide system of television—the establishment of relay systems.

For the benefit of historians who will some day be poring over a yellowed and crumbling copy of this Directory and Yearbook and who get little fun out of life anyway—I want to record that as of this writing the nation has six *commercial* television stations in operation.

America eagerly awaits the arrival of television on a nationwide basis as an exciting contribution to our pleasure and welfare and as one of the most welcome of our peacetime benefits.



By Francis McCarthy, from *Philco News*.

"It will be the greatest thing in the postwar market, gentlemen — a Philco refrigerator equipped with TELEVISION to detect midnight raids!"

IS TODAY'S TELEVISION HERE TO STAY?

Television's film vs. live talent controversy continues to rage. Mr. Cooper is a forthright spokesman for the film advocates and the achievements of cinematics.

By WYLLIS COOPER
Program Manager, Compton Advertising Company

THERE HAVE BEEN millions of words written and millions more spoken on television. But up until now this primary point has too seldom emerged:

Television Is Simply a Talking Motion Picture

It is a talking motion picture available to the audience in its own home on the purchase of a receiver. Any well-made television receiver of even the present vintage is capable of delivering, if well-tuned, a fairly accurate duplicate of the picture in the studio. If the picture in the studio is bad, the picture on the home set is bad. If the studio picture is good, then the picture on the home screen is good.

From this comes what we consider the first law of television. This is extremely important, and should be kept constantly in mind—because the whole television programming problem is based on this law. This is the first law of television:

> *"Picture reproduction on a home receiver is practically identical with the picture on the transmitter video-screen. Audience interest, therefore, will vary directly with the cinematic, dramatic, and pictorial quality of the original."*

That means that as the picture on the home receiver deteriorates from the accepted standard of theater motion pictures, in exactly the same ratio audience interest will diminish. The converse is also true; as the picture approaches the ideal, audience interest will increase in the same ratio.

Engineering Outpaces Programming

Any discussion of engineering and transmission problems by advertisers and program people is for the most part idle. The function of transmission is exactly analogous to the function of projection in a motion picture theater. Certainly, there will be better transmission equipment. Whatever has happened in the engineering laboratories as a result of war research can be considered as an improvement in projection equipment, and, of course, in receiving equipment. We can safely leave all the improvement of the technical aspect to the engineers, who know what they are doing. Any layman who tries to visualize what the future of television will be is wasting his own time.

Our concern is with programs and with what appears on the home screen; and even the technical equipment of today is adequate.

The conventions of the motion picture have been established as a part of our national and personal consciousness for a period longer than the life span of a middle-aged man. Practically every person forty years old or less has absorbed these conventions as a part of his consciousness. He is conditioned to them exactly as he is conditioned to the convention of red and green lights. Nobody stops to think about why they are red and green. We simply know, have been taught, or have absorbed, since our earliest childhood the facts that red means stop and green means go. Any attempts to change a civilized convention of that type will result in utter confusion, and almost certain defeat for the changers.

Therefore, it behooves us to adhere strictly to the conventions of the motion picture and not try to create, out of the depths of our ignorance, any new ones as we go along.

It is true that there is a novelty aspect of television: people will look at a television picture for a while regardless of how bad it is, because it is *new*.

But that novelty quickly wears off. If the picture doesn't come up to the standards with which they are familiar, they will quickly desert it for the "standard" form of talking picture—the theater motion picture.

That brings us to this statement which, while it may be explosive, seems to us to be irrefutable:

> *By the present "live" methods of television programming, it is absolutely and utterly impossible to meet motion picture standards.*

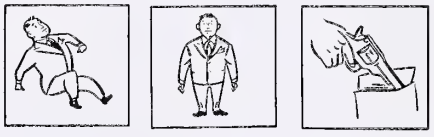
There are many reasons for this: The "live" television studio is too confining. Every person concerned with the broadcast must know the broadcast completely, from A to Z, every minute it is going on. There are many other considerations—but the most important of these is the consideration of *editing*.

Editing is merely the orderly arrangement of elements of a story to give it the best possible interpretation. The two types of editing in motion pictures, apart from the ordinary cutting for sequence and emphasis, are *editing in time* and *editing in space*.

Editing for Emphasis

We shall take a motion picture composed of three short shots. One of them is a man standing up. One of them is a man sitting down on the floor. In each picture the man has a completely "dead-

pan" expression. The third is a close shot of a hand taking a revolver out of a pocket. Now, by editing or rearranging, we can tell at least two completely different stories. If we show the picture of the man on the floor first, then the



picture of the man standing up, then the shot of drawing the gun, our sympathy is with the man on the floor. The little three-shot sequence becomes a story of a helpless man defying an oppressor in the fact of certain death! Turn the sequence around—show the standing man first, then the gun, then

the man on the floor, and we have a totally different story: it becomes the tale of a man meting out righteous punishment to a culprit. And—mind you—the expression on both the men's faces is always the same—completely noncommittal.

Editing in Time and Space

The Russian film "Potemkin" is one of the great motion pictures of all times. There is a sequence in that picture where the guns of the cruiser

(*Continued on page* 116)

HOW LARGE A SCREEN?

When is a small screen too small — a large screen too large? A frank discussion of factors that are certain to influence the public and shape teleset buying trends.

By DR. ALLEN B. DuMONT

President, Allen B. DuMont Laboratories, Inc.

How large should a television screen be? The answer is: Large enough for comfortable enjoyment of television entertainment. One might as well ask: Which should I drive, a bus or a coupe? The answer depends, naturally, on how many persons I wish to accommodate and just how pleasant I wish to make their accommodations.

It is entirely possible to install too large a screen for the size of a room. And this extreme is just as absurd and inadequate as inviting all one's neighbors to crowd about a tiny screen to witness a much-heralded sports event. There are yardsticks, of course, for determining a satisfactory screen size. Suppose we discuss the several factors affecting this problem.

Proper Viewing Distance

First, there is the *proper viewing distance* . . . best illustrated by a motion picture theatre. Seats from about the eighth row to the twentieth, right down the center, are apt to be taken first. Then the rear rows fill up. Late-comers reluctantly accept the side seats. And the last to come must fill the rows down front. Here they are very much aware of many minute imperfections in the film. Yet further back in the house this same film seems perfection itself!

Every person—according to his eyesight—naturally selects a distance from the screen that is most satisfactory for him. Thus the proper viewing distance varies with each individual. The average person selects a distance roughly 10 to 12 times the height of the picture.

When a television receiver is installed in your living room you have a counterpart of the motion picture theatre. The size of the television screen automatically determines the proper viewing distance. Thus, an 8″ x 10″ image will be viewed most satisfactorily by the average eye at a distance of approximately 8 feet. Sitting nearer only makes the viewer conscious of the scanning-line structure and corresponding texture of the image. Moving farther away improves the pictorial resolution until the image is on a par with theatre movies—but the picture may become too small for comfortable viewing! Hence the importance of sitting within the proper viewing distance of 8 feet.

The giant DuMont 20-inch tube teleset, providing a 13½″ x 18″ image, calls for a proper viewing distance of from 12 to 15 feet. If the sitter moves nearer, he becomes aware of the scanning-line structure of the image. Beyond 15 feet, the sitter still enjoys a comfortable screen size with excellent pictorial definition.

Any screen size viewed at the proper viewing distance provides about the same pictorial detail, everything else being equal. The midget teleset with its 3½″ x 4½″ image, aimed at the very low price market, produces just as sharp an image as the projector-type teleset which projects a 3′ x 4′ image upon the wall of a large living room or class room. In fact, the midget screen image is apt to appear needle sharp, but only because its scanning-line structure is spaced so closely together that it passes unnoticed when viewed from a couple of feet away.

Size of Audience

The second factor to consider is the *size of the viewing audience.* With the midget teleset, whose image is viewed at no greater distance than 2 feet, only one or two persons can comfortably follow the television entertainment. Even so, these lookers-in complain of the same cramped feeling that went with early radio sets when earphones virtually chained the listeners-in to a nearby chair. Then the loud-speaker came along to provide freedom of action. Except for individual use, or as a second or third teleset in a home already enjoying a large-screen teleset in the living room or playroom, the midget teleset has very definite limitation.

The larger the television picture, the greater the audience that can be comfortably accommodated, and the greater the feeling of freedom. With an 8″ x 10″ image, you are no longer peeping at the show through a knothole, so to speak, but rather are enjoying a pretty good seat, provided the room is not crowded. From six to ten persons can be seated in two or three rows, and everyone of them will be able to enjoy the show.

But let the home audience run up to a dozen or more and a larger screen is necessary. This is where the 20″ tube becomes the logical choice, with its 13½″ x 18″ screen. I predict that this size will be the most popular for home use since it can comfortably accommodate up to twenty televiewers.

If one has a huge living room or playroom for the television show, with audiences at times numbering two dozen persons or more, then the 3′ x 4′ image obtainable with the projector-type teleset comes into its own. However, this set spells real luxury and commands a luxury price quite beyond the vast majority of future television set owners.

Freedom of Action

The size of the audience is not, of course, the sole factor influencing one's choice in favor of larger screen sizes. I again bring up the matter of *freedom of action.* It is certainly comfortable in the extreme to have a 3′ x 4′ projected image upon the wall, which can be viewed from any chair in a huge room. Many persons, to whom cost is no handicap, will doubtless prefer a projected image. It is consonant with gracious living, with expansive living rooms and playrooms.

The DuMont organization has designed and put into production a choice of telesets ranging from the smaller screen sizes at popular prices to the largest direct-view telesets, and also is producing a 3′ x 4′ projector type for those seeking superlative performance even if it does cost as much as a good automobile. Because we are manufacturing all sizes and types, I can impartially point out the good points and disadvantages of each.

It is my sincere belief that direct-viewing television offers the most for the money. The DuMont organization has pioneered the giant 14 and 20-inch cathode-ray tubes and was the first to offer large-screen telesets based on the use of such tubes (as early as 1939). We still favor the direct-viewing method for which we make the necessary giant tubes.

Direct-View Advantages

The principal advantages of direct-viewing television are high light brilliance, better contrast range, wide-angle viewing, lower accelerating voltage, longer life, better resolution, less alignment difficulty, and simplicity of the

focusing system. It would seem from this array of advantages that there is little question as to which is the most satisfactory, providing the audience is satisfied with an image no larger than 13½" x 18".

A Disappearing Screen

Of course there are some disadvantages to be recorded for direct-viewing television. There is a slight curvature of the screen which introduces some distortion of the image. This is being largely overcome by flatter-faced tubes. Then there is the length of the tube which, mounted in the normal horizontal position, makes for a cabinet of awkward depth. The 20-inch tube is 31 inches long. However, we have ingeniously circumvented this awkwardness by mounting the tube in a swinging cradle so that it remains in the vertical position when the teleset is not in use, and is brought to the horizontal position only for actual viewing. With this tube-mounting we have reduced the cabinet depth to 24 inches or less.

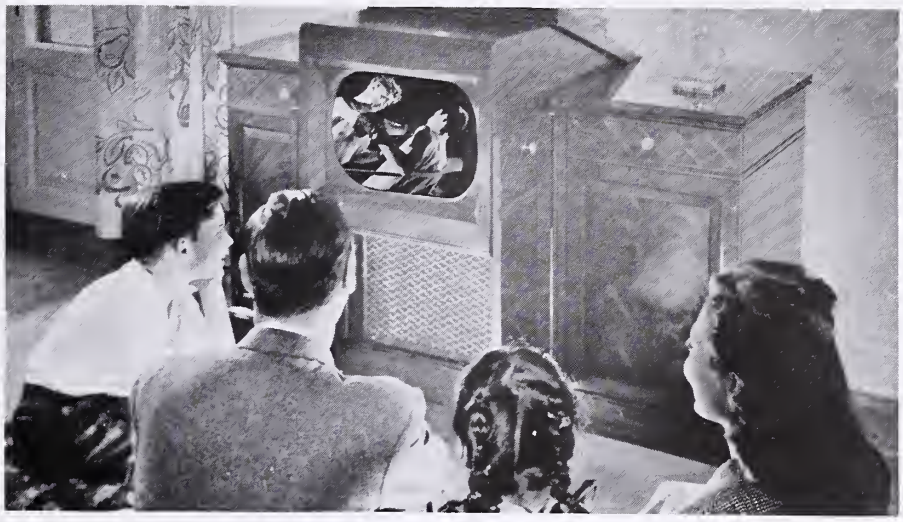
Considering the advantages of direct-viewing in greater detail, we find that the high light brightness of the 20-inch tube is in the order of 20 foot lamberts as compared with approximately 3.5 lamberts for the most efficient projection system now in use. In both cases the picture size is considered to be 13½" x 18". The higher light brilliance means that the 20-inch teleset can be used satisfactorily in a brilliantly illuminated room. An ambient light level as high as 5 foot lamberts can be tolerated without seriously impairing the picture quality. With the projection system only about .5 foot lamberts average ambient light can be tolerated. It is interesting to compare the brilliance of the picture on the 20-inch tube with that of normal commercial 35 mm. movies which average between 6 and 10 foot lamberts.

As regards brightness ratio or contrast range, the 20-inch tube has a contrast range of approximately 35, as compared with 17 for the projection system. This is an extremely important characteristic of the television picture since in many cases the lack of contrast gives viewers the impression of poor resolution.

As to directivity (maximum viewing angle from the normal angle at which the apparent brightness decreases to 50% of its value in normal direction) we find that the 20-inch tube can be viewed from ±80°, whereas the projection system can only be viewed from ±15°. It is, of course, possible to widen this angle somewhat in the projection system but in so doing the high light brightness will decrease from its already low value.

Life of Cathode-Ray Tubes

In making these comparisons we have assumed an accelerating voltage on the 20-inch tube of 15 kilovolts, and 30 kilovolts on the 5-inch flat-faced tube of the projection system. It is obvious that the lower accelerating voltage of the direct-viewing tube effects certain economies in the manufacture of the receiver. But aside from first costs, there is a marked difference in operating costs.



TELESETS include large-image televisian screen, FM, standard braadcast, recard changer and recarding facilities. This model features a disappearing screen which tilts back inta the teleset when it's nat in use. Cansale madels are designed in bath classical and modern styles.

BUILT-IN TELESET—The mechanism is cancealed, leaving an 18-inch "direct view" screen visible. A "direct view" picture, as distinguished fram reflective and projection systems, is shawn an the flattened, luminescent screen-face af a large picture receiving (cathode-ray) tube.

With the 20-inch direct-viewing tube the spot size is sufficiently small to resolve any 525-line television pattern or even higher, with a well-designed deflection yoke, whereas care must be taken with the 5-inch projection tube to obtain full 525-line resolution. Forgetting spot size for the moment, the resolution on the 5-inch tube is considerably reduced by light scattering on the fluorescent surface as well as on the translucent screen. With the direct-viewing tube all elements are aligned within the glass envelope, as against the tube and optical system to be aligned in the projection method. In order to focus the picture on the direct-viewing tube, it is only necessary to make an electrical adjustment, whereas both electrical and optical adjustments are necessary in the projection system. Furthermore, unless the latter's optical elements are properly protected, the picture is apt to deteriorate with age of equipment.

Our organization has developed a projection unit that produces a 3' x 4' image on a suitable wall screen—more than four times as large as any pictures for home projection yet demonstrated. Our compact projector has a tested range of picture sizes from 18" x 24" to 4½' x 6'. We believe this projector has a place in the very large living room or playroom, and even far more so in the schoolroom, club, church, department store or other public place.

Built-in Wall Telesets

In a home desiring a large picture on the wall that can be viewed from different parts of a fair-sized room, we favor the custom-built installation—a receiver built into the wall with the tube-screen suitably framed at any height desired.

On the basis of bright, detailed, good-gradation pictures, at an attractive first cost and with low operating expenses, I hold that the direct-viewing teleset has exceptional advantages. But I am quick to admit that there is a place for the projection type set where cost is secondary to the desire for maximum screen sizes for the purpose of entertaining large groups in utmost comfort.

HOW WILL TELEVISION HANDLE THE NEWS?

A prediction that television's news reporting system will one day be the pride of a well-informed nation.

By TED GENOCK
News Editor, Paramount News

LIKE SPEECHES and babies, the perfect Television News Service, in the present state of video, can be defined as "easy to conceive but hard to deliver!"

Today, certain practical technical limitations are holding back the development of a full Television News Service, that is, are holding back the form which it must ultimately take, if this new medium is to gain its rightful place as the leader in pictorial news presentation. These technical limitations in equipment performance and portability, in relay standards and facilities, are problems which will be surmounted. They are problems, however, that, though capable of solution in the physicist's laboratory, are first encountered in the school of field experience and mostly solved in the open-air classroom of practical telenews pickup. For this reason, it is possible to hazard a guess at the trends in television news, both on a short and a long-term basis. It is obvious that until full and efficient technical staffs are built up and organized by the major companies, the second phase of full television news programming cannot even be considered.

The first and present phase of news program production, therefore, will lie in the fundamental use of available equipment, with tendencies in news presentation that demonstrate a competitive jockeying in ideas and methods gathered from the "arts and sciences" of radio news and newsreel.

Television, by its very definition, sets forth its claim to the unique dimension of "immediacy." Yet news, and only news, can make purposeful use of this attribute which conquers space and time. And it is in the proportion that it turns to account, this magic quality of "news as it happens," that the standard of television news will be rated in the future.

Top Ratings for News

In evidence of how far television has yet to come, one has only to consider present program content and thus understand why news programs have not yet broken out to the top ratings on television polls. I, personally, have no hesitation in predicting that when its normal development evolves—as it surely will—news will be right up there in front, leading the television field.

How do our arbitrary "present" and "future" phases of news presentation line up? At the moment, network news is a promise and not a reality. Therefore, we can expect news film and studio photo tricks and techniques to be used in aiding a telegenic commentator in the interpretation of the news. This will be coupled with live coverage of the more important local events.

A large amount of sports telecasting will fill an obvious need, and also represent television's "immediacy" at its best. The earliest equipment improvements will be developed and tested in this field. Much work remains to be done to provide the variety of angles and "picture" field sizes necessary to give pictorial speed, life and excitement to sportscasts. There is a creative element in news reporting, although it is almost an axiom that the "hotter" the news, the less treatment it needs. Perhaps this explains why sports events are a fine testing ground for "new presentation" ideas.

Reliance on Filmed News

In the larger cities — where the greater part of the news is made—a vast field of news broadcasting will be opened immediately. Outside the web of regional networks, however, the smaller remote stations will face a different problem. Unable to present immediate live news at the moment of the event, these small city stations will be forced to adopt filmed news as their main pictorial material.

The ability of the small-town station to make use of "immediacy" in news depends on the rapid establishment of relay techniques. That this is the No. 1 priority in television, is shown by the existing variety of approaches to the problem: coaxial cables, centimeter radiowave relays and now the Westinghouse proposal for stratospheric plane relays. Efficient nationwide relay systems are needed to solve the economic problems of television's entertainment field. In the broadcasting of television news, they provide the very life-stream.

Until these future or adult days of nationwide television service arrive, the small station will undoubtedly adopt present-day techniques of pictorial interpretation of the news for its scheduled programs and these will be developed around the personality of a local-name commentator. The international and national pictorial scene will be presented on film. Now this need raises many questions, and leads to many arguments and predictions as to the way in which such a service will be achieved.

Special Tele-Film Services

The major newsreel companies are best equipped both nationally and locally to undertake distribution of such newsfilm. Yet newsreels today are contracted for by theater exhibitors, and the motion picture companies may be loath to promote a television station service which the theater exhibitors might conceivably challenge as competitive. Some companies, however, with an eye to such future possibilities, have already included the filming of news events specially for television, among their activities. Thus, Pathe News supplied NBC Television with special film coverage of the Presidential Conventions and of the San Francisco Conference.

Some television stations will inaugurate their own motion picture departments. It is quite likely that, should the vacuum not be filled, many 15mm. producing organizations which mushroomed during the war will turn their peacetime activities to 16mm. film coverage of news events and provide a television film service on an agency basis.

Local Coverage

All in all, the small, independent station, despite smaller resources, will be able, nevertheless, to put out a creditable news program. And at his own doorstep, he will have the important field of local news. Anyone who has worked on newsreel production will know the frantic call for local coverage. In this phase of operations, the small station is at no disadvantage with his big city brother. With portable pickup equipment, he can give local news the real television treatment—that is, make it a live affair!

With our eyes on the bright horizon of television, it is the second phase that holds greatest appeal because it promises comprehensive news coverage by the most telling medium that has ever existed.

Now, with Victory won, we can expect scientific research to move with ever-accelerating speed to make the requisite equipment and techniques available in a relatively short time. Then, with picture-bearing high frequencies carrying the news of the moment across the continent with the speed of light, television news will be established in its own right. Field news units will be supplied with truly portable cameras of the orthicon type, with smaller mosaics yet of high quality and efficiency. These will enable the cameraman to scan the complete gamut of scenes from extreme general view to intimate close-up. These field news units will cover every significant event and activity making up the life and growth of our civilization.

Underwriters Needed

Enough experience is available in the news fields of radio and motion pictures to visualize clearly the organization necessary to establish a comprehensive television news service. And it also becomes clear that only major networks or interested motion picture companies are likely to underwrite such services.

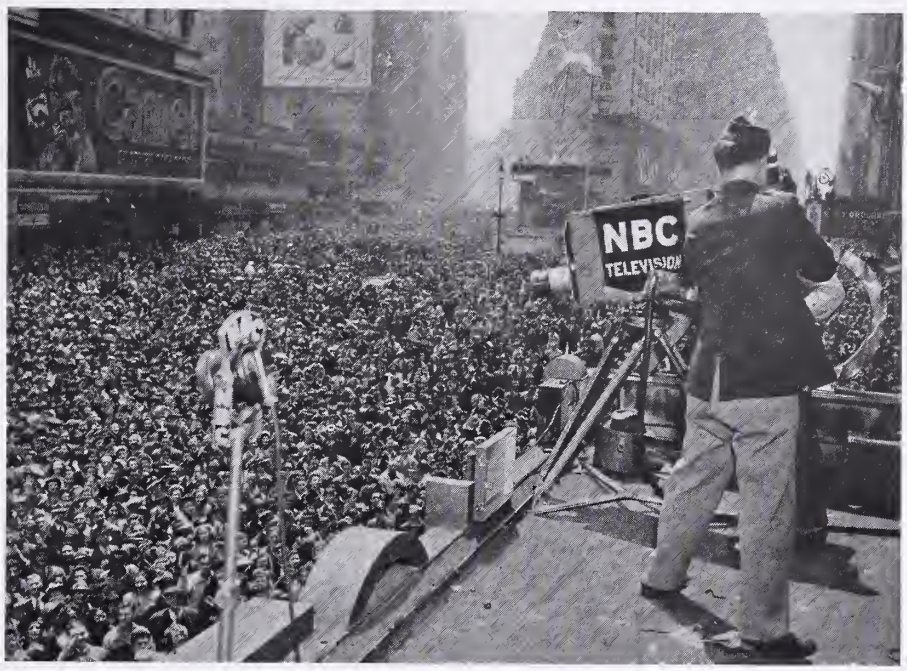
The tradition of radio, and the trust imposed on news-gathering organizations to see that no vested interest shall color or influence the choice of news, means that the major expense must be borne on a "prestige" basis by large companies in allied fields. It follows that network television services will be few in number, but in high competition these will deliver the superior quality that results from that form of free initiative.

News of top interest and importance would be given "flash" treatment, interrupting scheduled programs if necessary. Photographic methods of recording the sound and picture of the initial spotnews broadcast would enable retransmission at a later time, in edited form, in the normally scheduled news roundup, or for use as "visualization" in a news-analyst's later interpretations of the day's events. Film will never entirely be eliminated, any more than records were by the introduction of radio.

Even in news, film will have the function of supplying much background information. The past few years have seen a revolution in informational education of the public—through the popular press, magazines, films and radio—with a strong trend toward "background interpretation" of news. In the Television News Service organization this means more than just a research section of the editorial department. It makes imperative the setting up of a complete motion picture news library or "morgue." Here, all important events and personalities would be catalogued and indexed with such efficiency and skill, that relevant film could be selected and edited into an explanatory entity, in a matter of minutes.

Paul Alley's commendable handling of the obituary of the late President Roosevelt for NBC, showed what can be done in this phase of pictorial news. Future television demands will call for film editors and methods that can handle this form of news picture analysis at highest speed.

(*Continued on page* 124)



PIONEERING a great new medium of news coveroge: WNBT sets up its cameros otop the Hotel Astor's marquee to televise the New York's historic V-E Day millions in Times Squore.

PHOTOGRAPHS, maps, globes, diagrams and films are stondard equipment of the television news commentotor. The newsroom of Station W6XYZ, Hollywood, is pictured in oction obove.

NAMES MAKE NEWS: Sgt. Bill Mauldin, the outstonding cartoonist of World Wor II, is interviewed by Ben Grauer. Presenting personolities in the news is o notural for television.

COLLEGE SPORTS AND TELEVISION

The increasing popularity of televised sports opens to colleges and universities a great opportunity for building prestige and an important source of income.

By DON SPENCER
President, Televised Sports, Inc.

THE ROLE that sports may be expected to play in television programming can best be estimated by a glance over their impressive record in radio during the past two decades.

Sports broadcasts were among the first features of radio to achieve outstanding popularity. The novelty of sitting at home and hearing a blow-by-blow description of a heavyweight championship bout—or a play-by-play report of a World Series baseball game—fired the imaginations of millions. This availability of excellent sports programs, more perhaps than any other single entertainment feature, provided the buying incentive that speeded the expansion of radio.

Set ownership grew into the millions, in fact a market of listeners was well established before the entertainment provided in sponsored broadcasts began climbing to its present high levels.

Some of the largest radio audiences in history have been tuned in for network sports presentations: notably the Joe Louis fights and World Series baseball broadcasts. Significantly, however, network presentations of sports form but a small part of the nation's total sports broadcast time. Most sports events are of sectional interest only. But in their sections such events possess extraordinary audience pulling power. They are regularly presented over their local stations with local commentators doing the honors.

Radio's coverage of sports includes horse races, baseball and football games, golf tournaments and tennis games of top interest, championship fights, and an occasional track meet. Radio's two great sports standbys are professional baseball and college football. And broadcasts of both of these are conducted primarily as local operations. A sports event which has great local or regional interest is presented over one or more of the local or regional stations. And, very frequently, it enjoys a national or regional sponsor. In practice this means that a national advertiser often sponsors a dozen to 20 different football games in different parts of the country on a single Saturday afternoon.

This growing sponsorship of local sports events by large advertisers is of special significance to the growth of television. As television networks may be of slow growth, many sections of the country may find themselves without coaxial cable hookups for 5 to 10 years after they have television stations. These isolated, independent stations, if equipped with mobile field pickup apparatus, can cover local sports events, give their audiences a top entertainment feature, and can obtain sponsorship of such events by national advertisers because the audience attracting power of local sports events has been so ably demonstrated by radio.

Experienced sponsors of college football broadcasts declare that *localization*—giving the sports fans in each section the sports events that are of greatest interest to them—is the key to good audience response.

All Games Important to Fans

In Texas, for example, the Humble Oil Company started out by sponsoring what it considered to be the top games of the Southwest Football Conference. The company soon learned from the rabid football fans of the Southwest that they considered all games played by Southwest Conference teams to be outstanding. After this reaction, the company swelled its sponsorship to between 30 and 35 Conference games yearly, a policy it certainly would not continue if it did not find the operation to be very much worth its while.

Similarly, on the Pacific Coast, the Associated Oil Company began by sponsoring football games in the San Francisco area only but soon made an agreement with the Pacific Coast Conference to broadcast all Conference games. The company has broadcast all these games for a number of years now, and in addition has negotiated contracts with the leading independent Coast colleges.

On the Eastern seaboard, the Atlantic Refining Company has been expanding its coverage of college games for the past ten years. It now broadcasts a total of 167 games per season—an average of 17 games per weekend. Incidentally, since 1940, the Atlantic Refining Company has commercially sponsored *telecasts* of all big football games played in Philadelphia. These are television's first recorded commercially sponsored sports telecasts.

In the Midwest, there has been no clear pattern of college football broadcasting. Among universities making up the Big Ten, Minnesota games are not open for sponsorship. All other schools, however, permit commercial sponsorship of their games. With the exception of Indiana and Purdue, they receive from $15,000 to $20,000 each for broadcast rights.

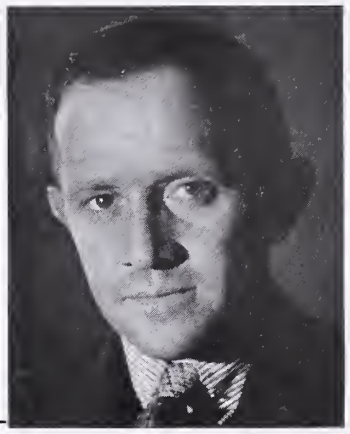
More than any other type of video

(*Continued on page* 141)

Drawing by R. C. Dell. Courtesy *Nation's Business.*

WILL TELEVISION DEBUT IN A FOOL'S PARADISE?

There's more to tele-selling than demonstrating a product on the screen in a prospect's parlor. There's tele-merchandising, too! Here are some timely warnings.



By E. B. WEISS
Consultant

SCARCELY A WORD has appeared in print about it. Scarcely a word has been uttered about it in tele-studios. And yet, without it, television cannot bring the advertiser a profitable return on his advertising investment.

That "it" is the gentle art of merchandising the television advertising. The gentle art of exciting the wholesale distributor and his salesmen and winning their selling and promotional cooperation for tele-advertised lines. The gentle art of exciting the retailer and his salespeople and winning *their* selling and promotional cooperation for tele-advertised lines.

Commendable, in fact highly commendable foresight was shown by tele-stations and advertisers when they persevered in wartime program study and experimenting. But is the program the sum and substance of success in tele-advertising? Won't television programs have to be merchandised to and through the trade? Or is there the naive belief that cut-and-dried merchandising and promotion will extract the bonus of wholesaler and retailer cooperation from the tele-advertising investment?

Of course it can, and probably will, be argued that wartime tele-advertising provided no basis for merchandising and promotional activities. Or that merchandise scarcities made such functions inadvisable. But it is still a fact that both the promoters of tele-advertising and the users of tele-advertising have given scarcely a thought to the second half and by no means the least important half of the television program—its merchandising and promotion.

Unproved Theories Dangerous

This might not be a source of some alarm if it were not for several disturbing factors. One of these is the tendency of those who promote television to live, talk and eat "out of this world." They lull themselves into smug security with calm acceptance of unproved theories such as the rather silly contention that tele-advertising will be ten times more effective and more resultful than any other form of advertising. Another disturbing factor is the common tendency among both advertisers and advertising agencies to devote 90 per cent of their time and talent to the development of the advertising program. The natural result is that merchandising and promotion become a mighty bedraggled "also-ran."

When you contemplate such factors as these, it becomes at least as clear as the current television image that tele-advertising, in its early days, will be asked to carry the whole load. It will be asked to send droves of customers into stores. It will be asked, automatically, to win distributive outlets. It will be asked, automatically, to win the selling support of the advertiser's salesmen, the wholesaler and his salesmen, the retailer and his salesmen. It will be expected to obtain, automatically, window display space, counter display space, and every other form of merchandising and promotional support.

Promotion Will Pay Off

Now I have been convinced for a long time that tele-advertising is destined to become the dominant national advertising medium. But whether it is dominant or not, it won't pan out as a profitable advertising investment for 95 per cent of those who use it unless and until the tele-program is smartly and thoroughly and energetically merchandised and promoted.

What does that demand?

I'll answer that question, first, by explaining what it does not demand.

It does not demand phony and ludicrous claims with respect to the pulling power of tele-advertising.

It does not demand statements with regard to tele-advertising that simply insult the intelligence of smart retailers. Presumably, it is the cooperation of smart retailers that will be sought by tele-advertisers because the cooperation of the lunatic fringe among retailers is hardly worth anybody's while.

It does not demand a broadside, measuring about ten feet by ten feet, that in lurid colors and equally lurid language extols the miraculous achievements of tele-advertising.

It does not demand either donkey dust or star dust.

Unfortunately, these absurdities help shape the all-too-common concept of promotion. Retailers have been told how a page in *Vogue* or *Harper's Bazaar* would result in call-the-police traffic in their dress departments. Now they are going to be told how a tele-program, reaching in the first half of 1946 a total viewing audience of perhaps a quarter-million or a half-million in a nation of 140,000,000 souls will out-deluge the most fantastic concept of a Hollywood deluge. Right here and now is the time for television to consider how its programs are to be merchandised and promoted. And, in considering this problem, wouldn't it be sensible to analyze realism in a realistic way?

How Do We Do This Job?

Let's take a look at some of the basics involved in merchandising and promoting tele-advertising:

1—Better retailers aren't deluded for one fleeting second by absurd assertions about so-called "national" advertising that may actually reach no more than the merest handful of their customers.

2—Better retailers cover their trading areas more thoroughly with their own advertising than do most national advertisers with their campaigns.

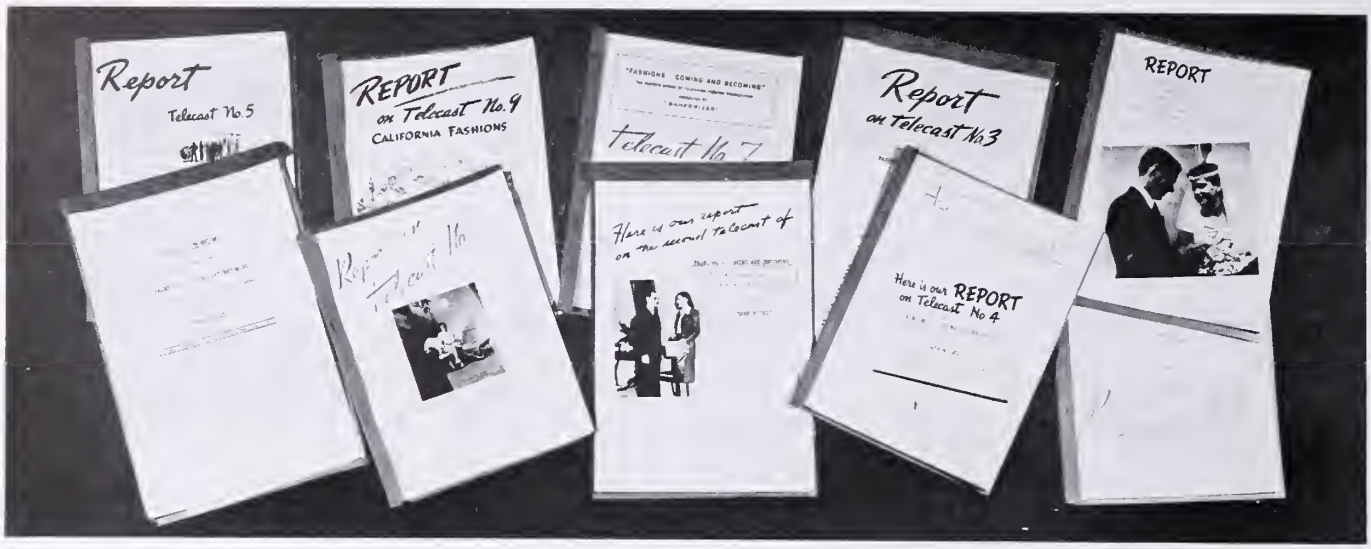
3—The prestige of better retailers means as much to the local populace as the prestige of many so-called national brands and, actually, carries greater weight than the prestige of most so-called national brands.

4—Better retailers promote constantly. They welcome promotional *assistance* as differentiated from mere *suggestions* that they tie up promotionally. Their promotions are built around specific promotional themes. The promotions they want from manufacturers are likewise built around themes —*retail promotional themes*—and they have no use for promotions that are simply hallelujahs for national brands and so-called national advertising. Finally, they welcome *complete promotional programs*, as differentiated from "better tie up or else" admonitions.

5—What has been said about retailers applies as well to wholesalers.

6—Tele-advertising will not be a *national* advertising medium in 1946.

7—Tele-advertising will not send



EVERY FASHION SHOW in the Sanfarized series praduced by Yaung & Rubicam at WABD was merchandised ta dealers in highly interesting reports. Each reproduced a shaating script enlivened with many phatagraphic illustratians and the directar's hand-written changes and camera nates, tagether with captians far each page which summarized the actian. Television audiences may have been limited but Sanfarized dealers everywhere "saw" these shows and absorbed their fashian messages thraugh Sanforized pragress reparts. Advance natices and fallaw-up literature are a vital part af a complete televisian pramatian and the mast profitable part for 1946 advertisers.

droves of customers into stores demanding the tele-advertised item even in those areas where telecoverage is concentrated. Precious little national advertising is really national. On an actual reader or listener basis (as distinguished from ridiculous total circulation or total readership or listenership claims) not more than 5 per cent of our national advertisers actually get their messages before more than 10 per cent of our adult population. Not more than 5 per cent really reach as much as 20 per cent of their actual consumer market!

8—Only a handful of national advertisers or sectional advertisers have any considerable degree of consumer demand. Again reverting to percentages, I would say that 95 per cent of our advertisers have merely consumer *acceptance*—and tele-advertising definitely is not going to turn that into consumer *demand* either overnight or ever!

9—Distributors, both wholesale and retail, plus their sales organizations, are keenly interested in and intrigued by television. Moreover, they like to hook their promotions to the new, exciting and thrilling.

There, in categorical fashion, is the merchandising and promotional set-up that faces the realistic user of tele-advertising. Now, what to do about it?

FIRST and foremost—throw overboard the bunk about irresistible consumer demand created by the small viewership tele-campaigns of 1946.

SECOND—make *sensible* capital of the novelty and the early popular appeal of television.

THIRD—develop retail-flavored promotional themes that tie up with your tele-advertising.

FOURTH—build complete promotional programs around those themes.

FIFTH—supply the retailer and the wholesaler with everything within reason needed to execute the suggested promotional program.

Now—what does that last "must" involve? Insofar as the retailer is concerned, it involves unselfish, retail-smart, fully-wrapped-up promotions that don't stop at suggesting *what* the retailer should do but which actually *supply* most if not all of the needed promotional material. In order to do that, you must know the promotional tools that a retailer customarily employs. Briefly, they include the following units:

Newspaper
Magazine
Radio
Television (soon)
Window displays
Interior displays
Handbills, package inserts, bill inserts
Car cards and outdoor panels
Truck panel signs
Telephone solicitation
Training salespeople
Mail-order units including catalogs
Special tables, sections, "corners," "shops," etc.
Unique merchandise arrangements
Employee contests

With regard to the wholesaler, it is obvious that his promotional functions are usually fewer than those of the retailer. Catalog inserts, inserts in the wholesaler's monthly statements, displays in the wholesaler's showrooms and windows (if any), special mailings to wholesale salesmen and perhaps a contest among wholesale salesmen, special letters or other types of direct mailings for the wholesaler to send to his retail trade, portfolios for the wholesale salesman (if the line is important enough) . . . these take in the major part of wholesaler promotional activities.

Finally, there is the manufacturer's own sales force which must be promotionally equipped so as to be able to sell the tele-advertising intelligently and energetically—and, of course, the manufacturer's own mailings to his distributing trade.

Does this sound like a lot of work? It is! It may involve as much time, effort and brains as the tele-program itself. But if tele-advertising is to bow its way into the competitive commercial world with simply tele-programs, then it will be making its debut in a fool's paradise. Advertisers don't ramble about in that paradise very long—it's too costly a jaunt!

© Fontaine Fox. Courtesy, New York *Sun*

Televisian Will Really Add Something!

© Fontaine Fox. Courtesy, New York *Sun*

Prablem af Television

WHAT WILL YOUR TELE-TIME DOLLAR BUY?

For most advertisers, television *today* is a long-range investment. On this basis, however, it can be highly recommended, for it will pay off handsomely.

By RICHARD MANVILLE
Consultant on Advertising & Research

MANUFACTURERS and advertisers who are deeply concerned with present-day sales promotional problems and trends are asking a $64 question with increasing frequency. That question is: "Shall I go into television *right now?*"

And *now*, late in 1945, my reply runs something like this: "Before I can give you the intelligent answer you desire, please answer one question for me —What do you want your expenditure in television to bring you?"

If my inquirer says: "I want to get experience so that I will know something about television when it breaks full flood"—then I know his problem boils down to how much he can afford to spend on a regular basis to get that experience.

On the other hand, suppose he declares: "My advertising budget is a certain fixed amount. If I go into television I'll have to spend a part of it that possibly could be used elsewhere to better advantage. My job is to make every dollar spent bring a dollar plus in sales." When he states an objective like this, I shake my head sadly and go into a little simple arithmetic.

900 Sets in Chicago

Let us imagine, as has happened, that the gentleman is from Chicago. So I point out that there are around 900 tele-receivers in his city. If we assume that every receiver is in working order (an extremely optimistic assumption at this moment) and if we further assume that there are four viewers for each set, we arrive at a total of 3,600 viewers. Some surveys report as high as 10 viewers per set. The findings of CBS, G-E and my own organization agree on 4 or 5 listeners per set and I have used the conservative lower figure.

However, this theoretical 100 per cent potential*—3,600 viewers—must be trimmed down to actual sets in use. A G-E survey rates this "sets-in-use" audience as 60 per cent of the potential. Using this percentage we arrive at an actual audience of around 2,000 viewers per show. In passing, I might mention that G-E and my own surveys indicate that about 25 per cent of this audience will be children. Audiences may vary considerably from show to show, and drop off alarmingly on evenings when another television station goes on the air with a good program. However, this audience of 2,000 is a starting point.

At this stage I am likely to ask: "Have you an idea as to what a tele-show will cost you?" "Yes," this advertiser may reply, "I can get a complete package that includes everything for $300." This figure is low but typical of today's operating conditions and in no wise comparable to radio expenditures.

We proceed to divide 2,000 by $300 (per show) and the quotient tells us that he can hope to reach approximately 7 people for every $1.00 spent. Logic then compels me to point out that if he is paying approximately 15 cents per viewer per show, he must sell 15 cents worth of goods per viewer per show. And this 15 cents must be considered as a base cost over and above the cost of the product, other advertising, etc.

3,000 Sets in New York

Or let us go back and assume that our questioner is a New York business man. Here, the most recent surveys report about 3,000 tele-receivers in metropolitan New York. Assuming 4 to 5 viewers per set, we can start with a potential audience of about 15,000 viewers. Reduced to 60 per cent—the sets-in-use estimate—we find ourselves with a net of 9,000 viewers.

As we accept this figure we must admit that it is optimistic, that we are assuming that all 3,000 sets are in working order and that 6 out of 10 will be turned on in any given evening despite the presence of three television stations and New York's other entertainment distractions.

Divide these 9,000 viewers (which also include children, mind you) by, let us say, a $300 show cost per week and we find that we are getting 30 viewers per dollar, this is 3 cents per viewer, *not buyer*. Stack this up against cost per magazine reader, or cost per radio listener—particularly when these other media can supply the right *type* of reader or listener for our product—and we are down to bedrock.

Naturally, the two examples cited are streamlined for brevity's sake. Some shows have cost ten times as much for the same size audience. And many excellent shows have cost considerably less. However, "free time" from stations will be scarce from now on.

As controls release materials for the manufacture of television sets, as the public buys the sets (with inevitable price reductions making them more and more available); as additional television stations are erected, and as the sets in any given area increase from several hundred to several thousand, thence to several hundred thousand and then to millions, the situation will improve radically. But what we are considering is the economic picture *right now*—the *arithmetic* of television!

If arithmetic proves that other media can be used at lower cost per person, we can only suggest cold-bloodedly that you wait until television has a different story to tell. For *at this moment* this fact must be faced: television *cannot* be justified *if* a dollar-and-cents yardstick is the only one by which you are permitted to judge this medium.

It must be remembered also that owners of television sets, at this moment, are: 1. persons in the high income brackets who are interested in television because they are associated directly or indirectly with television manufacturers; 2. wealthy persons who buy any new product which contributes sociological distinction; 3. persons in associated lines such as radio and advertising; 4. theaters, bars, etc., and 5. radio retailers who had prewar sample models and moved them to their homes.

Value in Research Now

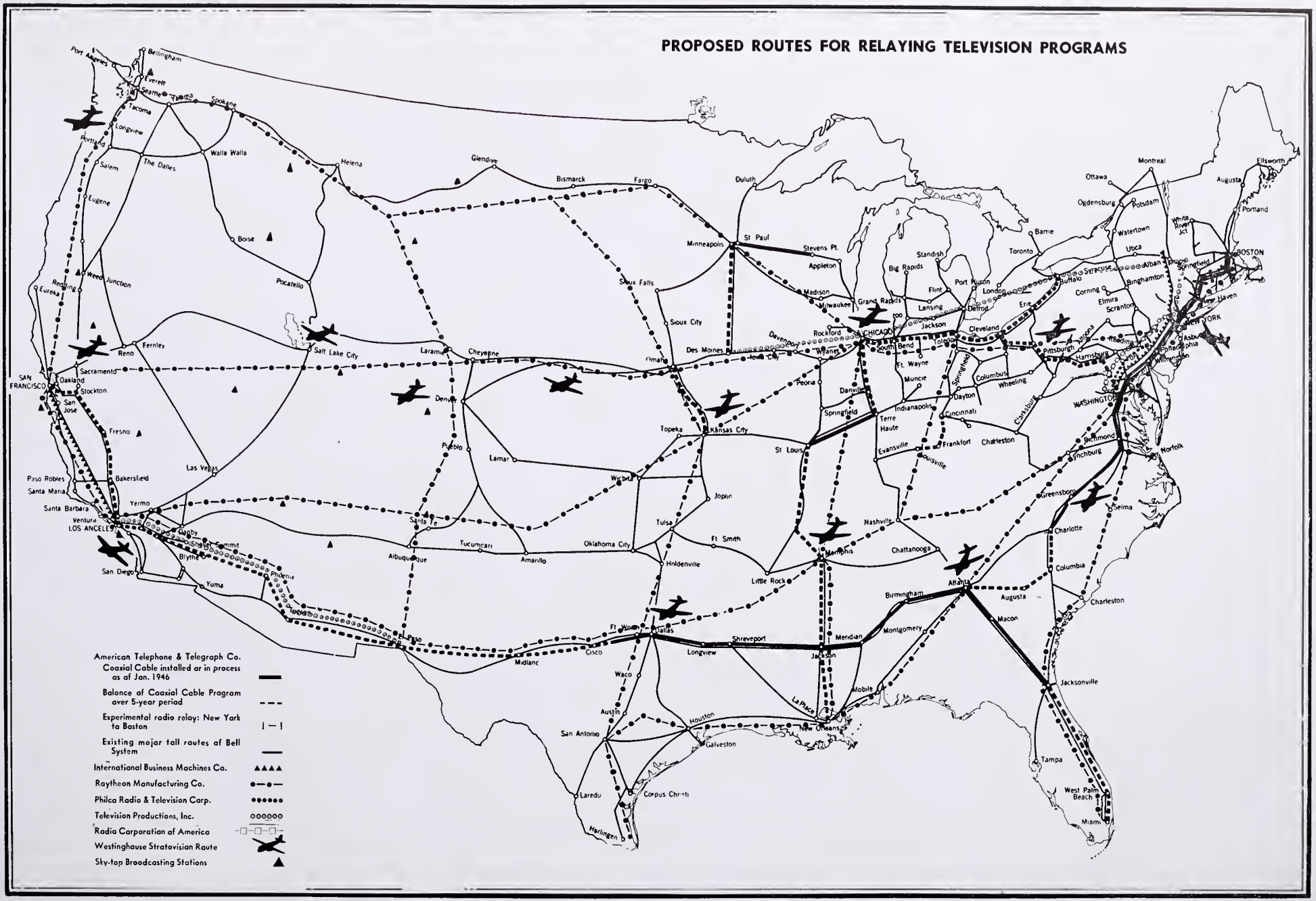
Qualifying our audience by these intangible factors and we find it a highly restricted, highly selected market *at this moment*. On the other hand, use of television today offers very real advantages of dollars-and-cents value.

1. Television, today, still packs enough novelty to pull a tremendous volume of excellent publicity if intelligently handled.

2. If you go into television now, you can "merchandise the pants off" your program to dealers. Most dramatically you can make them aware of your progressive advertising plans. Its psychological effect upon your dealers and

(*Continued on page* 134)

*Again optimistic with perhaps 10-15% of sets needing repair and "not working."



NETWORKS: Here are the various routes offered by seven different organizations to provide television coverage of the entire nation.

THE BELL SYSTEM'S PLAN FOR TELE-NETWORKS

Construction of nationwide networks, already well started, will continue to keep pace with the requirements of this rapidly expanding broadcasting medium.

By KEITH S. McHUGH

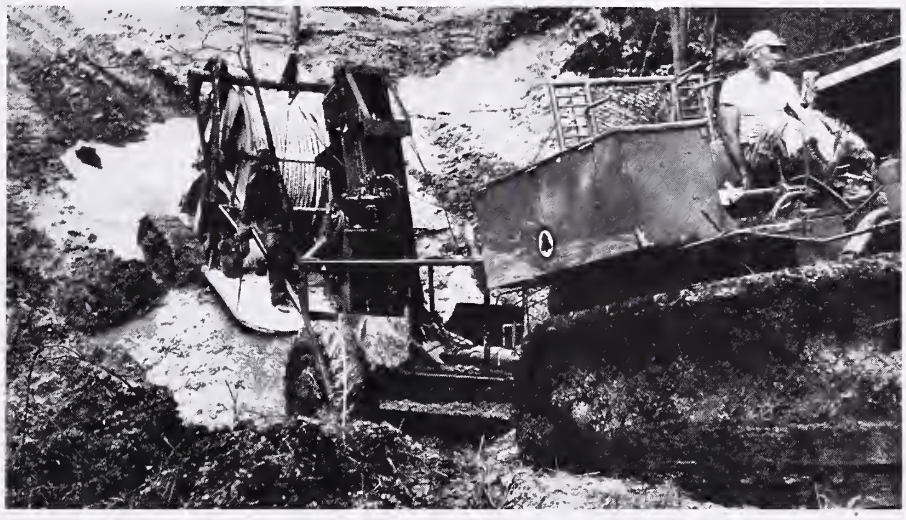
Vice President, American Telephone and Telegraph Company

THE BELL SYSTEM is preparing to meet the television industry's needs in transmission facilities as they arise.

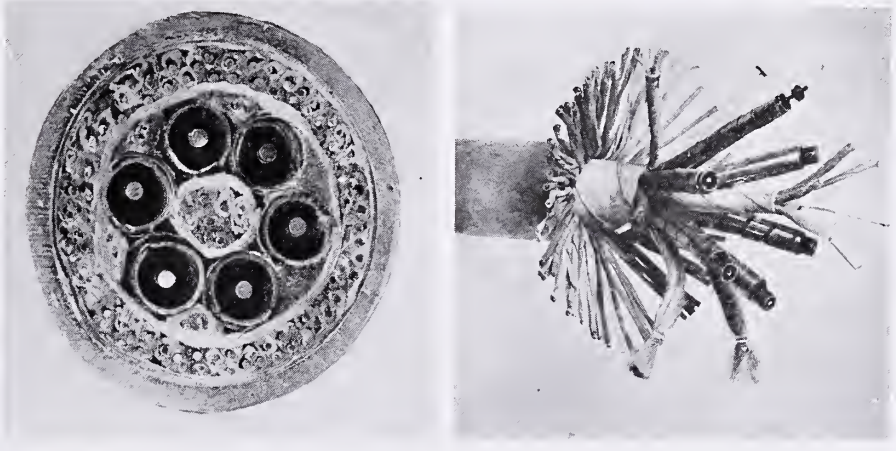
That unqualified statement can be made because of the background of experience and resources that has been accumulated by the telephone industry. For nearly three-quarters of a century, telephone engineers have been developing successfully the art of transmitting electrical impulses over long distances. For some 20 years we have been operating successfully nationwide networks for radio broadcasting. And backing up such experience are an incomparable physical plant, a thoroughly trained personnel, and the research achievements of the Bell Telephone Laboratories.

Bell System facilities for broad-band transmission have proved capable of transmitting either telephone calls or television programs satisfactorily. They will be ready to meet television's expanding requirements in quality of transmission and in dependability as rapidly as the art develops.

What type of equipment will the Bell System use in serving the television industry? Coaxial cable and specially-equipped telephone wires already have proved capable of carrying broad-band television frequencies. Radio relay service may also prove attractive in broad-band transmission. Our objective is to provide the best, most dependable and most economical transmission method. We shall use whichever method or combination of methods gives the television industry the most satisfactory service at the lowest practical cost.



ACROSS THE COUNTRY, mile by mile, automatic coaxial cable laying under the sponsorship of the Bell System is linking major communities together, speeding the day of nationwide television. About 400 miles of a 7,000-mile network is in operation at the beginning of 1946.



CROSS SECTION of a six-coaxial cable (left) shows position of coaxials with respect to regular telephone wires. Fanned-out view of cable at right shows construction of conductors in the one sheath. Width of waveband carried depends on amplifying equipment, not on cable.

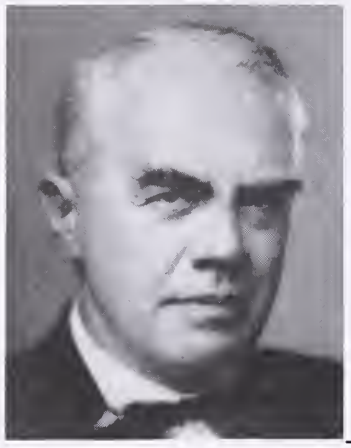
Coaxial Cable

In the years prior to World War II, as it became apparent that increasing telephone traffic would outstrip the capacity of conventional wires and cables on major toll lines, telephone engineers looked for a transmission method that would accommodate the expected increase in volume of calls. They adopted the coaxial principle and developed a cable that could carry many hundreds of phone conversations simultaneously without mutual interference. Essentially, a coaxial cable is a wire conductor within a cylindrical copper tube which serves as both a return conductor and a shield. Simple though it is in design, coaxial cable when suitably equipped efficiently transmits the broad frequency bands required for multiplex telephony and television.

Present coaxial equipment can transmit frequency bands of about 3 megacycles. Experimental work, started before the war and being resumed now, however, indicates that, with further development, bands of greater width can be accommodated should television need them.

The first coaxial cable to be placed and used for telephone messages by the Bell System was a 90-mile section between New York and Philadelphia, installed in 1936. This was followed by a 200-mile length between Stevens Point, Wis., and Minneapolis, which has been in operation for about five years. The

(*Continued on page* 128)



RAYTHEON'S MICROWAVE RELAY SYSTEM

National tele-networks are vital to the commercial development of television. Bigger audiences is the single direct answer to excessive programming costs.

By LAURENCE K. MARSHALL
President, Raytheon Manufacturing Co.

TELEVISION NETWORK growth is directly related to the expansion of the television industry. As the number of television stations increases the greater will be the demand for network facilities, and inversely, the more rapidly network facilities are established the more rapid will be the growth of television stations in this country. Network facilities and stations go hand-in-hand.

A microwave tele-network relay system makes possible the achievement of two primary objectives from the standpoint of programs. First, it permits the program originating in the studios in one city, for example, Hollywood, to be duplicated over a television transmitter in another city, let us say Chicago. Secondly, it provides a means of picking up a live television program from points where no television station exists.

Immediate Pickups Possible

For instance, part of our proposed coast - to - coast tele - network* passes through Indian reservations in remote regions of the Southwest. Since a television program can be injected into a network at any repeater station point, it becomes feasible, for example, to televise Indian ceremonial dances in the deserts of Arizona by means of portable television pickup cameras and equipment, and to transmit the images and sound to viewing audiences in Chicago, Washington, New York, Boston and other distant cities connected with the transcontinental network.

The ability to duplicate live television programs on a nationwide basis over a multitude of stations is a vital necessity to the business side of television.

The programming cost of television is high. Unless two or more market areas are enabled to share these costs, programming will be severely limited and handicapped. The full capabilities of the television art cannot be realized without tele-network facilities. It is not economically feasible for a national advertiser to undertake separate and distinct productions of his program at each individual station. The total cost would be increased by additional production expense at every station after the first.

While it is technically possible to produce, or reproduce, a live show separately at each station, "big name stars" would not be available outside of the major production centers, and many types of "perishable" programs could not be handled on this basis at all. News events, current sports such as prominent baseball and football games, conventions and ceremonies are examples. Radio broadcasting enables the public to hear these events reported while they are happening. Newspapers with radio-photos and newsreels speeded by fast planes, trail the radio by only a few hours, sometimes only by minutes. Television is expected to combine all these services, to present sight and sound immediately and simultaneously to the eyes and ears of the public.

An important part of tele-network expansion is the development of branch circuits from main line circuits. On a main line circuit between Chicago and New York, a number of branches will be required. A branch circuit to Buffalo, for example, would have a main line connection at one of the repeater stations east of Cleveland.

Whether such branches are to be arranged for transmission in either direction depends entirely upon program requirements. If programs originating in Buffalo are to be fed to the main line for delivery to stations in New York and Boston, the circuit must be capable of handling them as well as "feeds" from the main line to Buffalo. Adequate news coverage alone may make two-way transmission imperative.

Some of the repeater stations on microwave radio relay networks will be located at very high elevations when passing over mountain ranges. Due to the quasi-optical characteristics of television broadcast frequencies, a television broadcast transmitter located at one of these high elevations would enjoy what is known as a large "service area." That is, the satisfactory transmission range radius in miles is much greater than if the station were located at a relatively low altitude. Thus, large rural areas which might be deprived of television program reception because of primary metropolitan area considerations can be adequately served on an economical basis. The importance of rural area service cannot be overlooked.

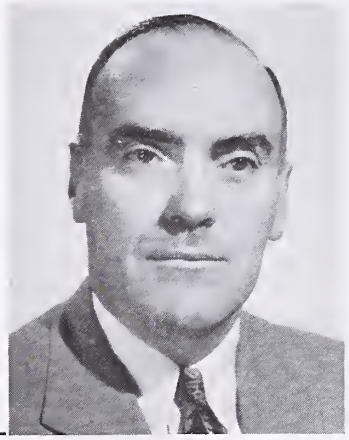
Television receivers will sell well only in areas where buyers are able to receive entertaining programs. National tele-networks, therefore, are important to the commercial development of television, especially from a program cost standpoint. In our opinion, tele-network facilities will expand simultaneously with the growth of television stations throughout the country.

Photograph by Larry Colwell

READY for natianal audiences: Lever Bras.' "Thanks for Laaking" audience participation show, m.c.'d. by John Reed King, assisted by Pat Murray. Praduced by Ruthrauff & Ryan.

*Raytheon's proposed transcontinental microwave relay system is mapped on page 24.

PIONEERING A TELE-RELAY NETWORK



Philco reports satisfactory tests of the multiple relay type of network over its Washington-Philadelphia link.

By JOHN BALLANTYNE
President, Philco Corporation

THE GROWTH of television networks logically depends upon two factors: *first*, the technical development of television transmitting and relaying equipment; *second*, the economic justification for the expansion of television service.

From the technical standpoint, Philco has done considerable pioneering in the development of television *relay* networks. Our first step along this line was a logical advance from our long and successful experience with remote pickup telecasts. For several years, Philco engineers have taken their television cameras to televise interesting news events such as the famous Mummers' Parade in Philadelphia.

All Penn football games at Franklin Field for the past five seasons have been televised by Philco crews using two cameras to bring the gridiron action to the Philadelphia television audience. Such remote pickups have been relayed over a relatively short distance to our main transmitter, Philco Television Station WPTZ at Wyndmoor, and then re-broadcast.

With the benefit of this experience, our engineers opened a successful television wireless relay link between New York and Philadelphia, in co-operation with the National Broadcasting Company. At first, from October 1941 to July 1942, programs transmitted from New York by WNBT were picked up at a relay station at Wyndmoor just outside Philadelphia, and thence beamed to our main transmitter, then located at the Philco plant at C and Tioga Sts., Philadelphia. Relaying in this way, from New York to Wyndmoor in a single "hop," was not entirely satisfactory because the distance was too great for true line-of-sight transmission.

Relay Passes 3-Year Test

This problem was solved by developing new relay equipment and placing it at Mt. Rose, N. J., about half way between New York and the main Philco transmitter, which has been at Wyndmoor since July, 1942. With line-of-sight relaying, this tele-network connecting New York and Philadelphia has been providing television pictures of commercial quality for more than three years. On V-E Day, it was in successful operation continuously for 14 hours, relaying the special WNBT programs to the Philadelphia television audience through Mt. Rose and WPTZ.

Recently Philco engineers carried their pioneering experiments another step forward by joining Washington with Philadelphia via a multiple relay television network. In this relay system there are four intermediate relay stations in addition to the originating transmitter in Washington and the re-broadcasting transmitter at WPTZ in Philadelphia. All relay stations are situated on hill tops for best televisibility. The longest transmission path between stations is about 43 miles so that line-of-sight relaying is assured.

The new Washington-Philadelphia multiple relay network performed splendidly throughout its first public demonstration, on April 17, 1945, when the first telecast ever made from Washington was seen and heard by the Philadelphia television audience. Picture quality was commercially satisfactory.

The major point proved by this network is that it is now entirely possible and practical to connect distant cities by a series of television relay stations.

Undoubtedly, television relaying will eventually be accomplished at much higher frequencies than the present 12-mc. channels, centered around 210 and 236 mc., now being used by Philco. However, it is also entirely possible that networks can be built in the near future, utilizing present equipment, techniques and frequencies, joining many other major metropolitan areas in the United States. If the relay station sites are carefully chosen, as was the case with the Philco networks connecting Washington and New York with Philadelphia, it will be possible to use the same sites and many of the same facilities at the more desirable relaying frequencies above 1000 mc. in future tele-network operation.

FIRST LINK in the Philco network, at Arlington, Va., uses 100-foot dipole-topped antenna towers for line-of-sight transmission.

Networks Stimulate Revenue

As to the economic problems in television networks, I believe that we can draw a parallel with the infancy of radio broadcasting. At first, local radio stations presented local programs. Audiences were limited, advertisers could afford to pay relatively little, and thus it was hard to build program quality. When radio stations were linked in national networks, programs immediately improved as more money could be spent for talent, writing, direction and preparation, while technical research could also be expanded.

Television programming is in its infancy now because television networks are just beginning to be built. There are still only nine television stations operating in the United States, and only three of these are linked together and these for relatively short periods each week.

When television networks spread across the country, as I believe they soon will, and the television audience expands from a few thousand persons to hundreds of thousands, the economic justification will exist for more elaborate and hence more expensive television programs. To date, relatively few advertisers have cared to experiment with television because of the limited audience, even though time charges have been nominal.

But now, with civilian goods returning to the market and keener competition for sales becoming inevitable,

(*Continued on page* 140)

STRATOVISION WILL GIVE

Aviation is ready to do its part in the creation of airborne video broadcasts with trouble-free planes, relief planes standing by and enough gas for 11 hours.

By WILLIAM K. EBEL

Vice President in Charge of Engineering, The Glenn L. Martin Company

AIRPLANE broadcasting service is not only possible but is not too difficult to attain. The design of the airplane must be such that it will operate reliably 24 hours a day in the highest wind velocities to be encountered at 30,000 feet. Throughout the United States, high winds usually occur in winter months and the average velocity is about 50 miles per hour. The highest ever recorded was 181 miles per hour at 18,000 feet over Lansing, Michigan, in December, 1919, but winds exceeding 80 miles per hour occur less than 1.5 per cent of the time at any location in the United States at 30,000 feet. Over Japan, the crews of B-29's often reported winds exceeding 150 miles per hour. We are fortunately situated for Stratovision operation.

Weather No Problem

At 30,000 feet all storms are below us with the one exception of thunderheads. These clouds, known as cumulonimbus, have been observed at altitudes of 40,000 feet with extreme vertical air currents of 200 miles an hour blowing straight up through their centers. However, their occurrence at altitudes of 30,000 feet is extremely rare. The extent of such a disturbance is purely local, or even more infrequently, may be a relatively narrow band of considerable length. This is a typical cold-front configuration. Since they are clearly visible, even at night, they can be avoided with no interruption of service by flying broadcast airplanes on either side of the disturbance.

Always Two Planes in Air

Airplanes would take off at staggered 4-hour intervals remaining at 30,000 feet for eight hours each. This will keep a broadcasting and a stand-by airplane on station at all times. At each area four airplanes will be required so that while two are flying the remaining two will be undergoing service maintenance.

Since the Stratovision airplane must operate in all types of weather, it must be equipped with hot air anti-icing equipment. Heat derived from either the engine exhaust or separate heaters is conveyed to the leading edges of the wings so that ice never has a chance to form.

Moreover, with Stratovision broadcasting, a rebroadcast airplane can take off from Chicago outside of the storm area, fly over Pittsburgh at an altitude safely *above the weather* and serve the latter area even when a hurricane may have disabled all ground equipment.

If the country were covered with aircraft operating at all times at 30,000 feet, meteorological data would be available to forecast weather even more accurately than at present, and to concentrate aircraft as needed near storm areas. No storm area is ever so large that it would keep aircraft near its outer edges from getting on stations at any time.

We can safely say that with the most modern navigational, radar, anti-icing, and blind landing equipment and with sufficient reserve aircraft, no area would be deprived of Stratovision service because of weather.

Statistics Prove Reliability

A question which may occur to the skeptic, as it has occurred to us: What about the reliability of the mechanical operation of aircraft? The Civil Aeronautics Administration states that in a two and one-half year period from January 1941 to June 1943, there were seven forced landings due to engine failure during a total of 340,000,000 miles of airplane operation. Using an average cruising speed of 180 miles an hour, we calculated the hours of flight per forced landing and the chances of interrupting a coast-to-coast network.

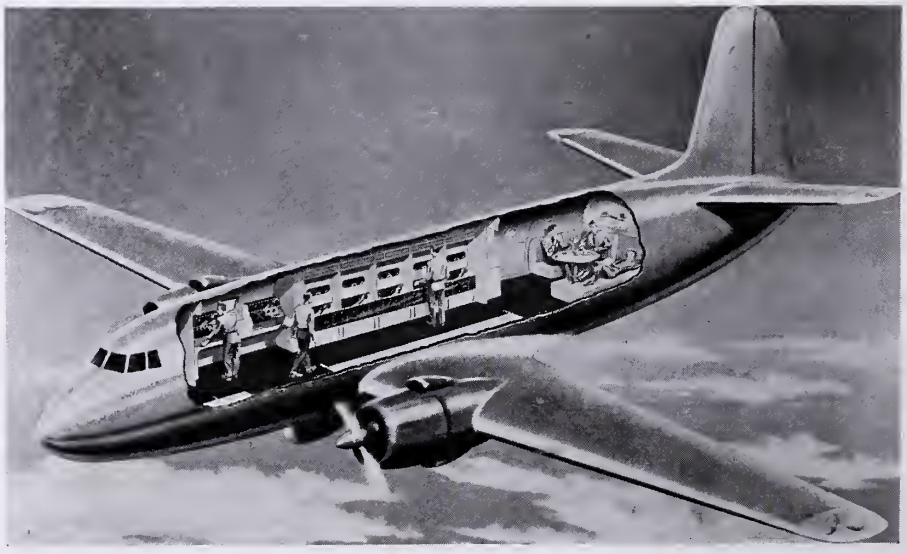
Bear in mind that this interruption can only be caused by both airplanes at any one station being forced down at once. This probability in any one 24-hour day came out to be one in 30,000,000. On an average we would have an interruption due to airplane engine failure once every 82,000 years.

There are other things which can force the airplane down, such as loss of cabin supercharging pressure, but here again we will use the same technique which nullifies the effects of engine failure. We will supply 100 per cent standby in all such items, including power generating equipment, emergency controls, oxygen and other items.

Slow Airplane Required

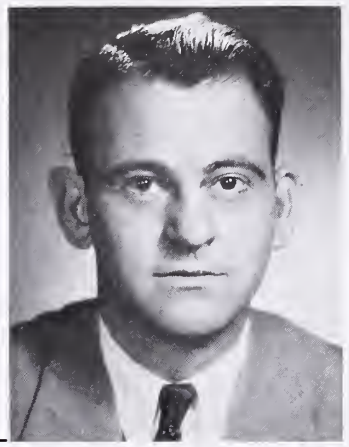
Present plans call for conventional all-metal, low-wing monoplanes—almost as large as the famed B-29, but with gross weight only a third of the Superfortress. They would have automatic

(*Continued on page* 127)



SKY GIANTS, all-metal, low-wing monoplanes as large as B-29's but a third as heavy are planned for Stratovision. One will cruise at under 150 miles per hour while a second stands by.

WINGS TO TELEVISION



Westinghouse official predicts unprecedented coverage with less power required, lower installation and operation costs and many services flown simultaneously.

By C. E. NOBLES

Westinghouse Radar Expert and Originator of "Stratovision"

TWO METHODS are being used to distribute television programs, namely coaxial cables and radio relay stations. Coaxial cables have been installed and used to distribute television programs. Published information indicates that by approximately 1950 it is intended to complete a cross-country link from Boston to San Francisco and make it available for the distribution of television programs to television broadcasters. The construction cost alone for laying this cable is in the order of several dollars per foot. Therefore, the proposed route will cost many millions.

Relay Chain Requires 100 Towers

The other approach to the program distribution problem is a series of radio relay stations which use highly directional radio for relaying the program from one point to another. A typical installation in a relay-link chain consists of a tower approximately 300 feet high with a receiver to receive the programs from one tower and a transmitter to relay the program to the next successive tower in the chain. Because of the line-of-sight characteristics of the frequencies involved in this relaying, relay towers will be located approximately 35 miles apart. This means that 100 relay towers would be required to get a program tie-up from New York to Hollywood. A system of relay stations is now connecting Washington, Philadelphia, New York and Schenectady and plans have been published for a chain of relay stations which will network the country.

Either of these systems—coaxial or radio relays—has the disadvantage that large quantities of expensive equipment are necessary to distribute the program. Imagine the amount of cable or relaying which will be required before these 400 stations can be tied together in a television network based on data submitted to the Federal Communications Commission by the Radio Technical Planning Board.

The operation of relay or cable networks presents very sizeable technical problems because of the number of times the program must be handled. At each relay station additional distortions are added to the signal in the form of noise, phase distortion, and amplitude distortion.

If a television transmitter were placed in an airplane and the television program broadcast from the airplane in flight, the transmitter's coverage area would be increased by virtue of an increased line-of-sight distance to the horizon. At an altitude of 2,000 feet, a coverage radius of 50 miles is possible, whereas at an altitude of 30,000 feet a coverage radius of 211 miles is possible, and at 50,000 feet about 300 miles is possible.

Another very interesting feature of high-altitude operation is the fact that as the station's height is increased, the transmitted power necessary to deliver a usable signal to the line-of-sight distance is sharply reduced.

Fifty kilowatts of power will deliver a usable signal at approximately 50 miles from a ground station, whereas only one kilowatt of power will deliver the same usable signal at approximately 200 miles from 30,000 feet. Smaller powers are required from the higher altitudes because the path difference between the direct wave and the ground-reflected wave is increased.

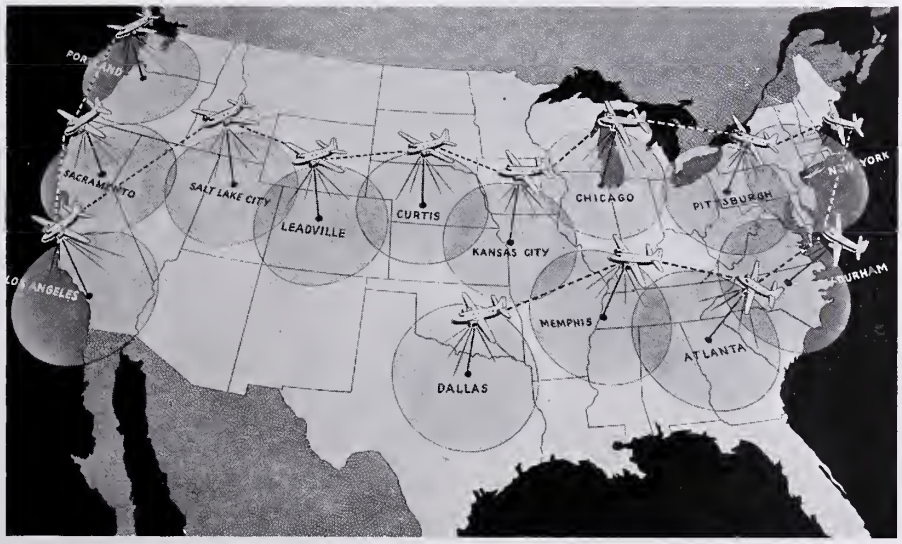
The fact that such small powers are required from high altitudes is very inviting for several reasons:

1—The broadcast service area covered is relatively tremendous.

2—The smaller-powered transmitters can be made in sizes and weights which are practical for carrying in an airplane.

3—Powers of the order of one kilowatt can be generated with tubes which are available today—even for the CBS high-definition color television frequencies.

4—The small amount of power required to operate the transmitter can be obtained from power plants installed in the airplane. If so desired, the power required to operate the equipment could be taken for generators connected to the aircraft's engines. This power will represent only about 4 per cent additional load on the plane's engines.



SIX MILES UP, 14 planes carrying transmitters can beam television programs to 78% of the population. Circles 422 miles in diameter represent 103,000 square miles each plane covers.

A Network of Airplanes

Let us now look at the program distribution problem involved if we use radio relaying between a network of airplanes at 30,000 feet. If we transmit from one plane to the next plane in the chain, the line-of-sight distance between the two planes is about 400 miles instead of the 35-mile spacing for ground stations. With such large relay spacings a program link from

TELEVISION NEEDS NORMAL DEVELOPMENT

By C. B. JOLLIFFE

Vice President in Charge of RCA Laboratories, Radio Corporation of America

IT DOES NOT take much imagination to see television as a possible five or even ten billion dollar enterprise, employing thousands of men and women directly and indirectly.

Television, like any other radio service, can be improved, and, like other radio services, it will go through several cycles of improvement and obsolescence — otherwise there will be no progress. We must continually pioneer.

What is the nature of the improvement which will be most acceptable to the television audience? Should we wait for pictures with sharper definition, in color, or in three dimensions? All of these future additions may be desired by the public, and they will be achieved ultimately. These improvements must not be permitted to delay the establishment of a new industry and a new service to the public.

As the television industry develops, engineers have the obligation to see that the public gets better and better service and that the new developments which will be brought about by the stimulation of use are integrated into an over-all system. Engineers will not and should not be satisfied that the television job is done until they have made it possible to project, in the home, pictures of adequate size and in color of all major events wherever they occur, in the United States, or in any part of the world. These objectives may be accomplished in a few years, or many years may be required. However, we now know how to produce pictures of adequate size and quality in the home.

The technique of bringing sports and news events, drama, opera, etc., to the home has been developed to the stage where an extremely entertaining program can be produced, broadcast and received. The public can enjoy television now. Its support of television will bring better television in the future. It should have the normal development of a new service, not hampered by unnecessary restrictions or limitations and not retarded by those who may not have the will to pioneer or the inclination to enter a new field now.

Hollywood to New York is obtainable with only eight airplanes as compared to 100 relay points on the ground.

This greatly reduces the technical problems involved by virtue of requiring fewer handlings of the program. With directional antennas and utilizing relay frequencies on the order of 2000 megacycles, this relaying can be done between airplanes with powers of less than one watt. Tubes readily are available which will generate powers of five watts in this frequency range.

These relay stations could be designed to carry several television programs and also an abundance of other information such as FM network programs, facsimile, motion picture theater television, etc.

Altitude Limited by Planes

Because the broadcasting service area and relay spacings increase with altitude and the power required to service the broadcasting area comes down as altitude is increased, it is desirable from a standpoint of radio operation alone to operate the plane at as high an altitude as possible.

The altitude of operation of the system is limited by the economic and technical problems involved in operating planes at extreme altitudes. A study of the over-all combination of radio and airplane operation indicates that an operating altitude between 30,000 and 50,000 feet provides a good compromise. Since we have more knowledge of the airplane design and operating costs at 30,000 feet, I will present the system based on operation at that level. However, in the future we intend to operate at even higher altitudes.

Multiple Service Planned

In the early stages of thinking about airplane operation of broadcast stations, it was felt that the operating costs for maintaining an airplane at high altitudes would be so great as to require that several transmitters be operated from one airplane, thereby realizing income from several paying advertisers.

After preliminary talks with The Glenn L. Martin Company engineers, it was decided that the airplane design should be large enough to accommodate four television transmitters, five FM transmitters, monitoring equipment, and sufficient relaying equipment to carry four television programs and five FM programs, and also system communications channels. The airplane they have proposed is designed on this basis.

Television and FM studios are located on the ground in the normal fashion. The program is fed into a small ground-to-plane link transmitter, picked up in the plane by a ground-link receiver, fed into the broadcast transmitter, and re-broadcast over the plane's line-of-sight area by means of the broadcast antenna. When the plane functions as part of a program distribution network, the signal from the ground-link receiver would also be fed into a small network-link transmitter and beamed to the next successive plane by means of a directional antenna.

An 8-Plane Span of U. S.

In a system covering the whole of the United States with television programs from airplanes at 30,000 feet, each plane has a broadcast service range of approximately 200 miles in every direction and relaying can be accomplished between two planes which are approximately 400 miles apart. By operating planes over New York, Pittsburgh, Chicago, Kansas City, western Colorado, Salt Lake City and Los Angeles, a program distribution network from Hollywood to New York is established. These two cities are considered to be the main sources of television program material except for sports events and special events which might take place anywhere in the country. At the same time each of these planes broadcasts television and FM programs to an area of 103,000 square miles around its operating point.

14 Planes Serve 78% of Population

By adding six more stations to this network—over Durham, Atlanta, Memphis, Dallas, Sacramento, and Portland, Ore.—approximately 51 per cent of the area and 78 per cent of the population of the United States is brought within the primary coverage area of 14 stations. Almost any event in the country may be put on as a nationwide telecast with proper pickup facilities. Sports events, national elections, symphony concerts, Indian ceremonial dances, local disasters such as floods or hurricanes, and a great variety of other program material could be fed into the network quickly by a small "pickup" plane, equipped with television cameras and relaying equipment, stationed at each Stratovision base. Such a plane could fly quickly to the desired scene and relay the program back to the main relay link for broadcasting nationally.

In attempting to evaluate economically the operation of airplanes for broadcasting, it is hard to find a concrete base for comparison. There is such a radical difference in the amount of television service obtainable by operating from airplanes as against operating ground stations that the two systems hardly have a common base.

Selecting Pittsburgh as a typical operating center and the coverage from one airplane, eleven 50 kilowatt transmitters would be required to service the same area from the ground. Since one airplane serves the area with four television and five FM programs, an equivalent coverage requires 44 television transmitters and 55 FM transmitters, and approximately 33 relay stations. It is assumed that the same program is fed into either system so that programming costs cancel each other.

The operating cost for one Stratovision station is estimated to be about $1,000 per hour. The cost for giving an equivalent ground coverage is about $13,000 per hour. This comparison does

(*Continued on page* 127)

WHY ADVERTISING AGENCIES SHOULD GUIDE TELESHOWS

If television networks control production, will teleshows be sold on their Crosley ratings? Can networks successfully build shows for competitive clients?

By JOHN HERTZ, JR.

Chairman of the Board, Buchanan & Co.

TODAY, as this nation is slowly freed from its wartime shackles, the television industry faces its future with no concerted plan for commercial expansion and not even a majority agreement on the principal factors likely to contribute to this development.

Wishful thinkers frequently predict that television's expansion will not follow traditional lines, that things are going to be different. One will point to the growing importance in radio of the packaged show producer as evidence of a trend away from the advertising agency. Another will point to the wartime policy of several television stations that are operated by radio networks and to the statements of some of their officials, indicating that they intend to make a strong bid for retention of programming control. All, at least, agree that henceforth the *quality of television programs* will determine the speed with which this great new communication-art assumes its destined place in our social and economic life.

What procedure and what policies are likely to assure the steady and rapid development of television programming quality? How can the joint interests of the public and of program sponsors best be served? A vast army of highly talented people will be needed to supply television's demand for program material, to develop commercial techniques to pay off television's higher-than-radio production costs, to handle the tremendously increased production problem involved in presenting shows to be seen as well as heard. Where are these people now? Who will organize and guide their television thinking? Who is best equipped to do so?

Thanks to the open house policy adopted at DuMont's WABD and General Electric's WRGB, hundreds of sales-minded executives in the past three years have gained a working knowledge of television's production problems, and have developed program ideas and visual commercials suited to their products. Only by such trial-and-error experimentation can television's most effective use as a sales tool be realized. The importance of this cooperative pioneering cannot be overestimated.

The television networks which insist on producing all the shows they present are likely to find they have saddled themselves with a task too big for them to handle. Producing shows experimentally for a few clients, as stations are doing today, is child's play compared with attempting programming production for all the many advertisers that will be involved in a 28-hour week of broadcasting—the minimum suggested by the FCC. This production achievement by any one station is possible but extremely unlikely. The mathematics of time, the size of the organization required, the friction inherent in serving competitive clients, all rule against it.

Advertising agencies do not serve competing clients because it is human nature to favor one group over another. Can a network expect two competitive coffee accounts, for example, to be served satisfactorily by the same creative staff? Will the network set up a different writing staff for each account? And if one staff does a better job than the other, how can the inevitable comparisons be explained? Will a producing station eventually find its advertisers limited to non-competing accounts?

Responsibility for Sales

A radio station is judged by its signal strength, the percentage of potential audience regularly tuned to it, and the general character of its programs, both sponsored and unsponsored. Its primary responsibility to a sponsor is a technical one—the matter of getting the signal out to the listeners. The *sales productivity* of the program rests squarely on the shoulders of the advertising agency. This means that the agency has the soundest of business reasons for wanting continually to improve its programs. It also has familiarity with a sponsor's budget possibilities and is in a position to act quickly.

When a network key station rules that it must produce all its shows, it is no longer selling time; it is in the business of selling shows. If it cannot sell a show, it loses a sale of time. And if it sells a show, it automatically assumes an advertising agency's responsibility for maintaining the show's quality, of upholding its Crosley, of selling a profitable volume of the sponsor's product—or of finding a replacement in a hurry!

If a network key chooses to produce all its shows, how will it price its wares? Certainly advertisers and advertising agencies will appraise them on their Crosley ratings—on their cost-per-listener impression. The network cannot ask the same price for two shows if the Crosley of one is 4 and for the other is 8.

There will be seven television stations in New York. If a network key sells packaged shows and sells them on a Crosley basis, several logical queries are certain to be made. If a show with a high Crosley loses its rating to a new show, is an advertiser entitled to a rebate? Or will billings be based on a Crosley for each broadcast and fluctuate accordingly? Will a network care to write a contract cancellation clause, effective if the Crosley drops below a certain figure?

If a network key obtains commercial sponsorship for 20 of the 28 hours weekly it is on the air, it will be producing shows for 40 clients at the very least. The staff of writers required for handling both entertainment and commercials will be enormous. Add art and music directors, producers and account executives, actors and staff people necessary to serve these clients satisfactorily and the total will reach fantastic proportions and costs.

Is this gigantic operation likely to prove a gold mine? An advertising agency is accustomed to fighting for rock bottom prices in the interests of its clients. And in buying television shows, it will have a production cost yardstick in its own operations at "open door" stations. Consequently, it will refuse to allow its clients to overpay for shows no matter by whom they are produced.

Forty advertisers, at a conservative estimate, will spend $10,000 apiece each year through their agencies in searching for ways to improve their programs. If they were forced to choose from the fare provided solely by the stations, would the station budget $400,000 purely for program improvement? Competition is the keystone of progress in television as in every other industry.

It goes without saying that television cannot progress unless it is used gen-

(*Continued on page* 115)

PROGRESS IN COLOR TELEVISION

When will color television be available to the public? If field tests, which are already under way, prove successful, 1946 may provide an important answer!

By PETER C. GOLDMARK

Director, Engineering Research and Development Department
Columbia Broadcasting System, Inc.

HISTORY OF COLOR TELEVISION

COLOR TELEVISION was demonstrated for the first time in July, 1928, by John L. Baird in England. Both at the transmitter and at the receiver, a three-spiral scanning disk was employed. Each of these spirals consisted of a succession of holes which were covered with red, green, or blue filters, which scanned the picture completely in the three primary colors. At the transmitter, photocells were employed, while at the receiver, two gas-discharge tubes controlled by a commutator were used. One of the tubes was filled with neon and acted on the red spiral, while the other tube, filled with a mixture of helium and mercury vapor, appeared through the blue and green spirals. The transmission employed a bandwidth of the order of 10 kilocycles and the pictures corresponded to a number of lines somewhere between 20 and 30 per frame.

In July, 1929, Bell Telephone Laboratories, New York, demonstrated a three-color television system employing three independent channels. The live-pickup equipment consisted of three banks of cells with the three primary-color responses. A flying spot scanned the object and a scanning disk served on the receiving end to reconstitute the image. Three discharge tubes furnishing red, green, and blue light and superimposed by mirrors behind the scanning disk served as the light source.

Bell Laboratories employed a three-channel system which occupies three times the frequency spectrum over the corresponding black-and-white picture and requires three times the facilities. Baird, similarly requiring three times the frequency space, employed rotating filters and was thus first to demonstrate the sequential, additive method of color.

Early in 1938, John L. Baird demonstrated in England a 9 x 12-foot 120-line color-television picture using sixfold interlacing, employing a flying spot, mirror drum and rotating filters at the transmitter. At the receiving end also a mirror drum was employed, rotating at the rate of 6000 revolutions per minute and using a Kerr cell as modulator in conjunction with rotating color-filter slots.

In July, 1939, a demonstration with similar transmitting equipment was reported by Bell Telephone engineers. At the receiver was a projection cathode-ray tube combined with a rotating color filter. This was a two-color system using orange and blue-green filters alternately. The color-picture frequency was 16 2/3 per second employing 102 lines.

On August 28, 1940, a three-color, high-definition system employing electronic scanning both at the transmitter and at the receiver was broadcast for the first time over CBS Station W2XAB in New York. The subject of transmission was motion-picture color film. Soon after, live pickup employing the same trichromatic system was demonstrated.

Beginning on June 1, 1941, daily color transmissions over WCBW inaugurated a field-test period for the purpose of determining the practicability of color television. Color drums were used at the receiver as well as at the transmitter instead of color filters. A short cathode-ray tube was placed within this drum which rotated at about half the speed usually possible with a disk.

In mid-1944, CBS received FCC permission to construct and operate an ultra-high frequency color television transmitter. It is scheduled for completion and tests by the end of 1945. On October 10, 1945, on laboratory test equipment CBS engineers successfully demonstrated ultra-high frequency broadcasting of clear, ghost-free color pictures on a 10-Mc video band. Although nominally 525-line pictures, each picture contained "1575 imperceptible lines of beautifully detailed color."

WE EXPERIMENTED successfully with color television before the war—in fact it was broadcast from our color transmitter on top of the Chrysler Tower in the center of New York and was received at many locations within a 30-mile radius. However, the amount of detail in the picture was not quite sufficient to meet our standards.

In order to provide the necessary extra detail in the picture, our color system was transferred into the so-called ultra-high frequency region. This is that part of the radio spectrum which is between 300 and 1000 megacycles. This new space in the ether became usable as a result of war research. Whereas, before the war television pictures had to be contained within a bandwidth of 4 megacycles, the new system utilizes 10 megacycles.

Government Encouragement

With regard to our early contention as to the usability of the new ultra-high frequencies for color television, it can be stated now that one of the first and most encouraging endorsements came from a group of United States Government experts representing the State Department, the Federal Communications Commission, the Army and the Navy.

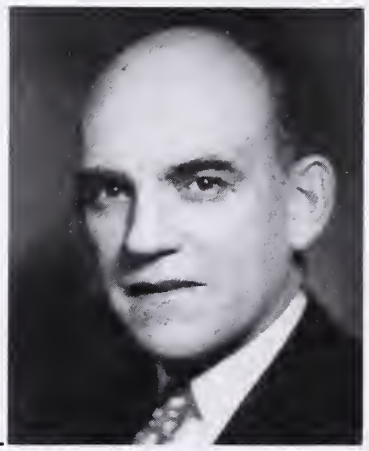
Finally, permission for CBS to operate a color television station in New York City in these ultra-high frequencies was granted by the Federal Communications Commission in mid-1944, and installation of the new transmitter in the spire of the Chrysler Building is scheduled for this year (1945). Additional CBS applications are now on file with the Federal Communications Commission for licenses to operate ultra-high frequency color television stations in several other cities including Chicago and Los Angeles.

Incidentally, the new ultra-high frequency color television system will also provide black and white pictures, with more than twice as much picture detail as the prewar system.

The ultra-high frequency band, which has now been set aside by the Government for experimentation with this new system of television, extends from 480 to 920 megacycles. This furnishes 29 television channels, as compared with

(*Continued on page* 114)

PTM – A NEW TELEVISION TRANSMISSION SYSTEM



Pulse Time Modulation introduces the interestng possibility to television of broadcasting both sound and picture, and color as well, on a common channel.

By H. H. BUTTNER
President, Federal Telecommunication Laboratories

THE LIFTING of wartime secrecy discloses a new system capable of transmitting simultaneously a number of telephone or telegraph channels on micro-wave frequencies. This system can also transmit simultaneously the sound and picture channels of a television program.

At a time when the attention of the television industry shifts toward the higher radio frequencies, the disclosure of pulse-time modulation should be of considerable interest to those concerned with television.

The new system known as "Multiplex Radio Pulse Time Modulation" holds vast and revolutionary potentialities for multiplex telephone and telegraph services, multiplex broadcasting and television with common picture and sound channel.

This PTM system which was made public recently when its wartime secrecy was lifted, is the outgrowth of the pioneering efforts of the International Telephone & Telegraph system extending back to 1931 with the Dover-Calais 18 centimeter micro-wave link. This system is based on an original conception of E. M. Deloraine, president of International Telecommunication Laboratories and Mr. Reeves of the London Laboratory of IT&T and has been developed in the New York labs of IT&T under the direction of E. Labin and the supervision of D. D. Grieg.

Although commercial television in recent FCC proposals retains roughly its present position in the frequency spectrum, a new band at much higher frequencies from 480 to 920 megacycles has been allocated for experimentation in high definition, color and other television developments. This trend towards higher frequencies offers spectacular possibilities to PTM. These possibilities in the multi-channel telephone field have already been demonstrated and its application to multi-channel broadcasting and television is awaiting further refinements before it is publicly demonstrated. A radio multi-channel telephone system has been demonstrated by IT&T on an experimental link equipped with repeaters and spanning a distance of 80 miles. Tests have been conducted over a 2-way circuit that originates and ends at the top floor of the 35-story IT&T building at 67 Broad Street, N.Y. From there the circuit is beamed to a repeater or relay station at Telegraph Hill near Hazlett, N. J., then to another repeater station at the site of the new Federal Telecommunication Laboratories at Nutley, N. J., and thence back to the building in N.Y. Since the repeater station boosts the strength of the micro-wave energy without causing distortion or cross-talk, the circuit could be 1000 or more miles long and still maintain a high quality of transmission. In such a system, the repeater stations should be installed at intervals of approximately 30 miles as the extremely high frequency micro-wave energy, similar to light, requires direct line of vision for its transmission. These repeater stations are automatically operated.

PTM receiving and transmitting antenna installation atop IT&T Building, New York.

In the first public demonstration of the triangular network, 24 persons located in separate rooms of the N. Y. building conversed simultaneously over the micro-wave link. The 24-channel arrangement operates on the principles of time modulation and time selection.

The pulse time method of modulation consists of emitting short pulses of high frequency radio energy. These pulses are of constant amplitude and at the same carrier frequency. Modulation is effected by transmitting a synchronizing or "marker" pulse at fixed times and following this pulse with the "signal" pulse at variable time intervals. The positon of the "signal" pulse at any given time depends on the modulation to be transmitted.

At the receiving end, the time of arrival of the signal pulses with regard to the marker is reconverted into the corresponding amplitude of the modulating signal.

In effect, the PTM system chops the signal to be transmitted into small bursts which occur at such a rate that the ear is unable to detect the interruptions. This is similar to a motion picture where the spectator watches a screen which is completely dark during a large portion of the time a film is being shown, and yet the eye does not detect the dark intervals.

For its multi-channel operation, the system makes use of time selection as opposed to conventional frequency selection. In a 24-channel system, 25 pulses are transmitted successively in each cycle. The first one or marker is stationary in time, the other 24 correspond to each of the channels and their instantaneous position depends upon the signal transmitted on each channel at that particular time. The rate of repetition of this cycle of 25 impulses is 8000 per second. For reception, a special tube, the "cyclophon," performs the separation and the demodulation of these 24 channels.

In spite of the fact that the terminal equipment can handle 24 high quality telephone channels and is equipped for automatic telephone operation, the entire apparatus occupies a cabinet standing only 8 feet high and a floor space 20 inches square. The radio frequency

(*Continued on page* 123)

AN ENGINEER COMPARES TELEVISION WITH RADIO

Television technicians must not only know voice levels, they must master controls of visual images as well.

By J. R. POPPELE

Secretary and Chief Engineer, (WOR) Bamberger Broadcasting Service
President, Television Broadcasters Association, Inc.

THERE ARE BASIC differences between television and radio—from the standpoint of the consumer, the manufacturer of equipment, the producer of programs and the advertising executive.

Please note that the radio engineer is not included in the above bracket of citizenry. The omission is deliberate and for a noteworthy reason. To the engineer — whether he be an electronic engineer or a radio engineer — video operation and audio operation are quite analogous. The handling of both requires an understanding of radio circuits and their attendant problems—simple and complex.

On the basis of the foregoing, I approach the subject: "An Engineer Compares Television with Radio," which the editors of this publication assigned to me, secure in the knowledge that I speak strictly as an engineer. As such, radio and television hold immense fascination. I like them both and I believe that both have a definite niche in our postwar world.

The advent of television finds the engineer ready to make his contribution to its growth and welfare. The same held true when sound movies burst forth upon a surprised world two decades ago. The radio engineer fitted easily into sound movies, because the problems of sound recording were those of radio broadcasting all over again from a different angle.

Techniques utilized by radio broadcasters to simulate sound effects were quickly borrowed by the movie makers when the screen found its voice. Today, sound effects are an effective part of all entertainment, newsreels and educational films, and in radio broadcasting today there are many engineers who, through their knowledge of and association with television developments during the past decade, will readily adapt themselves to this new art.

The end of the war finds thousands of Army and Navy trained technicians, skilled in radio and electronics, ready to adapt their talents to all forms of broadcasting. Radio and television will absorb them.

As an engineer, I am amused by dire predictions, spoken or inferred, of danger to existing services from television's infringement. We have but to survey the past quarter century to show how unwarranted are these fears.

The introduction of radio started a host of alarmists debating over the fate of the stage, the screen, the phonograph, the newspaper and the magazine. Each form of entertainment and publication is still with us—and thriving as never before. Let us stop worrying about television. Its expansion is as sure as tomorrow's dawn, and existing services will merely move over and make room for it, but none will vanish.

In short, television will bring a new service to millions of Americans who also will go on enjoying their home movies, radios, newspapers, magazines, theaters and motion pictures, books, golf and gin rummy.

Whose Baby Is Television?

The verbal wrangle over "whose baby is television?" stems from the fact that this new art borrows its techniques, in part, from a variety of accepted forms. Persons engaged in the theater claim television is like the theater. Those engaged in motion pictures aver television is motion pictures, projected through space. And those who broadcast our radio programs look upon television as their art since it is broadcasting with a sense of sight added.

Actually, television is a combination of all three, and therefore requires a new, all-encompassing technique. The desired format still hasn't jelled, so far as I have observed, but there is no mistaking the fact that hard working program producers are making progress in that direction. As improved formulas are achieved, television will become a distinctive and very welcome art.

Engineers who plan to engage in the video art are naturally most concerned with the visual phases of transmission. They are familiar with aural techniques formulated over the past two decades—though these, too, are being improved upon from day to day.

Engineers are beginning to learn the technical meaning of "immediacy." Whereas the newsreel sound technician keeps an eye on voice level to insure adequate recording, television technicians must not only know voice levels, but picture shading and synchronization as well. The element of "immediacy" in direct news pickups via television and the tele-broadcasting of speedily edited newsreels to the home and to newsreel theatres, may relegate week-old newsreels to historical archives.

Audience listening habits will become "look and listen" habits within a few years. Those who prefer bridge, pinochle, gin rummy, mah jong or books to televiewing, will probably also prefer the radio during these periods of recreation and those who are lured to their television sets by sports, dramas, news events and other visually interesting presentations, will forsake their hobbies from time to time for their video screen. Anyone long accustomed to listening to symphonies, on record or radio, isn't going to abandon this pursuit entirely because of the advent of television. Our listening and looking habits simply will be adjusted according to individual likes and dislikes.

The engineer, as well as the commercial broadcaster, is looking forward to the establishment of television networks. For network programming will bring television's greatest success. The possibility of great networks is no longer doubted and cable and relay systems are proposed by a half-dozen organizations. With their creation, television's tremendous potentialities will be well on the way to achievement.

No one today—certainly not the engineer—knows what the cost of television programming will be. But audience size, determined by the age-old law of supply and demand, will provide the yardstick by which television, time rates and profits will be gauged.

Equally unanswerable is the oft-debated question as to the merits of studio-produced programs over those on films. While we know that "immediacy" is television's greatest asset in news and sports pickups, we do not know whether this situation will be true with regard to studio-produced or filmed dramas and other commercial shows.

One thing is certain, television is here. Its growth will be swift, its acceptance will be universal. Only time will bear out my belief that television is an individual art, and as such will find a place of its own amid other popularly accepted arts. At any rate, history is on my side.

Photographs by Larry Colwell

OPERA, variety, drama, dancers — such as the Pearl Primus group above — are television fare that may be packaged for unit sale.

MANY popular radio programs can double on television. "Quiz Kids" made a hit on WABD. Producer: American Broadcasting Co.

PACKAGED TELE-SHOWS WILL UP QUALITY

Packaged tele-shows will bring the improved program quality for which tele-audiences are clamoring.

By WILLIAM MORRIS

President, William Morris Agency, Inc.

THE WORD "PACKAGE" first came into theatrical usage when radio advertisers began to see the value of purchasing programs as complete units rather than go through the laborious process of assembling programs themselves for their broadcast advertising.

Today it is common practice for advertisers to shop among program production firms and talent agencies where they may purchase the idea for a compelling radio show in one "package," writers who can daily dramatize the idea successfully, directors who have complete knowledge of their art and actors or entertainers who can best present the program, thereby assuring the advertising sponsor of a large degree of audience receptivity required for the projection of his commercial announcements.

The purchase of a complete program makes the sponsor's task of selecting suitable radio entertainment much easier. It not only relieves him of the many necessary preliminaries of assembly and employment, but makes it possible to choose a show from completed test programs or lists submitted by individual firms or agencies handling package shows.

Radio Toppers Are Packaged

The success of packaged shows is demonstrated by the fact that of the first fifteen programs tabulated by a prominent rating service, all were packaged with the exception of programs given over to individual commentators.

In consequence of its past successful operation in radio, packaging is certain to develop in television presentation and here its worth will be enlarged at least tenfold because of the increase in time necessary for rehearsals, lighting of shows, camera placements, costuming, and other intricate program elements.

Agencies which package shows will be in a position to turn over to a sponsor the idea, story, director, cast, music, costumes, plus detailed ground plans and working charts for all the technical details that make television akin to professional Broadway entertainment.

The size and quality of a package show will be tailored to measure up to the requirements of a sponsor and it is easy to envisage a package show the size of an opera company, a circus or an individual pantomimist.

Motion pictures have never been able fully to capture the spontaneity of a variety program because numerous retakes and the absence of a live audience "out" front deprive performers of the excitement and incentive necessary to bring out the best in their extemporaneous art. Live television performances enjoy a distinct advantage over motion pictures in this respect.

As a matter of fact, live television shows will possess a considerable advantage over the variety entertainment now presented in large capacity theaters. In a large theater much of an artist's talent is lost due to the distance of the stage from the audience, whereas an iconoscope close-up makes it possible to see an actor's smallest gesture at close range.

The responsibility of attending to details, intangible as many of them are, will be a programming element that sponsors, I feel, will be only too happy to leave to those experienced in this field. Sponsors who confine their role to over-all policy and the selection of the show are less apt to lose their sales perspective.

Many a theater owner is more ready to contract for a show produced by a well-known Broadway producer than he is to risk the production of his own shows, even though he possesses many years of such experience.

Scouting the Field

The selection of programs is in itself a responsibility of considerable weight. Sponsors and program producers will have to keep completely informed on all types of entertainment. They must know not only what constitutes good television but must, at all times, be alert to all shows which might intrigue audiences for the benefit of their particular product or service.

The changing taste of audiences will have to be watched, will have to be studied to an unparalleled degree. Product requirements may call for a show beamed at a small segment of every town's Main Street or these requirements may aim at a worldwide audience speaking many languages and this task may carry the widest and deepest cultural import.

It is difficult to surmise how all of these elements and objectives can be brought together successfully unless television's programs are "packaged."

SPORTS FOR MILLIONS BY TELEVISION

Play-by-play *radio* reporting helped build bigger athletic attendance. Will *television* help the sports box-office?

By BILL SLATER
World Series Sports Announcer

NOTHING has ever been so rousingly successful before the fact as television. In the promises of enthusiastic television pioneers and in the eager anticipation of future television set owners, this new art is already magnificent, revolutionary and, of course, whoppingly successful! A home television receiver is on the 1946 buying list of millions.

But there must be many who share my fear that these zestful buyers of television receivers may be in for a sharp disappointment. This fear is based on extensive observation of persons seeing their first telecasts. Their first impression is: "Why, this is just like the movies." Then they view a performance on the television screen that is far below the quality standard to which they've become accustomed in motion picture theaters. Inevitably they shake their heads and show in their demeanor the let-down they feel.

Technically, television is far in advance of its programming. This may be just another instance of today's general unbalance between scientific advance and social or artistic progress. Our tools despite wartime restrictions are far better than our ability to use them.

The television program of this 1945 autumn is an amateurish presentation smacking of attempts either to put the legitimate stage on the video screen or to adapt radio program ideas to the new medium. Sports telecasting offers no exception. Video sports, except boxing and wrestling, are largely futile efforts to follow radio's pattern.

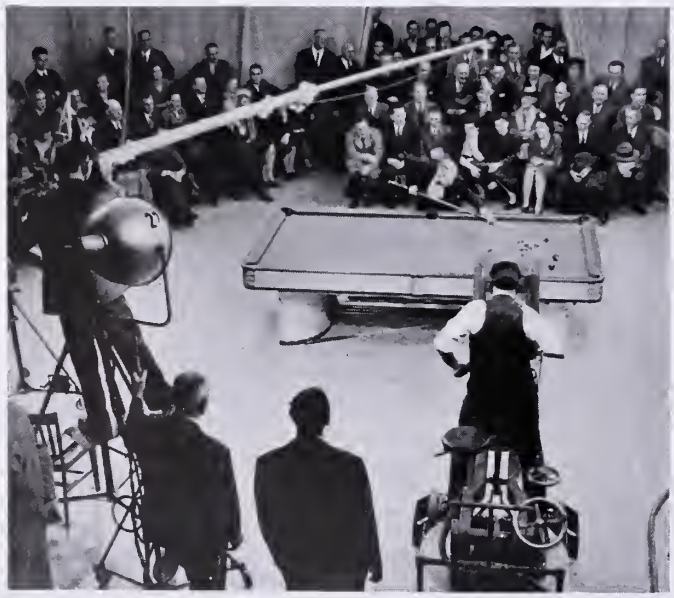
Action Area Is Important

Boxing and wrestling occupy so little action space that the television camera cannot miss portraying their essence. But football, baseball, basketball, hockey —the major team sports played on a broad area—are in another category. Wartime inadequacies of equipment will soon be overcome. But inadequate concepts of how to televise these ranging sports are becoming intrenched. There is too great a temptation to follow radio's pattern. We are of a mind to cover a baseball game, for example, with a few mobile cameras. We must realize that this job requires a permanent installation in the park and the use of no fewer than eight or ten cameras if television is to measure up to its potentialities.

Sports programs in the studio must be made far more than a melange of static interviews, old film and constricted action. The point here is more than petulant carping. We are about to step out on screens in thousands upon thousands of homes of people who have some discernment as to what is good and what isn't. If our audience is disappointed before we hit our stride, we shall have a deuce of a time winning it back, no matter how thrilling the novelty of our new medium.

In telecasting sports we have problems even greater, perhaps, than technical set-ups and programming. We have the commercial fears of sports promoters and those whose livelihood comes from this business of athletics. And it is a business, even to the colleges and universities. Hence, and soon, sports promoters and college athletic authorities must be invited into television's councils. Many of them know nothing of the nature or the capabilities of television. Despite the demonstrated spectator-building power of radio, they cannot see how television will maintain or increase their spectator attendance.

It is reported that fight mogul Mike Jacobs believes he can use television to



INDOOR SPORTS, such as billiards, pool and table tennis have televised effectively with clase-ups af tricky shots and intricate plays.

BOXING AND WRESTLING attract television's largest and mast avid audiences, despite the lack af crawd psychalagy in the hame.

increase his audience profitably. His plan is to telecast major fights to a chain of theaters around the nation. Thus, while the boxers might be mixing it up before sparse attendance in Madison Square Garden or exchanging blows in some well-lighted studio—the gold would flow into Mr. Jacobs' pockets via admissions paid to many teletheaters across the land.

Baseball, for example, presents another kind of problem. A discussion of professional baseball's attitude toward television is slated for this winter's big league meetings. Baseball men are conservative and it is quite likely that major league baseball will enunciate a baseball television policy that will keep the "ike" out of ball parks for years.

Baseball's problems in relation to television are formidable. For example, baseball men in New York City are asking what would happen to attendance, not alone in their parks here in the city but also in their farm team parks in Newark and Jersey City, if games of the Dodgers, Yankees and Giants are available on television screens *every* afternoon in the New York and New Jersey area. Tele-broadcasters and baseball men must soon sit down together to work out their joint problem if an impasse is to be avoided.

One prominent sports leader has already proposed informally that all organizations controlling sports events should band together in a syndicate. One avowed purpose of this syndicate would be to protect athletic attendance from what is believed to be the threat of television. Another aim is to see that "good prices" are obtained for rights to telecast sports events.

It would be easy to say that television will bring sports to millions. Television can, and should, do exactly this. What a contribution it would be to the enjoyment of the American people, who love sports! Television will not achieve this great contribution, however, unless we move energetically into the task of working out with those in control of American sports the economics of television's place in the sports picture.

TELE-SPORTS ANNOUNCERS WILL TALK LESS

By BILL STERN

Director of Sports,
National Broadcasting Company

I FEEL that television will do a great deal to promote sports in the United States. It will permit many uninitiated actually to witness their first big-time sporting event, and I believe that this, in turn, will not only prove of interest to the spectator but will make him a fan for that particular sport from that moment on. This was true in radio broadcasting and I see no reason why it shouldn't be even more so in television.

I do believe, however, that the sports announcers in television will have to adopt a different method than that employed for radio. In radio, sports announcers were the eye as well as the voice for the listening public. In television they will no longer have to be the eye. I believe that a new format will have to be developed for sporting events when the public can see these events.

In television the announcers will work more as we have on newsreels. He will complement the picture by explaining technical phases, and dealing more in generalities than he will in specific plays or moments. The announcer will have to learn not to speak continuously but to speak only when the occasion demands.

I think, frankly, that those of us who have been fortunate enough to have had newsreel experience will find this experience invaluable in aiding and abetting television broadcasts. The worst malady a television announcer can succumb to, in my opinion, is over-explaining and over-talking, rather than letting the action carry itself as the picture unfolds.

Television offers a splendid opportunity for sports announcers but I would suggest to any of them who are seriously contemplating this medium, that they first try and find out what television is all about; secondly, that they learn exactly what the public can see and what the public must be told; and thirdly, that they try, if possible, to get as much experience as they can in the cutting and editing of film subjects. For this is the closest work available at the present time to the conditions under which television will operate.

MAJOR SPORTING events, such as heavyweight championship bouts, World Series ball games and the Bowl football games are generally conceded to be the most compelling of television programs. Home and theater audiences are expected to be at their peak for these events.

A LAWYER LOOKS AT TELEVISION

Television's lawyers will explore virgin territory in this new art and play a role of tremendous influence in molding the world's social and economic future.

By BERNARD GOODWIN

Executive Assistant to Eastern Production Manager, Paramount Pictures, Inc.
Vice President, Television Production, Inc.

WITH TELEVISION progressing by leaps and bounds to the day when full-fledged commercial programs and countrywide and even international networks will be commonplace, its legal advisers may anticipate many headaches. It is impossible, in this brief fashion, to discuss adequately the many specialized legal questions which will arise. Some of these will be identical with those which motion picture and radio counsel have to consider. Others, of course, will very definitely be new and peculiar to the television medium.

Copyright, censorship, civil rights or the right of privacy, interstate commerce, unfair competition, labor relations and taxation comprise some of the legal foundation from which television problems will spring. Legal counsel cannot be theoretical, in the sense of a classroom lecture or a law review article, but must use practical judgment in applying legal principles to the problems presented by actual operation of the television industry.

A lawyer must not only be well-grounded in his knowledge of pertinent legal principles but he must also be thoroughly familiar with television as a business. This means that a lawyer interested in preparing himself as an adviser in one or more aspects of television should start immediately to learn some of the basic principles of television engineering and in some way obtain experience in one or more phases of the entertainment world.

To illustrate, let me touch upon only a few incidental yet important problems which may be presented to a television lawyer in the course of a working day.

High-Speed Decisions

A production manager calls him on the telephone. "Next week the Joe Doakes program is going on the air with John Smith in person singing 'The Call of the Prairie' dressed in a cowboy suit and with a background film showing cowboys rounding up cattle. Now, this is an ASCAP song and ASCAP can give radio stations a small performing or non-dramatic right to use this song in a radio broadcast but not even ASCAP knows whether it can give a television station such a right for a 'live talent' program. Anyway, ASCAP tells me, even if it could do so, it thinks such a use on television may be a grand performing or dramatic right which ASCAP doesn't even control for radio stations. If we have to go to the music publisher and to the composers of the song, it will involve time and negotiation out of proportion to the use we want to make. What shall we do?"

The lawyer has to make his decision immediately. If it were a film television program instead of live talent the problem would be more complicated by the question of the copyright protected right of recording the song on film, in addition to the copyright protected right of public performance. Here is where a lawyer not only has to be thoroughly familiar with his law but also has to know the peculiarly complex operation of the music world and the realistic problems of television programming, particularly when the program may be carried into foreign countries by international hook-ups.

Next, the sales manager may come in to tell his lawyer a pitiful story about how much revenue the television station is going to lose because the state censors in Blank State have heard about a certain program announced for release in a few days. They have served warning that television stations in Blank will be prohibited from telecasting it. It is impossible to comply with the Blank censors, the only censorship authority taking this stand, because the proposed program will be so weakened as to be valueless. Furthermore, the sponsor is angry and threatens to go to another station or network unless the situation can be cured satisfactorily.

Any lawyer can immediately see the question of interstate commerce which is involved. The immediate problem is twofold: first, to get the program on the air in the next few days and, second, to lay the foundation for legal action or legislation which will make this problem less acute for the television broadcaster.

Our next hypothetical problem might be a telegram from a television station in Texas, informing the attorney that the family of Tom Brown will sue everybody they can think of if a certain television program is carried by the Texas station or is received in Texas from a station outside of Texas. They claim the program libels Tom Brown, who has been dead for twenty-five years, by impeaching his honesty and reputation. In practically all other states it is legally impossible to bring civil action for the libel or slander of a dead person but by statute in Texas it is possible.

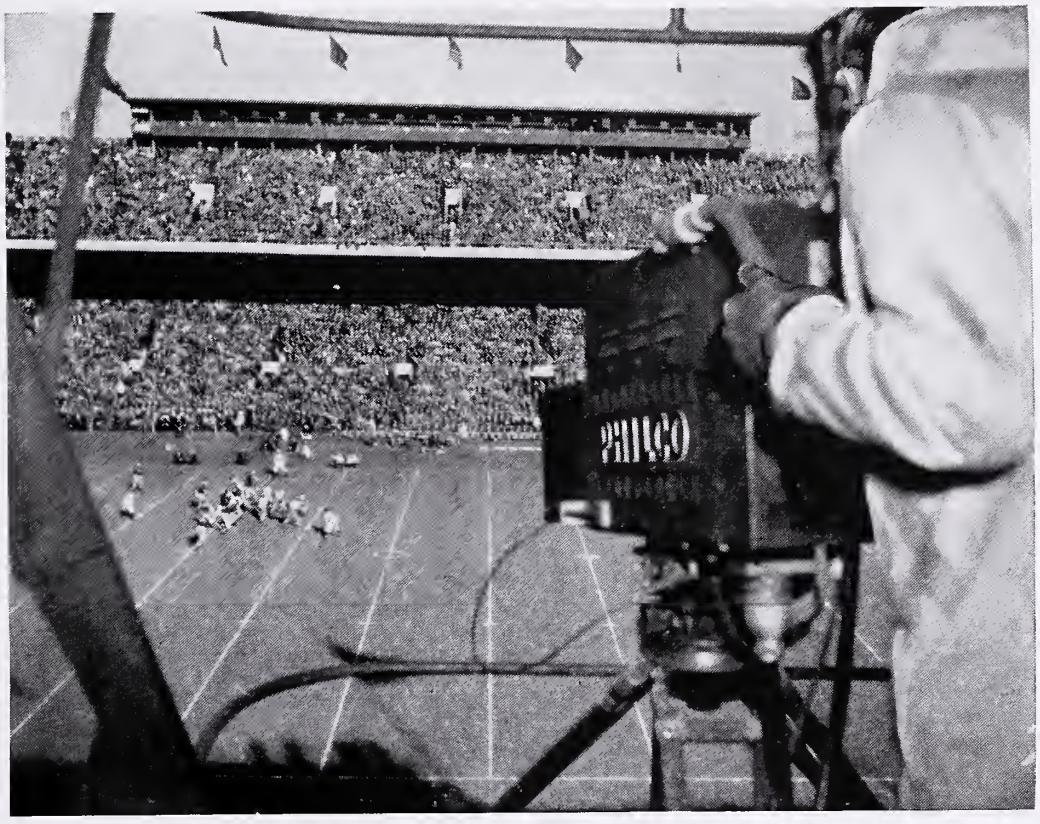
A Jack-of-all-trades

Even in some of those other states, as is true in England, it is possible to institute a civil action for the libel or slander of a living person resulting from false statements about the dead. Again the lawyer must make not only a quick and good legal decision but he must study the script of the proposed program and base his decision upon his interpretation of the script from a literary and dramatic standpoint. In addition, he must also be prepared to sit down with the writers of the script to show how it should be revised to avoid any legal difficulties, which revision must not be couched in legal language but in harmony with the literary and dramatic value of the program, and at the same time satisfy the writers, the sponsor and producer of the program.

Late in the day an executive of the television station might call his lawyer to announce that negotiations in the long-pending deal with the XYZ department store will soon be concluded and that a contract must be drafted the next day to provide for an interchange of programs, time on the air, leased studio space and a dozen other details. Questions of corporate law, tax law, real estate law, programming responsibility and FCC rules and regulations are immediately presented.

A troublesome problem during negotiations could be the one concerning control of programming, which under FCC regulations must be retained clearly and absolutely by the licensee station, but the XYZ department store may want to have something to say about its programs. A legal solution must be worked out and again the lawyer must have a thorough knowledge of legal principles, FCC rules and regulations and the practical operation of the business.

(*Continued on page* 115)



One of the two television cameras placed high above the 50-yard line, on specially-built platforms near the top of the South Stands. One camera has a wide lens for remote pick-up; the other is equipped with a telephoto lens for close-up pictures.

For the Sixth Straight Year

PHILCO TELEVISES PENN FOOTBALL GAMES

A special monitoring screen on the announcer's table enables him to coordinate his narration with the picture that is received by the television audience.

Master control room of Station WPTZ in action during football contest.

FOR the 6th consecutive year Philco Television Station, WPTZ, in cooperation with the Atlantic Refining Company, and its advertising agency, N. W. Ayer & Son, Inc., is televising all University of Pennsylvania football games played at Franklin Field in Philadelphia.

Six years ago Philco was the first to put on the air a *complete* schedule of football games by television. Since then Philco has continued this activity as part of its television research program and as a practical demonstration of the service which television can offer the public.

These telecasts, through which the Philadelphia audience enjoys an entire season of football by television, are still unique in the industry.

PHILCO

Famous for Quality the World Over

Photograph by Larry Colwell

THE ECONOMICS OF TELEVISION

How soon can a television station owner expect to turn a profit? Here is some realistic thinking on the subject.

By LEONARD F. CRAMER

Executive Vice-President, Allen B. DuMont Laboratories, Inc.

WHAT ABOUT TELEVISION as a business; does television make economic sense? DuMont experience dictates an affirmative, realistic "YES."

DuMont's more than 4 years of television broadcasting make it possible to project the operation of a typical, average-size full-service television station. Costs will vary, naturally, in different cities but, in the main, this is the basic thinking that must be done by a prospective station owner.

First, what is a reasonable estimate of capital investment required for a full-service television station? DuMont's recommendation, with prices necessarily subject to revision because of uncertainties in material and labor costs, are provided in the box below.

Now, our prospective owner is ready to ask: What is a reasonable estimate of the annual operating costs of a full-service station? He should select an average period after the shakedown interval, say the third year of operation. Let us assume that his thinking is in terms of a one-studio station, on the air 7 hours daily, 49 hours weekly, 2548 hours annually.Two full crews, working a 48-hour week, will be required. His 12-months' operating cost statement is likely to shape up like this:

Annual Operating Cost

Rental and maintenance of 12,000 sq. ft. of floor space @ $2 per sq. ft. per year	$24,000.00
Payroll:	
Administrative Personnel Station Manager, Program Manager, Sales Manager, Chief Engineer, Accountant, 3 Stenographers, 2 Announcer-Producers	40,675.00
Technical Personnel 2 Audio Control Operators, 2 Studio Control Operators, 4 Video Pick-up Operators, 2 Mike Boom Operators, 6 Studio Assistants, 2 Film Projectionists, 4 Master Control Technicians, 2 Transmitter Operators, 4 Scenery Shifters and Property Men	$117,232.96
Federal Unemployment Insurance and Old Age Benefit	3,158.16
Amortization of Capital Investment averaged over 10-year period at 5% interest	34,743.75
Replacement of technical parts	8,000.00
Maintenance of fixtures	2,000.00
Power for technical equipment, general and studio lighting, and air conditioning (at N. Y. C. rates)	15,000.00
Sustaining Programs 30% of Air Time: 70% films, 30% live talent studio shows and pick-ups of local events, sports, parades, educational affairs, club and church programs, etc., including rentals, royalties, scenery, properties, records and transcriptions	27,500.00
Advertising, sales promotion, merchandising cooperation, market surveys.	25,080.00
Travel and entertainment expense	10,000.00
Miscellaneous: Stationery, telegrams, telephones, postage, etc.	7,500.00
TOTAL ESTIMATED ANNUAL OPERATING COST	$314,889.87

THE CAPITAL INVESTMENT REQUIRED FOR A TELEVISION STATION

Two DuMont Studio Cameras, with push dollies DuMont Studio Control Desk	$ 23,000.00
Specially Designed Mobile Camera Dolly	2,500.00
DuMont Master Control Board	35,000.00
Studio Lighting and Audio Equipment	10,000.00
Two 35 mm. Special Film Projectors @ $6,000.00 ea.	12,000.00
Two 16 mm. Special Film Projectors @ $2,000.00 ea.	4,000.00
Two DuMont Film Pick-up Cameras	6,000.00
DuMont Transmitter 25 KW peak Video and equivalent peak Audio	65,000.00
Suitable Antenna with supporting tower located on same building	10,000.00
Spares and Test Equipment	13,000.00
DuMont Field Camera Pick-up Equipment, including two cameras	24,000.00
Field Audio Pick-up Equipment	1,500.00
DuMont Field Relay Transmitter	8,000.00
DuMont Relay Receiver	2,000.00
Truck with Generators and Antenna	5,000.00
Sub-total	$221,000.00
Auxiliary Equipment, Installations, etc. (costs dependent on local conditions).	
Installation of Television Broadcasting Equipment	$ 15,000.00
Structural alterations to an existing building, electrical wiring, studio soundproofing, etc.	25,000.00
Fireproofing of Film Projection Room	1,500.00
Furniture, fixtures and decoration	10,000.00
Sub-total	$ 51,500.00
TOTAL INITIAL CAPITAL INVESTMENT	$272,500.00

No one knows what constitutes a fair rate for "television air time." But television can be compared to other established advertising media, in this wise:

63 typical half hour, full network radio programs over a 2-month period cost the advertiser	$ .00136 per listener for time and talent
The average advertisement of ½ page or larger in 3 major weekly magazines in a recent 3-month period cost the advertiser	.00465 per reader for space and preparation
The average of all half and full page advertisements in 67 newspapers cost the advertiser	.00928 per reader for space and preparation

Noted marketing authorities agree that commercial television—sight-plus-sound selling—carries a sales impact fully 10 times greater than radio (sound alone), and enjoys an equally impressive advantage over most and possibly over all visual mediums (sight alone). Logically, therefore, television time may be priced somewhere between radio and magazines . . . say a rate of $.003 per person per half hour evening program.

At the end of the second year of operation, any television station in a major trading area of 250,000 families will be able to reach at least 20,000 television receivers. (This represents only 8 per cent of the families—and

marketing experts anticipate that 10% of the families will buy receivers within this time span.)

If 25 per cent of these 20,000 receivers are tuned to your station during an average evening program—a conservative estimate for the first few years' operation — you will have an audience of approximately 5,000 sets.

If 8 persons make up the average receiver's evening audience—and surveys show that, including both home and public sets, the range is from 5 to 11 persons—then some 40,000 persons will view the average evening program.

An evening audience of 40,000 persons at $.003 per person per half hour indicates a rate of $120 per half hour—the equivalent of $200 per hour and $80 per quarter hour. Such a rate would be comparable to a typical radio station operating in a market of comparable size. Actually, radio stations charge from $160 to $800 per hour, depending on their coverage.

Reduced to a working rule, DuMont's studies indicate that when television homes in any trading area represent 5 per cent of the number of radio homes classed as regular listeners by a standard radio station, then a single television station's air time rate should at least equal that of the radio station's rate.

We now ask: How much of its air time may a station expect to sell? DuMont experience and research indicate that television stations should very quickly find commercial sponsorship for 70 per cent of their air time, leaving only 30 per cent to be met with sustaining programs. The programming of a station on the air 49 hours weekly might break down as shown in the box at the top of this page.

Audience opinion surveys and radio precedents indicate a probable breakdown of the above 1781 hours of sponsored time into 1780 quarter-hour, 2228 half-hour, and 222 full hour shows. Based on the preceding data, this representative, full-service station should enjoy the following annual sales income:

Annual Sales Income

1780 quarter hours at $80 each (40 per cent average hourly rate), less 15 per cent advertising agency commission	$121,040.00
2228 half hours at $120 each (60 per cent of average hourly rate), less 15 per cent advertising agency commission	227,256.00
222 hours at $200 per hour (average of afternoon and evening rates), less 15 per cent advertising agency commission	37,740.00
Total Annual Income from the sale of Air Time	$386,036.00

This station's annual operating picture will look like this:

Annual Income from Sales of Air Time		$386,036.00
Annual Operating Costs	$314,889.87	
National Advertising Representative's 15 per cent Commission on 40 per cent of Time Sales (after agency discount)	23,162.16	
		338,052.03
Net Operating Profit (before taxes, insurance or legal fees)		$ 47,983.97

This operating profit of $47,983.97 is 17.6 per cent of your capital investment; it represents 12.4 per cent of the gross income . . . considerably better than the profit margin realized by many standard radio stations.

Suppose our prospective station owner envisions a more ambitious operation than we have sketched. Larger plans mean more extensive rehearsing. Therefore, he will need two live talent studios. He will also need one additional crew.

Opening this second studio requires the following additional investment:

Two DuMont Studio Cameras with push dollies; DuMont Studio Control Desk	$23,000.00
Alterations and Installation estimated	12,000.00
Studio Lighting and Audio Equipment	10,000.00
	$45,000.00

It also adds the following items to the basic operating cost breakdown given earlier:

Rental of additional 1200 sq. ft. of floor space at $2 per sq. ft.	$ 2,400.00
Payroll increase: Complete extra studio crew	39,839.28
Federal Unemployment Insurance and Old Age Benefits	796.79
Replacement of technical parts	1,000.00
Additional power for technical equipment, general and studio lighting and air conditioning	1,500.00
Amortization of Investment in additional camera chain, lighting and audio equipment alterations, etc., averaged over 10-year period at 5 per cent interest	5,737.50
Added cost of Studio No. 2	$ 51,273.57
Total Operating Cost per year on 1-studio basis	$314,889.87
Total Station Operating Cost per year on 2-studio basis	$366,163.44

Two-Studio—Three-Crew Operation

While the operation of two live talent studios increases the basic annual operating cost by 16.2 per cent—the gain in programming benefits is, of course, proportionately much greater. It is reasonable to assume that before extending the activity of the station to include an additional studio and crew, a certain basic advantage must be established—namely a widely increased sale of television receivers within the reception area resulting in an appreciable increase in audience which would justify a 15 per cent higher air-time rate. The financial picture follows:

Income from Annual Sales of Air Time: 1780 quarter hours at $92 per ¼ hour (40 per cent of average hourly rate), less 15 per cent agency discount	$139,196.00	
2228 half-hours at $138 per ½ hour (60 per cent of average hourly rate), less 15 per cent agency discount	261,344.40	
222 hours at $230 per hour (average of afternoon and evening rates), less 15 per cent agency discount	43,401.00	
Total Income		$443,941.40
Annual Expense: Annual operating cost with two studios and three full technical crews	$366,163.44	
National Advertising Representative's 15 per cent commission on 40 per cent of time sales (after agency discount)	26,636.48	
Total Expenses		$392,799.92
Net Operating Income for an average year, before legal fees, taxes or insurance		$ 51,141.48

The 2-studio station operation described above would yield a 15.8 per cent profit on its total capital investment, $317,500 (this includes additional camera chain purchased for Studio No. 2); a 11.5 per cent profit on its gross income.

Employment of three crews for the operation of two studios makes it possible to have a full crew available daily from 9 A.M. until 11 P.M. This permits an extremely flexible operation, greatly facilitates handling of unplanned rehearsals and emergency pickups of remote field events, and helps to keep technical crews within their 48-hour work week.

A Network Affiliation

A network affiliation — whether by cable or relay boosters — means that many of a station's programs will be supplied without production trouble or expense. If considered as an addition to the 49-hour weekly independent operation here described, this affiliation means many additional hours of pre-sold time with no additional operating charges save for power. Also, it assures top-flight expensive productions originating in the three major entertainment centers.

Applying the precedent established in radio network relations to the television network operation, the network rate will probably exceed the local rate by at least 10 per cent. Networks shoulder heavy sales and operating costs, but customarily guarantee each station 37½ per cent of the network time rate,

(*Continued on page* 128)

PROBABLE BREAKDOWN IN STATION PROGRAMMING

	Hours Daily†	Hours Weekly	Hours Annually	% of Sus. Total	% of Entire Air Time
Commercial Programs:					
Sponsored film programs	2¼	15¾	819	45.9	32.14
Live talent studio shows	1½	10½	546	30.7	21.42
Remote or field pick-ups	1⅛	8	416	23.4	16.32
Commercial Total	4⅞	34¼	1781	100.0	69.9
Station-sustained Programs:					
Film programs	1½	10½	546	71.2	21.42
Live talent studio shows	½	3½	182	23.7	7.14
Remote or field pick-ups	—	¾*	39	5.1	1.53
Sustainer Total	2	14¾	767	100.0	30.1
Total	6⅞	49	2548		100.0

*This allowance of 45 minutes per week is an averaged allowance for special or emergency news coverage. Events like parades, fires, sports meets, etc., may in one day use up the allowance for a month or more.
†Averaged hours daily. Scheduling will probably change with each day.

AN ADVERTISER LOOKS AT TELEVISION

Exploration of television's commercial possibilities reveals that it's up to the broadcasters to make the medium an effective instrument for the advertisers.

By CHARLES J. DURBAN

Assistant Director of Advertising, United States Rubber Company

NEARLY TWO YEARS AGO United States Rubber Company decided to explore the possibilities of television, keep in touch with its progress and be prepared to use it "if, as and when."

We thought when we started that television was *potentially* one of the strongest, most effective of advertising and merchandising mediums. Time, study and experiment have not changed our opinion. But please note the emphasis on the word "potentially." Much depends on the manner in which television is developed and this, in turn, hinges on the breadth of vision, intelligence and philosophy of the men managing the industry.

What *is* television? Certainly it isn't radio or stage or screen, though it partakes of all three. It can visually and audibly teach and inform—bring you the news as it happens—tell a story—entertain. And it can demonstrate and sell products.

Most Flexible Art in History

In practice, television has, at the moment, stringent limitations. Yet as a medium for conveying human thought and feelings, it is the most flexible art in all history.

During 1945 we presented a number of half-hour programs* over station WABD, New York. While these were strictly experimental and for the purpose of adding to our own store of knowledge, we scored several television *firsts*! The fact that viewers liked some of them was our great good fortune.

Among the experiments attempted was the teaching of geology—normally a rather dry subject—in co-operation with one of the leading New York colleges. The professor who held the chair in this study took the lead role—playing himself. Members of the faculty as well as students from the regular geology class were in the audience, and the result was an urgent request from the college that they be permitted to co-operate with the company in a series of programs of this type for the benefit of all concerned.

On another occasion, a half hour was devoted to the dramatization and demonstration of one of our products which lent itself to such treatment. Still another was composed entirely of one of our institutional motion pictures which took the viewer through our various plants and showed him the actual making of the many products for war which we were then manufacturing.

We learned that television, above any other medium, can capitalize on the public's very real interest in industry and on its consuming curiosity as to the use of products. This is particularly true when products are in the style field, or contribute to comfort, convenience or safety. Naturally, the method of presentation is important.

Shipwreck in the Studio

We did a shipwreck at sea in a 9′x18′ tank with 10″ of water, right in the studio. We built camera ramps and experimented with various lenses. We tried a number of motion pictures, finding all too often that regardless of the merit of the picture they seldom televised very well. We picked up a radio quiz show "as is" and televised it exactly as it would have been presented in radio. Later, we altered and improved it specifically for television.

We did a lot of other things, both orthodox and unorthodox. We made an enormous number of mistakes. But from them we learned. We learned that the producer, writer, director and the key man on the control board form the "backfield." And that everyone else in the studio is on the "line"—camera men, cable girls, technicians and cast. Some of the things we did could only have been accomplished because everyone was on the team and knew it. That's not new in the theater or in Hollywood—but we didn't find it being done in television.

We cannot agree with motion picture men who are inclined to look at television as a new way to get moving pictures into the home. We have a different approach than so many of the radio people who quite unconsciously approach television pretty much in terms of enlarging the radio studio audience.

"Use" Development Next

Only a few within and without the industry are approaching television as a completely new and different medium. We believe that the television industry itself, heretofore concentrating so strongly and justifiably on mechanical and technical details, must henceforth devote much of its best brains and intelligence to developing the *use* of this magnificent new medium.

*See page 101 for complete resume of United States Rubber Co. television activities.

A THOROUGHLY TESTED INVENTION

"Television will be the biggest and most fascinating of the country's newest industries. It will provide new employment for many thousands of ex-service men and women. It will furnish a broad public service of information and entertainment that will be just as new and original and different from anything in the past as were the automobile, the airplane, the motion picture and the radio when they were introduced. Yet none of these important inventions, when first offered to the public, had been so thoroughly tested, or had reached a degree of advanced technical development comparable to the television which now is ready for the people of the United States."

—NILES TRAMMELL, *President*,
National Broadcasting Company

Photographs by Larry Colwell

A PAGE of scenes from U.S. Rubber's "serving thraugh science" series at WABD. Abave, a realistic life-raft drama in a huge specially-constructed studia tank.

RUBBER'S role in bload transfusians was cambined with a wartime appeal far blood donars.

TRAGEDY strikes in a program depicting old medical practices. A simple setting, authentic castuming, beautiful lighting, well directed. Audience reaction: Excellent.

LOCALIZED resilience af rubber cushioning demanstrated. Child appeal aids Al Henderson.

MUSIC and pantamime help to tell a story of transpartation. Floar manager Frank Bonetta rocks the carriage realistically from his lowly pasitian between the wheels.

APPLYING fire to an asbestas suit, ane af many war-born praducts with peacetime usefulness.

USES OF FILM IN TELEVISION

Suggestions for incorporating film in tele-programs, prefilming broadcasts and preparing news telecasts.

By JOHN FLORY

Executive Producer, Grant, Flory & Williams

THE GROWTH of television, to a great extent, will depend upon adequate programming quality. Motion picture film promises important contributions toward the achievement of this objective, hence the following advantages of film are worth keeping in mind.

Film inserts—either specially shot or compiled from library footage—can be interspersed throughout a live talent show to give greater scope, a feeling of reality to a program, and to bridge unavoidable gaps caused by costume changes or set changes where studio facilities are limited.

Until television pickup cameras now in use are improved, film will be found to be more sensitive and accurate in reproducing the tone values of reds and other shades of color. Film, therefore, is particularly important in displaying fashions and packaged merchandise. The motion picture camera also surpasses the television camera in depth of field, making it easier to keep actors and objects in focus.

Until satisfactory television lighting units are developed, preparing the video material on film at the outset will provide a more artistically lit composition on the receiver screen.

Comparisons with Movie Production

Most actors prefer film over live telecasts because it permits a more polished performance. "Blow-ups," "flubs," and poorly-paced scenes can be discarded and redone in the movies; not so when a video show goes out live on the air. Prefilming a program means a lot to the sponsor footing the bill. He knows in advance exactly what he is buying.

Unlike radio, television requires actors to memorize lines and action. Any sudden illness or absence of a key actor, therefore, precipitates a pinch-hitting problem. Prefilming of telecasts avoids this possibility and assures better continuity.

In the same way, mistakes and "blow-ups" during product demonstrations can be forestalled. Imagine the sponsor's consternation in a live television demonstration were a crucial zipper to get stuck, or a particular brand of jiffy suds to fail at the vital moment to look impressively cleansing.

Live talent shows require a large crew of actors, production people, and engineers for studio maintenance. Thus, as one authority points out, if satisfactory motion pictures can be produced at reasonable prices, the overhead of a small station (in the early stages of the industry) can be reduced —through a projector pickup iconoscope camera—to two engineers and a projectionist. Many new stations, obliged to start out modestly, will discover that motion pictures can satisfactorily provide the bulk of the programs they put on the air.

Film and Networks

Film offers a practical way of achieving a national network. It would overcome many cost and technical difficulties and tie remotely situated stations together more economically than either coaxial cable or relay stations.

In present-day radio broadcasting, differences in time—such as exist between New York and California—frequently mean that an advertiser wanting national coverage for a network show is saddled with the expense of a repeat performance. Such repeats will be a far more serious matter in television network operation, in view of the greater original cost of video programming. Film would seem the solution.

Technical advances will soon permit elaborate live talent shows to be transcribed on film from the station's monitor screen or from a receiver. These film transcriptions can later be telecast from other stations—thereby effecting an all around saving. For reference purposes, or as a lasting legal record of what went out on the air, such films may prove invaluable.

Portability of motion picture equipment is another advantage of film when a television station, attempting to operate with a small personnel, must cover remote pickups. Many news events will not occur at times when a maximum television audience is tuned in. But a film record can be telecast to take advantage of the greatest number of set watchers.

The minute movie type of film transcription offers an economical way of handling spot advertising.

A whole new field is opened to television through the use of animated motion picture cartoons. Many points can be made more effectively by this technique than by live action, particularly in devising commercial plugs which entertain. Animated cartoons offer an ideal way of illustrating a complicated machine, process, or concept.

(*Continued on page* 124)

TYPICAL tele-filmed news events were Washington and New York receptions to General Eisenhower, filmed and televised the same day by WNBT. Filming permits dramatic editing.

TELEVISION AUDIENCE RESEARCH

What do televiewers expect to see and hear? Something, says research, that they cannot get from either radio or motion pictures. Television's role is unique.

By OSCAR KATZ

Associate Director of Research, Columbia Broadcasting System, Inc.

RADIO BROADCASTING began without benefit of any kind of audience research. Broadcasters shot their programs into the air. They (the programs) fell to earth. They (the broadcasters) knew not where. The mystery of "Where?" was so intriguing that, in searching for an answer, nobody asked "How?"

Radio research was started in the quantitative field—to answer the "Where?" to measure the size and location of audiences. Not for years was work begun in qualitative research—to find out the "How?" how programs influenced people, and how people liked or disliked programs. As a result, early radio programming followed a tortuous, hit-or-miss trail of development.

Pioneer radio's pioneer listeners were a rugged race. If station WAAA received a telegram, "Program coming in fine. Please play *Valencia*," station WAAA's listeners would hear *Valencia*, like it or not. If a sponsor's Aunt Tabitha had a liking for Irish ballads, the sponsor's audience would get Irish ballads from noon to breakfast. Luckily, the novelty of the new medium, together with the tolerance of its first listeners, were enough to carry audiences through to the day when programming was based on facts rather than guesswork.

Profit from Radio's Findings

There is no excuse for television, in its programs, to follow radio's course of trial and error. Radio audience research, late as it was in beginning, has made great progress in recent years. Many of its findings and certain of its techniques can, with slight adaptations, be applied to television audience research. If television fails to take advantage of its natural inheritance from radio's research, it will find no concomitant inheritance of naiveté and tolerance from radio's early audience. These happy characteristics have vanished. The television audience, from the first, will be realistic and hard-boiled.

Television is now completing an extended, war-born period of rehearsal, during which its programs—and mistakes—have been seen by only a few thousand people. Since Pearl Harbor, the television audience has remained relatively constant, if it has not actually diminished through set breakdowns. Television programming, on the other hand, has not remained static.

About eighteen months ago, CBS Research began some television experimentation of its own, with the object of uncovering material that could be used as guidance in television production. The first experiments were with small audience panels, usually made up of people with little or no experience as televiewers. These soon took the form of regular weekly studies that have now been conducted on a continuous basis for over a year.

It wasn't long before CBS concluded that the field it was exploring was not only wide, but extremely productive. In January, 1945, it announced the formation of Television Audience Research Institute—a separate division of its own research department. Working with its own staff, TARI devotes its efforts exclusively to television, and has already initiated a number of original studies that are producing material of value to tomorrow's programmers as well as today's.

CBS intends to continue its television audience research indefinitely, and on a widely expanded scale. Much more remains to be done than has yet been accomplished. On the other hand, there is tangible evidence that research has already spared the coming audience a certain amount of pain it might otherwise have suffered. Certain program faults, for example, have been revealed and corrected through the suggestions of audience research, and subsequent tests have gained audience approval.

More important, in my opinion, than any specific examples of program improvement are some general conclusions that are beginning to emerge from our months of study. Conclusions drawn from individual reaction or opinion are, of course, meaningless. When a reaction or opinion represents a group majority, however, and when it is expressed repeatedly week after week, certain conclusions are justified. The comments that follow are based on that type of cumulative evidence.

Radio and movies, in the past twenty-five years, have spoiled the American people for any inferior medium of entertainment, however new and miraculous that medium may be. People have already accepted the miracle of television. They will buy sets for what those sets can bring into their homes; not for the thrill of snatching pictures from the empty air. They are extremely interested in television and innocently confident that it will bring them what they want. They will be most intolerant if programs fall far short of expectations.

Viewers "Participate" in Events

Sports, special public events and other newsreel-type material will probably be the most popular television programs of the near future. (Fortunately, these are also the most easily produced.) Viewers sense a feeling of reality or participation in these programs that they never experience in a newsreel theatre. They realize that they are watching an event at the exact moment of its occurrence; that "anything may happen" and they will be eyewitnesses. It pleases them to think that they can, almost literally, be in two places at the same time.

For a while at least, television-viewing will be a group or family activity. It may even be the focal point of neighborly social activity. So long as this is true, program selection and content should be influenced if not governed by that fact. A demonstration of gas-engine construction would bore Mother, just as a prolonged showing of millinery would fatigue Father. Moreover, we have found that costumes and situations that are perfectly acceptable on stage or screen are not necessarily acceptable in a home atmosphere.

There seems to be an exceptional interest in television as an educational medium. Educational programs, if reasonably well produced, are well received, and almost always suggest to viewers other subjects and themes they would like to see treated in the same fashion. Women are quick to recognize how television may help them with their housework, by showing how to do things — how to make a dress, use cosmetics, prepare a meal or take care of children.

Most of the programs seen by our audience panels have carried no advertising. Respondents invariably notice the absence and comment about it. People expect and want advertising in

(*Continued on page* 118)

TELEVISION AND FASHION

The development of a high standard of fashion thinking is advisable for all telecasters and an absolute necessity for advertisers of fashion-styled merchandise.

By CONSTANTIN JOFFE
Vogue

THE FASHION and beauty industries—with their allied industries of fabrics, jewelry, accessories, hats, shoes, etc.—occupy approximately 600,000 workers in the United States. It is impossible to estimate the correct amount of money invested in these industries. In 1939, many of them did not keep itemized statistical records, and 1939 records, anyhow, have slight value in arriving at present estimates.

The Department of Commerce, in April 1945, quoted four billion dollars as the value of fashion merchandise sold *annually* in retail sales. This figure, covering only retail fashion sales, does not include other billions in sales made by the associated industries.

During the past few years American fashion has developed greatly for several reasons. Foreign imports were cut off, large sums were spent on fashion items by women having extra money from war jobs, and added to this has been the general trend of the public to spend more freely. The outstanding development in this field occurred in the beauty industry, which consolidated the American market and won more independence from French imports.

Every branch of the industry will receive a terrific impetus through the medium of television. Women will be subjected to a constant bombardment of fashion news and fashion counseling in their homes. Hour after hour every day of the week fashion from every point of view is going to fill screen time. As a result of this new presentation, the fashion industries will gain an entirely new market and the already existing market will be tremendously expanded.

To illustrate the birth of new buying power let us take the example of mail-order catalogs and the businesses they developed. They created a desire and a demand for merchandise on the part of women living in isolated communities. The impact of a twice-a-year catalog obviously is far surpassed by the glamor of daily television advertising.

Raise Tastes in Fashions

As to promoting the already existing buying power, the most important thing that television can do for the fashion industries is to raise standards of taste and stimulate fashion consciousness. The leaders of these industries should realize their opportunity and duty to bring to every American woman the most highly cultivated conception of good taste and good looks.

These refinements will no longer be the exclusive prerogative of the city woman. A television fashion service penetrating rural as well as urban areas will help everybody in his own sphere of living to be perfectly dressed and groomed.

Today's technical achievements must not limit our imagination and plans for television. It may be "Stratovision" with the help of planes, or coast-to-coast networks by means of coaxial cables, or relay towers. Whatever it is, we must realize that the important buying power of the nation soon will be covered by a television network.

Should we telecast fashion programs in hours chosen when women are at home alone? Or should we consider educating the man of the house to a finer appreciation of a woman beautifully dressed and groomed? Should we have programs frankly displaying their merchandise for sale, such as the Macy five-minute programs prepared by RKO Television? Or try to create desire in the onlooker to be as well dressed and groomed as the actress on the screen.

Also, should we try to combat the fleeting impression which movement on the television screen leaves in our minds, or should we exploit this fleeting

(*Continued on page* 134)

TELEVISED fashions show garments from many angles, permit audiences to see full craftsmanship details, all from a front-row seat.

SPORTS COATS televised by a New York department store were shown as "fashions in action" rather than in the studied, stereotyped manner of most style shows, greatly stimulating audience interest. Presenting products "in use" has proved much more effective than artistic display.

TELEVISION IN THE RETAIL FIELD

There is excitement and interest for women in "news of merchandise" and a whole new profession is needed to present this news visually and dramatically.

By I. A. HIRSCHMANN

Vice President, Metropolitan Television, Inc.

TELEVISION is on the way as a *regular* service for our people. Nobody can stop its progress.

The people who might delay it or interfere with it may be those who would like to make it an overnight profitable success. That would be the most deadly means of retarding its development.

Technically most of the television problems have been met through the coordination of the best engineering minds under the auspices of the government in the war. In contrast, programming has not even had a start. And programming is a field that will call for the best imagination and the best implements that we have learned to use in other related arts. I have absolute faith that we will learn how to do it well and inexpensively. I also think that we will probably learn the hardest way, which in the long run is the best way and the way we seem to do things in this country. The most dangerous kind of thinking that we can indulge in is along these lines:

1—That television sets will quickly replace radio sets in everybody's home.

2—That television will be so revolutionary that it will interfere with or frustrate the moving picture business, the radio business, the newspaper business and change the habits of the American people.

We ought to know now from the history of even our most exciting developments in the fields of communications and entertainment that it does not work that way. Moving pictures are just beginning to become less sappy, more intelligent and well-integrated.

Progress Will Be Gradual

Our memories are probably short, for most of us forget that from 1920 to 1929, in the boom of the postwar era, radio went through its fumbling preparatory stages. Television will also develop gradually. If it does not, something will be wrong with it.

In recent years as we moved into an unparalleled boom in advertising, with radio selling at a high level, we suddenly learned that the technical method for broadcasting was outmoded; that FM would supply a much more desirable service; that radio principals were rushing to develop this new field which inevitably would replace AM radio.

This ought to provide some kind of a lesson that there is no final technical word when you are dealing with the ether. There is no last frontier in the field of the unknown. Our steps ought to be bold and well-aimed. But we must always anticipate the possibility of a revolution just around the corner probably started by fertile-minded youngsters who have had first-hand opportunity in this war to use mechanical instruments which are destined to become tools of the future.

This should not give us pause or haste but courage and confidence, for we know that the fields will be broad and open with newer possibilities and opportunities than any of us dared to dream about, even in our optimistic moments.

I would make a plea for good standards of programming for television in its early stages. I think that radio with all its success is underselling the American people; that it could be raised several notches higher in intelligence and appeal, sell just as much goods, if not more, sell good-will along with it, and sell itself as the valuable instrument that it is.

Advertising on radio need not necessarily be offensive or defensive. People gladly give credit to a company that supplies decent entertainment, humor, music or information. They will do it all the more willingly when a program assumes that its average listener is

SUBTLE COMMERCIAL: The sponsor's product — toble linen — hos been constantly in view as the oction of o short drama centered about a dinner table. The commerciol simply answers questions that women in the audience might quite noturally wish to ask.

STORE CONDITIONS con easily be reproduced in the studio, permitting customers to feel thot they ore "shopping by television."

PROCEED WITH CAUTION

By NORMAN D. WATERS

President, Norman D. Waters & Associates, Inc.; Past President, American Television Society, Inc.

FOR THE GOOD of television let us all take care not to *oversell* it to the public or the trade. Let us see that there are no more *backward* steps in its *forward* march! Let us beware of those who would create greater immediate expectations than television can truly fulfill.

No one can challenge the fact that a great new industry is here in all its glory. Vast improvements will come with the passing of time but the fact that television is *here* and *ready* to become a great force for public good is indisputable. In our boundless enthusiasm, let us not promise too *much* too *fast* . . . let us *not* disappoint the public again!

Programming is today's paramount problem, and unfortunately very little progress has been made in solving it. One hears wild speculations concerning the types and costs of future television programs. Radio was bombarded with identical criticism, yet solutions were discovered. One basic principle applies—and it is even *more* true of television. If the service itself is of sufficient value to the public, an answer will be found for *all* cost difficulties. If television programs are as effective commercially as we all anticipate, advertisers will stand in line to foot the bills and assure handsome profits to all concerned.

The crying need in television is to attract the great creative minds of America to the task of developing programs that the public *wants* to see and learning *how* to present them most effectively. Everything else revolves around this central point. If John Doe *wants* to see television regularly, he'll buy a receiving set. If he buys enough sets, advertisers will *want* to use television time. If broadcasting becomes profitable, stations will spring up like mushrooms throughout this country and the world! John Doe, in the televiewer's chair at home is boss, and always will be. He will call the tune to which all in this great new art must dance!

More and more outstanding producers and directors of the radio, motion picture, theatrical and advertising fields are seriously studying television. All of us are beginners in the complex art that programming represents; but many are rolling up their sleeves, pitching in and learning fast.

The American Television Society has served as a rallying point for all who foresaw the greatness of television and worked for its advancement. It has increased opportunity and responsibility today. I believe its strength will always lie in its complete independence as an organization. This independence enables it to function as an impartial forum for threshing out television problems as they arise. It has nobly served this cause in the past and a great future stands before it. The careers of those in television are best served by conscientiously safeguarding the interests of the public and of the industry as a whole.

several grades above a moron. So long as I live I shall continue to repeat that it is never necessary or desirable to talk down to people. We should bring people *up* to a product, not the product down to them.

Not that department stores have made effective use of radio! On the contrary, it is apparent that stores have fumbled badly in their use of radio. When it was a new medium they ignored it, then feared to use it, and finally edged into it. Radio is as specialized as any department in their stores and requires an equally specialized approach and treatment. Only gradually, and late, stores are coming to a realization of this fact.

It is my sincere hope that department stores will approach television *at the start* with the thoroughness, intelligence, boldness, and resourcefulness that they have used in developing their businesses, their displays and their newspaper advertising.

A great contribution to the entire field of television can be made by the stores. They are a vital link in the promotional follow-through of this new medium. My impression is that department store owners will not be blind to it for television will offer them a miniature show window in everyone's home.

Great care, time and large expenditures are lavished on stores' exterior show windows. And equal attention, by many stores, is concentrated on vital interior display. It will require this same kind of specialized skill and research to build effective television show windows in people's homes.

I see an entire new industry of men and women trained to present merchandise visually, in dramatic, interesting, salable fashion. It will not be possible to drape a fabric or a dress in front of a tele-lens and have people remain interested in it. Remember, it is a dynamic process in a dynamic age!

The question will be asked: How can stores compete effectively with world news, expensive entertainment and sports events, which may be viewed as they occur? The answer is, the department store has its own function to perform in television.

In the *vocal* you can tie a selling message to a news program. In the *visual* the message is the "bread and butter" itself, that is, the actual merchandise. In newspapers and magazines, for example, we advertise the actual goods, not a news program. In television we will come back to this practice but, *with a different technique.*

We shall be able to offer our customers the *news of merchandise*, take them behind the scenes as merchandise comes into the store. We shall present a visual catalog for shopping, dramatically and interestingly. Obviously, no store can expect to get away with shooting a camera at static goods.

Dramatic Demonstrations to Come

There is excitement and interest for women in stores, in their activities in the use of all the new things that are beginning to explode upon us. The background of many old and new things can now be interestingly presented to the public.

The miraculous scientific story of a new fabric like nylon can be dramatized by showing the method of production and by letting laboratory tests demonstrate why it wears so well.

Bureau of Standards' tests, so dry in reading, can be brought to life and can prove before your customers' eyes that materials will not stretch, fade, or wear out, except under certain duress.

Merchants who are struggling to find the solution to the present static window display will eventually find their answer in the dynamic television screen which provides movement, vitality, interest, change and immediacy. Your customer of the future facing what is now the framed still-life window display will find herself looking into active moving exhibits of merchandise either within the store or from other sources.

One day soon our present type of window display, compared with the future television window, will probably seem like a framed picture of dead fish in a Victorian dining room.

Department stores will do well at this time to begin studies of television techniques. It is not necessary to build enormous equipment to do so. Somewhat small flexible devices will be available for rehearsal and experimental work. Every retail advertising department of the future will have studios devoted to

(*Continued on page* 127)

TELEVISION DOLLARS AND SENSE

Television's real progress as a public service will begin when thousands of programming and advertising people begin thinking constructively on its problems.

By PHILIP MERRYMAN

Director, Facilities Developments and Research, National Broadcasting Company

AT THE BEGINNING, I want to make it clear that I have no "prevision" on television. I have looked at the facts—learned by experience while developing sound broadcasting. I have examined most of the evidence available, good and bad, concerning the problems we expect to meet in television. From these explorations I have drawn the conclusions that follow.

It is not my purpose to argue with any one regarding the technical standards for television. I prefer to let the public decide whether six megacycle black-and-white television is satisfactory. The pent-up demand for postwar television is apparently so great that it will reach floodtide as soon as new sets appear on the market. If we are to deprive the public of these sets we need very convincing reasons. King Canute could not stop the tide. It is just as foolish to believe that television can be withheld from an eager public.

One fact is certain—a television picture cannot be evaluated in the same terms as an oil painting. Television pictures were not intended to grace the walls of world's art galleries. They were created for the specific job of bringing into homes and public meeting places, the living, vital, instantaneous reproductions of the pictures and sounds associated with interesting human or natural events wherever they may occur. Any attempt to evaluate the television picture on any other basis leads to fundamental errors of interpretation.

Flawless Image Is Objective

Of course, the television industry will not be content until it achieves a picture as flawless as nature itself but this ultimate goal cannot be reached through laboratory research alone. Like the automobile, its final perfection will be attained only after millions of people have contributed to its improvement. The names of the engineers who have devoted major efforts to the development of television can be counted by hundreds—perhaps by thousands—but the names of the program, advertising and business men who have devoted creative thought to the development of a television service can be counted on the fingers of two hands. Television's real progress as a public service will begin when thousands of such men think constructively on television's problems.

Yet all the constructive thinking in the world will not carry television forward unless labor offers a full measure of co-operation. This failure to evaluate the future possibilities of television in terms of its present status is particularly evident among organizations that have the greatest stake in the ultimate place of video art in the entertainment field.

Orderly progress in television is dependent on far more than the initiative of broadcasters. They cannot do the job alone. They must have the sympathetic support of all factions concerned. With little financial return from their pioneering activities at this time, any additional burdens the television companies are forced to bear because of the extreme demands of labor groups might easily retard the extension of the service to the public.

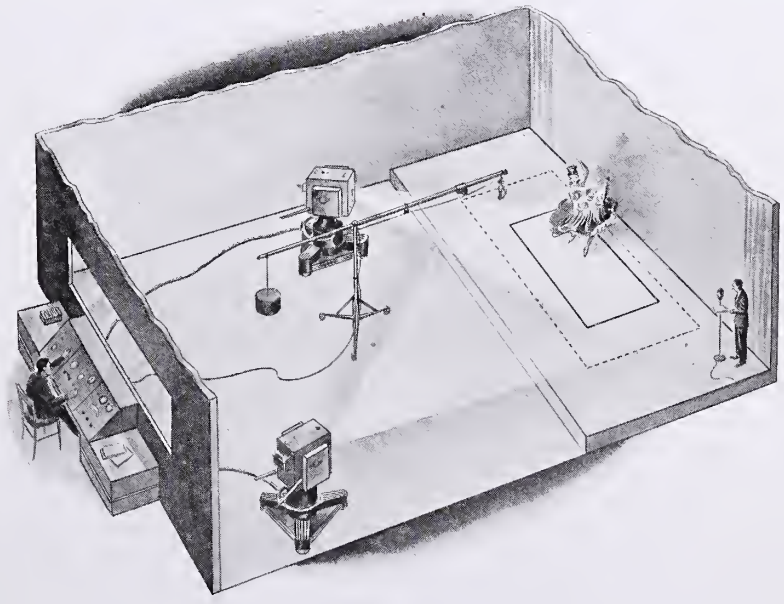
A little common sense will show that it is not a "something for nothing" attitude on the part of broadcasters. Television is willing to pay a fair price for contributed services during the present developing stage but if supporting costs are lifted so high that resources are threatened, the industry will face a critical situation that could easily be its Waterloo.

Television producing companies take the stand that labor should be content to grow with the industry in the same way that broadcasters expect to develop it and the advertisers to use it. There must be fair play and generous treatment by all concerned if television is to become a national medium of entertainment with consequent opportunities for mass employment.

400 Cities with Television

In testimony before the Federal Communications Commission I stated that I believed television stations could be supported in towns having populations as low as 25,000. I submitted cost and operations statements to support my contention. I can now expand that statement. It is my belief that within ten years more than 400 cities in the United States will have television stations, all operating at a profit.

Unfortunately, sound broadcasters have been led to believe that the in-



TWO-MAN STUDIOS such as this basic type need but engineer and announcer for operation. Heavy line shows area covered by far camera; dotted line is the portion of the stage picked up by camera in foreground. Once adjusted, the cameras require no attention.

TELECAMERAMEN soon will focus on all top sporting events. Here, WNBT's eyes and Red Barber report a Columbia-Lafayette football game to New York's television audiences.

stallation and operation of television facilities entail a very considerable outlay from the start. This is not so. Television programming can be started in a small way and expanded as receiving sets and commercial sponsors increase. How this can be done is suggested in the accompanying illustration. It will be seen that one operator, handling cameras and lights by remote control, would be sufficient for simple productions. By restricting their movements to the areas outlined, the actors would always be within the focus of the camera. The latter, once adjusted, would then operate unattended throughout the performance, eliminating need for an operator at each camera.

A studio arrangement such as the one shown here, supplemented by one or two 16-millimeter motion picture projectors, would comprise all essential equipment for a start. As program time is increased and additional studio space secured, the transition from these limited facilities to those that will be required eventually could be carried out in gradual and logical steps.

Now what about the other advertising media—newspapers, magazines, carcards, billboards, direct mail and so on? I predict that all of these media, including sound broadcasting, will be more prosperous than ever, even after television becomes a commonplace. It has been the history of advertising that no new form ever completely displaces the older ones. On the contrary, history reveals that the resulting increased volume of advertising increases the distribution of goods and services so that the over-all national wealth is increased.

Between 1927 and 1943, for example, newspaper circulation increased from 63,000,000 to 82,000,000 and magazine circulation mounted from 36,000,000 to 63,000,000. This was the period during which broadcasting was growing most rapidly. There is no fundamental reason why this experience should not be repeated even though television should prove to be the most powerful advertising medium devised by man.

I believe that there must be a new program format developed for television just as sound broadcasting had to devise its own program technique. Audiences around New York like the programs they see now, but we can and will improve the service.

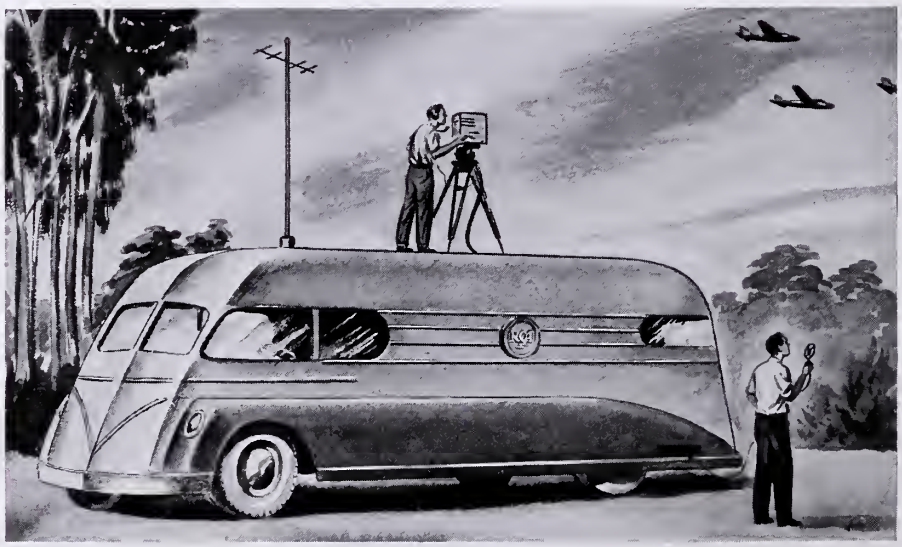
Cannot Copy Older Mediums

Television programs cannot simply ape the older forms of entertainment if they are to fulfill their promise. Although the scope of program material available to television broadcasters will be fully as great as that now available to sound broadcasters, the technique of presentation must be different since the television broadcaster will be presenting pictures themselves—not just sounds which create mental pictures. The technique of the stage will not be suitable since television will use the world for its stage and the usual 50'x 100' space behind the footlights will be only a small fraction of its area of activities. Nor can it be the technique of the movies, because television will broadcast events as they happen. Furthermore, there can be no takes and retakes which, after the final cutting, may lie in cans for months before they are released. No, television's technique must be different from any entertainment technique yet developed and the genius who perfects it is probably still unaware of the part he is to play in its development.

Recently, the British Broadcasting Corporation announced that its postwar television service expansion plans are based on the use of its 405-line standards. This decision did not exclude the possibility of rapid development of a higher definition television system. It simply recognized that if the British public is to have immediate postwar television service it would have to start with 6 mc. black-and-white pictures. That should be the program in the United States. We don't know how long it will take to develop 20 mc. television. We do know that we can plan television now on the 6 mc. basis and every rule of common sense tells us that we should go ahead on that basis.

In 1927, when broadcasters went to the White House to broadcast a speech by the then President Calvin Coolidge, a truck was needed to transport the equipment. Today one man with one suitcase can carry the necessary equipment into the Presidential Mansion for a presidential address. In 1927, we had cumbersome, unattractive and expensive radio receiver sets. In 1941, we could purchase better sets for $19.95. With all the ingenuity, originality and progressive thinking the collective brains of the broadcasting industry can bring to bear on television's problems as soon as television becomes an established service, it is inevitable that we shall see progress just as rapid and as revolutionary as we have witnessed in sound broadcasting.

Television seems destined to bring regularly to all America the best in American culture. Later we may exchange programs with the rest of the world. The social and economic effects of thus broadcasting information and entertainment will be considerable. Socially, because television will enlarge mental horizons in all walks of life; economically, because it will increase the demand for goods and services so that national employment will be enlarged and national income increased.



SPEEDY, compact mobile units will soon provide sight as well as sound coverage of emergencies and special events, flashing signals back to their stations by microwave transmission.

DISCUSSION PROGRAMS WILL BE BETTER

Television audiences will be quick to judge the character of those who address them.

By GEORGE V. DENNY, JR.

Moderator of "America's Town Meeting of the Air"
President of Town Hall, Inc.

TELEVISION, if properly used, can be the greatest single unifying influence devised by the scientists and engineers during this amazing twentieth century of miracles.

We're moving into an age where ideas are becoming increasingly important and visual images vastly increase the effectiveness of the spoken word in presenting ideas. The scientists and engineers have given us powerful new instruments which may be used to aid or enslave us, make us free or destroy us. But it is the men with ideas who will determine how these great new instruments will be used.

A short time ago we discussed the atomic bomb on "America's Town Meeting" and I tried an unusual type of introduction to the program. But imagine how much more effective it would have been if we had had television. This is what I said:

"Good evening, neighbors. Look at your hand. No, I'm not joking, this is serious business. Are you looking at it? It's the most powerful hand in all of human history. The cave man found that he could increase its power with the aid of a club. Later on he began to use spears and other pointed weapons. Then he found he could increase his power tremendously by throwing a stone in a sling shot. Remember how David killed Goliath?

"It wasn't until the fourteenth century that man learned how to hurl missiles at his enemies with the aid of gun powder. But he had to use his hands and a weapon in the process. As the human hand has become more powerful it has become more destructive. Let's not forget that it was a human hand—the hand of Major Tom Ferebee of North Carolina—that dropped that first atomic bomb on Hiroshima and wiped out a city of a hundred and twenty-six thousand people at one blow. Yes, it's the most powerful hand in all of human history. But the hand is the faithful servant of the brain that directs it. It was through the integrity of men of science, searching for truth, using their brains honestly, that we found out how to magnify the power of the human hand so tremendously.

"Can we apply our minds with equal honesty in determining how to use this power? It will take the best and most courageous thinking on the part of each one of us if we are to prevent the gigantic power now in the human hand from being used to enslave or destroy us. . . ."

Think how much better this dramatic opening would have been if the audience could have watched me as I talked, or if it could have looked at charts or movies supplementing and pointing up my words.

"America's Town Meeting" was regularly televised from Town Hall in New York City for about two months in the fall of 1941 before the Office of Civilian Defense requested these facilities for war work. Reports from those who had receiving sets in the New York area were highly enthusiastic. Last fall we put on a special television program from the General Electric studios in Schenectady under the watchful eye of many experts who declared the program a "natural" for television —including Rex Stout's famous beard!

From our viewpoint, television will give us a much needed dimension in which to give background material on those subjects which we cannot present adequately at the present time. For instance, in our various discussions of the Pacific and Asiatic countries I've had to suggest to our listeners that they get out a map of the United States and lay it over certain areas in order to make those distances familiar by comparing them with distances in this country. By television this could be done visually in an instant.

Newsreel shots would be of great value to us in introducing current "Town Meeting" topics to the audience and could be used almost weekly to enhance greatly the value of each of our discussions in current problems. Programs about strange people in other lands would be greatly enhanced if illustrated by shots from authentic travelogues. Again, we encourage the speakers to use picture words and phrases in their talks on "America's Town Meeting." If we had television we'd want them to illustrate their speeches with interesting pictorial charts and Disney-grams.

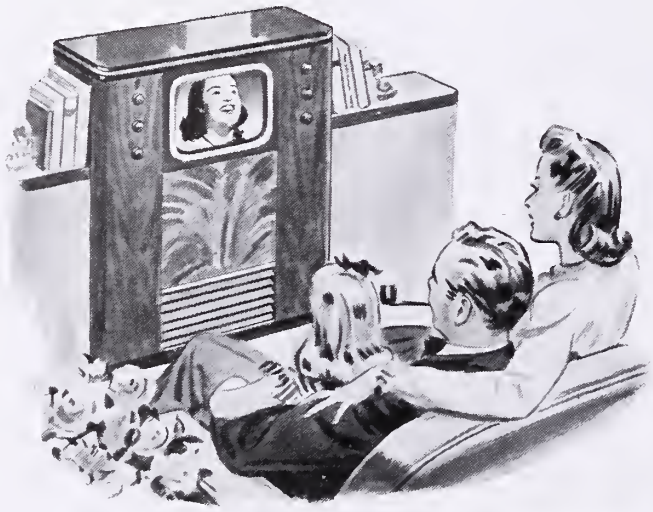
About half of our "Town Meetings" originate in different parts of the country with local audiences consisting of from two to five thousand people, as a rule, although in the San Francisco Civic Auditorium we packed in twelve thousand. These audiences constitute an extremely interesting and vital part of every program. With television the character of each questioner would be as readily visible in your own living room as the personality of the principal speakers.

PEOPLE like to participate. An "America's Town Meeting of the Air" in San Francisco.

Television will challenge the best productive brains we have in the country. If it is used only to put on cheap vaudeville, like art and conventional variety shows, it will miss the boat. But if television producers will take advantage of this great new dimension by creating programs especially adapted to the nature of the medium, and the environment in which it is received, then the possibilities are limitless.

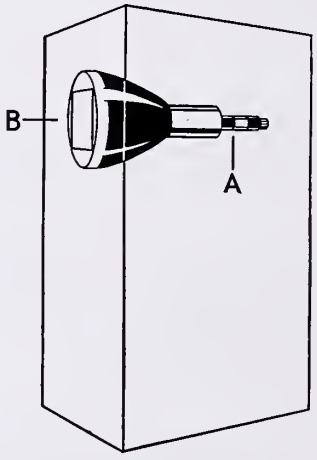
A PROGRESS

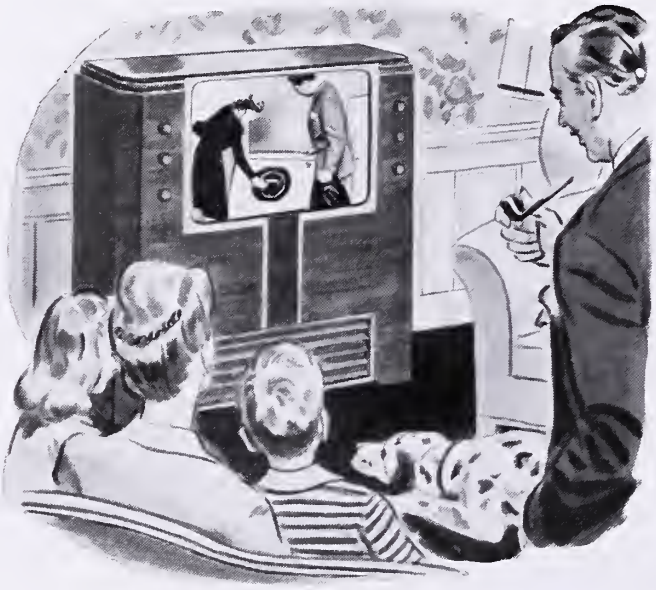
TELEVISION RECEIVERS



RCA DIRECT-VIEWING TELEVISION

The first RCA Victor television receivers will probaby be of the direct-viewing type. Here o Kinescope Tube (A) is mounted horizontally in the cabinet. The picture oppears at front end of tube (B) and is viewed through o frome in the cabinet. Pictures of this size can be seen comfortably by an average family group in a typical living room. Brilliance of picture permits normol room illumination at all times.

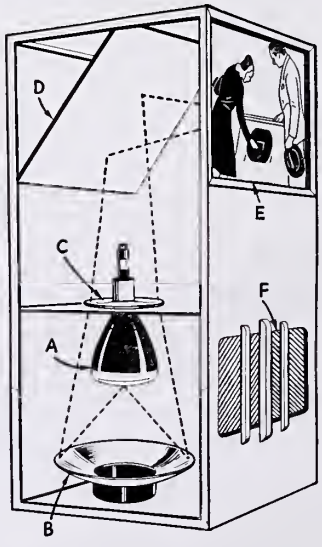




RCA LARGE-SCREEN TELEVISION

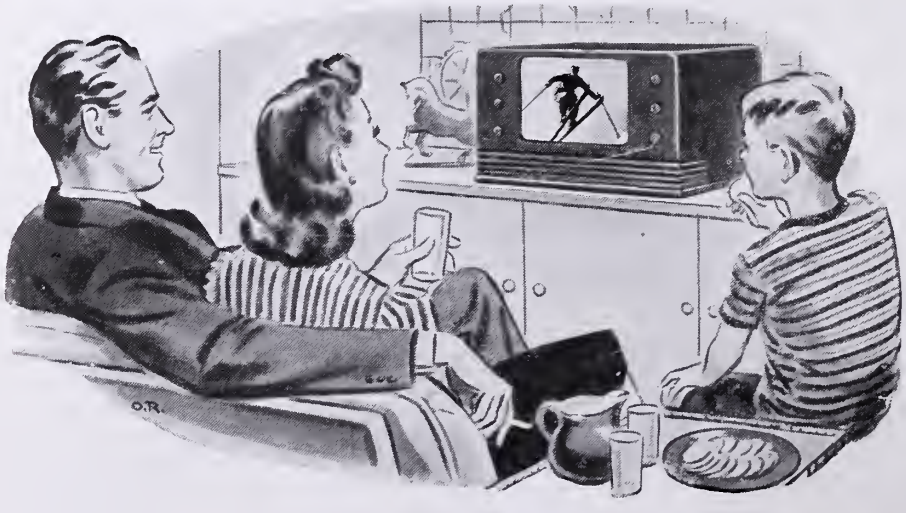
Probably the next type ovailable ond at a higher price than direct-viewing instruments. RCA Large-screen Television became a post-war reality when RCA scientists, placing a small projectian Kinescope Tube in a vertical position, combined it with o system of lenses and mirrors used in astronomy. With this system brilliant, clear pictures larger than o standard newspaper page are passible.

A. Kinescope Receiving Tube. B. Spherical Mirror. C. Aspherical Carrecting Lenses. D. Inclined Mirror. E. Translucent screen (picture viewed from frant . . . projected from rear). F. Laudspeaker for reproducing television sound.



RCA TABLE MODEL RECEIVERS

The great popularity of table model radios leads many to predict a great future far a campact televisian receiver of this type. These receivers will use the direct-viewing principle described in the diogram at the top of the page. Because of their small size, relatively low cast and small but sharply detailed pictures, these receivers are likely to be the choice of mony fomilies, nat only for use in living rooms but as an "extra" set in a bedroom or den, for example.



REPORT BY RCA

. . . Models for every need

RCA Victor Television Receivers will be available in a range of sizes and prices to suit all family requirements. First models, incorporating many new improvements, expected in 1946

RCA Victor has in store for you new, improved television receivers providing the bright, clear pictures that you have long been waiting for. These receivers, far superior to any previously produced, will be in the market in 1946. They will be announced as soon as RCA Victor dealers receive them.

Various sizes of pictures and cabinets will be available, priced according to the elaborateness of equipment. Cabinets will be beautifully styled—designed to take their place with the finest furniture.

How important is picture size?

Studies by RCA Victor engineers of ideal viewing distances reveal an interesting fact about picture size. Although many people who are unfamiliar with television feel that the larger the picture the more comfortable the viewing will be, scientific determinations and practical tests show that the only important thing is that picture size be always adequate for the distance at which it will be viewed.

Direct-viewing Receivers lower in cost

For example, when you are seated a few feet from the receiver as in a normal family living room, a 6 x 8-inch picture has the same high visibility as a much larger picture viewed at a greater distance. This means that the size pictures provided by RCA Victor *direct-viewing receivers* will probably be preferred by many families. Direct-viewing receiver cabinets can be smaller, and less equipment is required than in receivers achieving large picture size through optical enlargement. Therefore, direct-viewing receivers will be appreciably lower in cost.

RCA Victor *large-screen television* will meet the requirements of purchasers who entertain large groups of friends and whose living rooms can accommodate larger cabinets. This receiver employs a translucent screen on which the picture is projected through an optical enlarging system within the set. No external screens, such as those used for home movies, are required. RCA Victor large-screen television, already proved in the laboratory, can provide pictures of bright, life-like quality measuring up to 18 x 24 inches . . . larger than a full-size newspaper page.

The Heart of Electronic Television

RCA Victor receivers described here are but a few of the milestones in television which bear the mark of RCA research and development. Among others are the two basic electronic tubes, developed by RCA engineers which made electronic television possible. These are the Iconoscope, or the "electric eye" of the television camera which picks up the scene, and the Kinescope, or screen tube on which the picture appears in the receiver.

More than any other organization, RCA Victor has the experience and knowledge to bring you the most advanced television. Every type of RCA Victor television receiver will reflect the exhaustive research and development of the pioneer which extends back many years before the war. When television comes your way, you'll enjoy it to the fullest on a receiver bearing the mark of the leader—RCA Victor.

RCA VICTOR

RADIO CORPORATION OF AMERICA • RCA VICTOR DIVISION • CAMDEN, N. J.

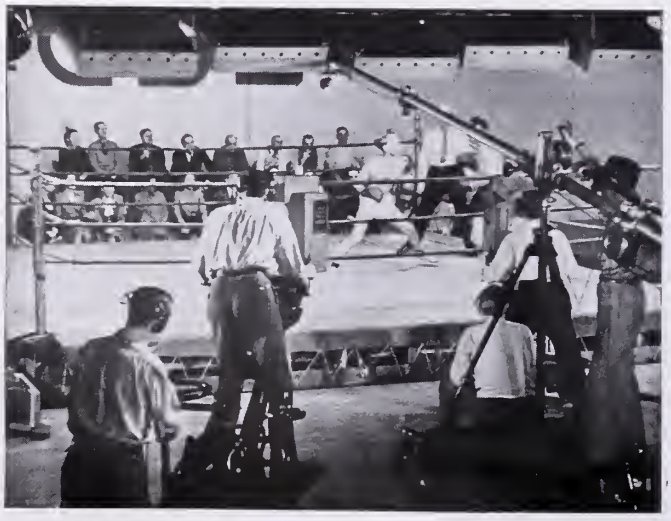
In Canada: RCA VICTOR COMPANY LIMITED, Montreal

A LIVE TALENT STUDIO, as this musical production at WRGB indicates, requires men to handle cameras, sound, lights, scenery and properties.

TELEVISION JOBS FOR VETERANS

300,000 openings expected. These pictures from *Army-Navy Screen Magazine* show what they'll be and where to find 'em.

DAVID SARNOFF, RCA president, foresees 300,000 well-paying jobs in television within five years after things really start rolling. Television is made to order for G.I.'s with radio and radar experience, but while a lot of jobs in it will call for technical training, plenty of others won't. So, run your eye over this page and the next to find the job that you're best fitted for in this rapidly expanding industry.



SPORTS will play a big part in tele-programming. Crews will travel with mobile units carrying cameras, sound equipment and lights.

TELE-NEWSCASTS will be picked up live and on film. This WCBW newscast requires writers and researchers as well as studio crew men.

RIDING THE "IKE": The iconoscope camera men have to follow action quickly and artistically. There are no "retakes" in television.

SOUND BOOM: Keeping the microphone in close—but out of the picture—is a sound man's important job. Floor manager, at right.

MANUFACTURING: Making sets should employ 60,000 assemblers, machinists and electronic technicians. Virtually all radio manufacturers have television plans.

SERVICE: 85,000 maintenance men should be needed to install and service the new video-audio receivers.

MASTER CONTROL: Technicians watch, hear and regulate the quality of pictures and sound before they go out on the air.

SALESMEN WANTED: The television industry should put 135,000 salesmen to work for dealers and distributors within the next five years.

TELEVISION OUT WEST...

Tele-conscious California with its reservoir of film talent will make a strong bid for tele-programming and may well attain tele-programming leadership.

By KLAUS LANDSBERG

Director, Station W6XYZ, Television Productions, Inc.

GO WEST—!! That was the decision of the movie makers not so very long ago. Today, Hollywood represents the mightiest center of entertainment manufacture in the world.

Is Hollywood going to be the Television Center, at least of America, if not the world?

"YES!" says Hollywood.

"NO!' says New York.

And Chicago claims the tele-hub for itself, being strategically located in the middle.

It's easy to argue for Hollywood, pointing to radio, which, in the last few years, decidedly moved West, and shows no tendency to stop this move!

"But," counters New York, "look at the theatre. It still gleams brightly on Broadway, while only flickering faintly on the West Coast."

And now the battle really starts. With Hollywood claiming its stars as the greatest attraction to Broadway theatre-goers, and New York asking the embarrassing question, "And where do your talent scouts make their discoveries, and your producers find their stories, but on the New York stage?"

Okay, boys, break it up! There's no sense in fighting, because in the end, you will only discover that economical considerations decide all. And as long as the entertainment medium that pays most sits in Hollywood, the wealth of talent, too, will be found there! Not just actors, but producers, directors, writers, artists and technicians.

And if you ask, "How can television afford such high-priced talent?" then think that for every Hollywood discovery, there are ten—and that's a conservative figure—who are waiting to be discovered. Don't forget, either, that most movie stars can't afford to snub a radio appearance because of that "little" reimbursement. And how much more will a television appearance mean to them!

By this time, the reader no doubt will shake his head and exclaim, "Oh, please, let television be a culture bearer —don't let it go Hollywood." But no longer must Hollywood hide from this attack—it can point proudly to the war work it has done as a morale builder and as an educator. Who else can claim the development of visual education as his own?

The movie capital is well aware of the great role it is destined to play in the television game, but it is equally aware of the difference between a theater and a home audience. And while it knows that many Hollywood happenings will attract the tele-viewer, most of the news and sports events which claim nationwide interest take place in the East. And no doubt the West Coast looks to the East for an immediate visual report of such events.

All this, of course, is based on the early establishment of transcontinental television networks. Yet while we wait for this, at least a little while, the product of the movie makers will span the country without waves.

While only five years ago the West Coast shrugged its shoulders when television was mentioned, it is today just as eagerly awaiting the arrival of television receivers as any other part of the country. The rush for television station licenses is equally great. No major city on the West Coast will be without this service soon.

Much barren country and large distances divide the western cities but nature has provided high mountain tops to bridge these gaps. A single station on Mt. Wilson can provide television service for well over one-half of California's seven million inhabitants.

A station in San Francisco can easily cover Oakland, Berkeley, and even Sacramento, the state capital. This condition, in itself, guarantees rapid development of West Coast television, and provides ample proving ground for the productions with which Hollywood hopes to capture audiences everywhere —upon completion of the Ether-Bridge.

Yes, the West Coast is television-conscious; it won't be caught in a siesta. The same young and progressive spirit that overnight made the West an industrial powerhouse, and the art and skill that reproduces Niagara Falls on the desert, will blaze the trail for new enjoyment through television.

Look West!!

SHOOTING THE STARS: The W6XYZ field unit interviews a few Paramount celebrities.

TELEVISED NEWS FOR THEATER-GOERS

Newsreel Theater owners are ready and waiting for the advent of theater television. They plan to project televised news events to swell box-office receipts.

By ALFRED B. BURGER

President, Telenews Theaters

TELEVISION is here—and we of the newsreel theaters look to this new expanding industry to amplify the extensive news coverage and recreational and entertainment features which we are presenting today to people throughout the country. We salute this new industry—this new medium of high speed news and entertainment distribution—knowing full well the valuable service we can render it.

More than a decade ago, when our plans for a nationwide chain of newsreel theaters were formulated, we cast about for a suitable name for this comparatively new type of motion picture house. Television was then being moderately talked about and we foresaw the eventual adaptation of this new form of visual production to the speedy dissemination of news on the theater screen. Hence, the name "TELENEWS"!

Extra Added Attraction!

In the planning and construction of our Telenews Theaters throughout the country we have incorporated radio studios and television lounges—separate and apart from our main auditoriums. In most of these theaters we have installed fully equipped broadcasting studios, each with a seating capacity of approximately 150 persons. At the present time these studios are used only for regular radio broadcasts in co-operation with local radio stations. As television becomes available in the various cities in which Telenews operates, we shall immediately install the necessary receiving sets to enable our patrons to watch and hear this new medium, in addition to the regular screen programs which we shall continue in our main auditoriums.

The primary purpose of the newsreel theater is the dissemination of news and information by film, radio and wire services. Our theaters are far better equipped to handle television than conventional theaters of today. The radio broadcasting facilities in our theater lounges can be turned to television use. From our observation it appears that the home or school-size television screens will have to be used until television achieves the excellent visual quality of motion pictures projected on large theater screens.

The newsreel theaters have the only genuinely elastic program which can be complemented by telecast events—when this new medium is available for the full auditorium screen. The present newsreel program can be interrupted at any point without breaking the continuity and chain of thought.

We look forward to the time, not far distant now, when television will afford us the opportunity to project on our screen the word "TELEFLASH"—the equivalent of the radio industry's interruption of a major program for important news announcements, and of the newspapers' "STOP THE PRESS" for an important insertion of headline news. In other words, spot news fits not only well but completely and emphatically into the continuity of our type of program.

One of the most hopeful signs of what television will do for the newsreel theaters has already been demonstrated by radio. This point is stressed because there has already arisen, from every quarter, the question: "Will television hurt rather than help us?" At the outset of radio, film men thought that the then new medium would hurt motion picture attendance. But radio successfully proved it actually could be used to speed the popularity of the motion picture!

During major broadcasts, the conventional theater found that important events such as the President's speeches, really hurt their box-office! However, this falling off has not occurred in a single Telenews Theater, for our patrons know that they have the opportunity to listen to all momentous broadcasts as well as enjoy our regular programs. Our attendance increases during major broadcasts. People actually jam our radio lounges to hear these broadcasts!

Audiences Want Hot News

When the radio networks carry news of some major crisis we interrupt regular screen programs to carry the broadcast into our auditoriums. Audiences are completely receptive and thoroughly enjoy this additional service. We know, from this experience with radio broadcasts, that television news reporting will not only prove generally agreeable, but overwhelmingly popular. When the day of full-screen television arrives, we know that we shall have something our newsreel patrons will like and something they will be most eager to see.

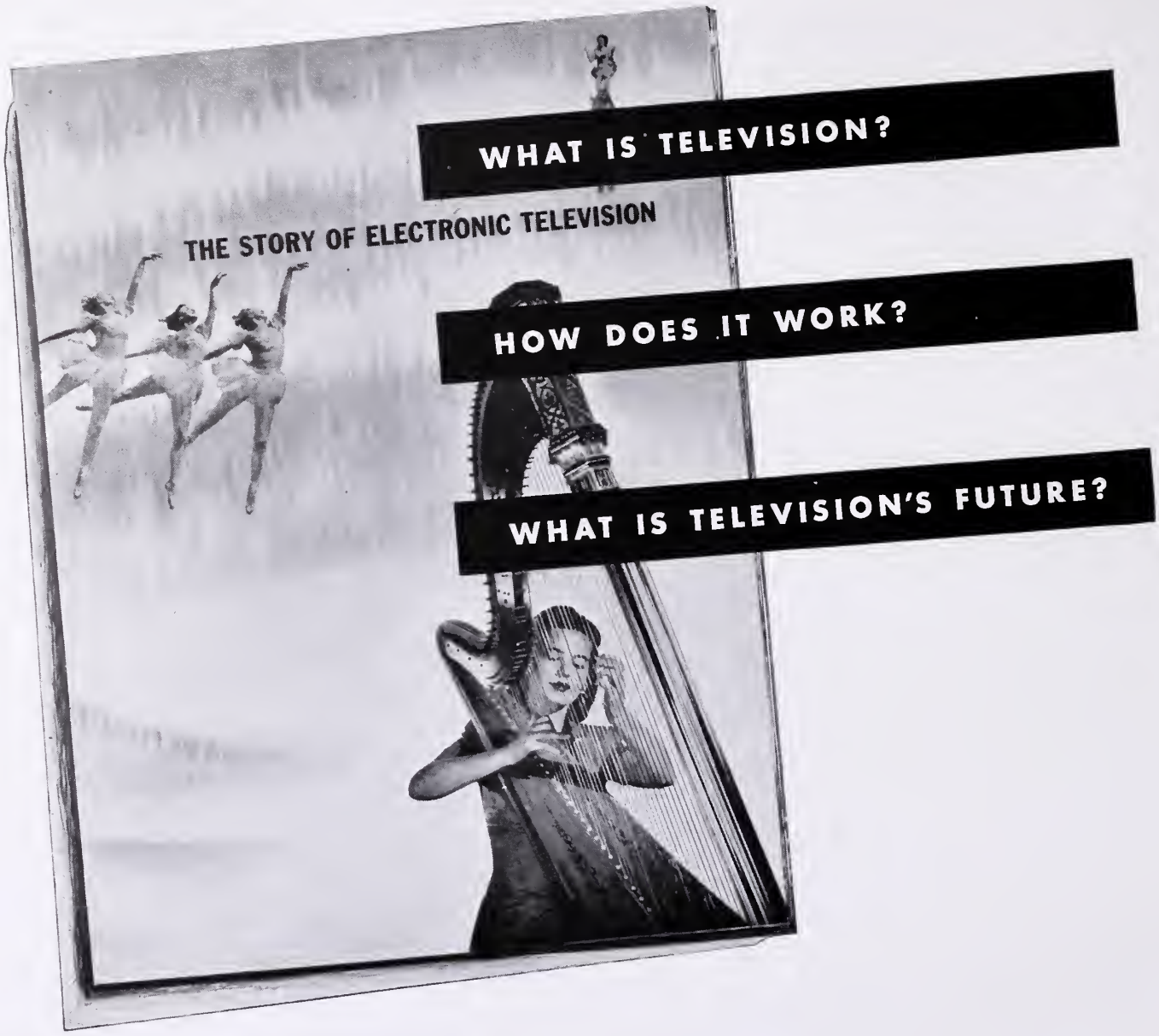
A MIXED BLESSING?

By QUINCY HOWE

CBS News Commentator

LIKE every other technical advance in the field of communication from the invention of the printing press, television seems likely to bring a mixture of good and bad results. It is likely to put its worst foot foremost because of the dominance of conservative financial interests. That was the case in movies, phonograph, and radio, and I see no reason to anticipate anything very different. But I'd rather have it begin that way than state-controlled because at least it will follow the trial and error method, with some freedom to experiment.

I believe that networks and stations should broadcast news interpretation and analysis on a sustaining basis only, at convenient times, and with a wide divergence of opinion. I believe this practise should be followed in television, too, but I have no expectation that it will.



SCORES OF QUESTIONS like the above will be answered for you when you read "The Story of Electronic Television." Here, in a colorfully illustrated, easy-to-read booklet is the complete, concise explanation of the miracle of modern television.

Heretofore, this fascinating booklet was available only to those directly connected with the television industry. Now it can be offered to all interested persons. It sets forth in plain, non-technical language the entire story of television, how it began back in the minds of the ancients, how present-day science has made it a reality. In this booklet you will find how electronic television works, how it has been developed since the early days when Philo T. Farnsworth first set forth the basic idea as a fifteen-year-old high school student. And in this booklet you will find a key to the potentialities of television as it will affect our daily living, how it will contribute to the fields of entertainment, industry and education.

"The Story of Electronic Television" has been called the most complete, understandable explanation of this important new endeavor yet written. For your free copy, write the Farnsworth Television & Radio Corporation, Fort Wayne 1, Indiana.

FARNSWORTH *Television · Radio · Phonograph-Radio*

Farnsworth Television & Radio Corporation, Ft. Wayne 1, Indiana. Farnsworth Radio and Television Receivers and Transmitters; Aircraft Radio Equipment; Farnsworth Television Tubes; the Farnsworth Phonograph-Radio; the Capehart, the Capehart-Panamuse.

TOP-FLIGHT SHOWS ARE NOT ACCIDENTS

Inspiration and perspiration, as you might suspect, are the most important ingredients of top-flight television programs

By EDWARD SOBOL

NBC Television Producer

A TELEVISION COURSE — "Radio V.35, Television Production Problems" — was conducted by Columbia University in cooperation with the National Broadcasting Company during its 1944-45 session. It was decided to wind up this course of fifteen lectures with a talk by Dr. James R. Angell, Public Service Counselor at NBC, to be followed by a 20-minute dramatic studio production.

It was further decided that the studio production should be based on an important play. "Men in White" was a natural selection. It had brought to the theatre one of its most important young writers, Sidney Kingsley. It was one of the Group Theatre's most outstanding productions. And last but not least it received the Pulitzer Prize.

Getting the television rights to an important Broadway play is not as easy as it may seem. A great many rights are tied in with motion pictures, and the picture companies are not too willing to release these to television.

I want to express here my sincerest thanks to Sidney Kingsley for his immediate consent and his willingness to help develop the new medium. For it is only with the full cooperation of good authors and playwrights, and the development of new authors, that television can ever hope to make the strides necessary for its success.

"Men in White" also lent itself to "cutting" to the required running time. Cutting scripts to television time requirements is generally a producer's headache. Most plays, as presented on Broadway, have been pruned of all extraneous and draggy material and run about two hours. The problem generally is to cut and yet not lose the story. Fortunately, "Men in White" is a multi-scene play touching on many phases of medicine. I chose the story of the dedication of a young man to the science of healing at the sacrifice of his social and personal interests, and the incident showing a young resident physician ready to oppose a so-called "Park Avenue" fashionable medic even to the point of being brought up on charges, rather than endanger the life of a patient. Both these incidents dovetailed nicely and a good half-hour play resulted.

Having the play, the next step of course was the casting. I find that actors from the legitimate theatre are preferable for television. They have learned how to memorize quickly; they know how to sustain and develop moods and characterizations; they know how to move about a set naturally and, above all, they know how to stand still. They also know how to play with and to a fellow actor and how to react to the other's speeches. This is important in television where the close-up and medium close-up must be used so often.

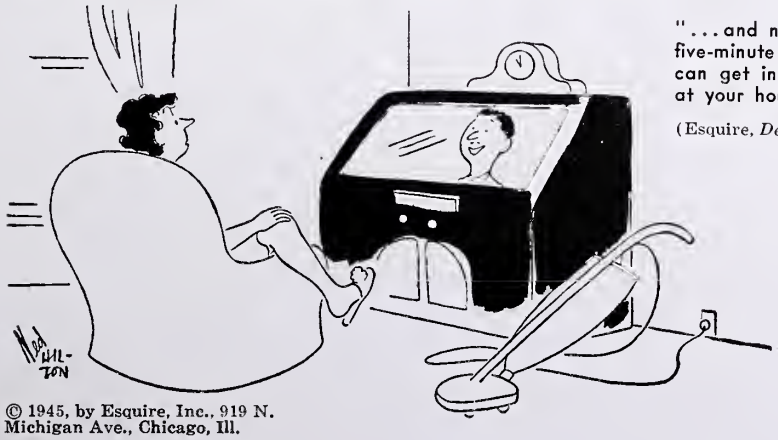
Having selected the cast, the next problems were sets and costumes. The scene is laid in a hospital and there is one color (if it is a color) that is typically "hospital"—white. White walls, white beds, white uniforms, white sheets and pillow cases, white bed pans and white faces. And the doctors and visitors in hospitals generally wear dark subdued clothes. So there is your ever present white and black problem in television. This was solved, however. Studio facilities managed somehow to get a gray hospital bed and gray furniture to match. All internes' and nurses' uniforms, together with sheets and pillow cases were dyed blue. Luckily we did not need the bed pan. We rehearsed off camera for five days, an average of four hours a day; then had about nine hours of camera rehearsal. This might seem like a lot of time to put into a half-hour production, but the result proved it worth while.

The three prime requisites for a good television production are: 1 — A good script, 2—A good cast, and 3—Sufficient rehearsal time.

I have heard a great many arguments in favor of short camera rehearsals but have never seen a really good television show resulting from such short rehearsals. In fact, the alibi has generally been: "But considering I only had a blank number of hours on camera, it was pretty good, don't you think so?" No, I don't think so. Heaven knows that even with sufficient camera rehearsals, television shows are far from perfect.

A television production at NBC involves the following personnel. Five men in the control room, including a man on turntables, three camera operators, three stage hands, two light operators, one "mike" boom operator, one sound man, one stage manager, one scenic designer, and one studio supervisor. That makes a total of 18 in direct touch with the television production. Add to this the actors involved and you have a good-sized "team" to be coordinated so that each one knows just what he must do and when he must do it. Any one of the 18 (let alone one of the actors) can do something to "throw" the show. To eliminate this danger, one solution is self-evident. Sufficient studio rehearsal time! It was the intensive camera rehearsal period, with everybody working as a team, which made a good television production possible.

That "Men in White" was accorded the Award as the "Best show of the year" by the American Television Society made everyone who was part of it feel that all the work which went into the production was worth while.



"...and now, ladies, a five-minute pause so you can get in another lick at your housework."

(Esquire, *December*, 1945)

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FUNDAMENTALS OF VISUAL CONTINUITY

Programming quality demands preplanning. Here are the basic forms employed in Hollywood story-board planning, illustrated with drawings by the author.

By HOYLAND BETTINGER
Former Program Manager, Station WRGB

VISUAL CONTINUITY is the stock in trade of television. Pictures are its "reason for being," and on the production of good pictures, woven together in smooth continuity, its very existence depends. Curiously enough, because television is a new medium, there seem to be many who consider it quite unnecessary to take advantage of the wealth of pictorial knowledge and the time-tested fundamentals that have evolved through centuries of picture making. There are those who would blunder ahead—delaying the advancement of television by so doing—completely disregarding the valuable knowledge that has been gained at great cost during fifty years of motion picture continuity production.

There is more to making good television pictures than appears on the surface. They don't just happen, and there is nothing suddenly new about them. They are not made by any one who happens to come along. A God-given gift, a high sense of selectivity, a lot of "know how," and a flair for showmanship are essential.

Good Composition Builds Interest

Good pictures are compounded out of the principles of art and the laws of what we call composition. Without composition there is no picture, for it is the thing that makes the picture good, bad, or indifferent. Pictorial items thrown together without the application of these principles may have statistical value, but they certainly have no pictorial significance. The piano keyboard, for instance, is able to produce many different musical notes. If they are struck at random there is no music, but if played by someone who knows how to put them together, customers stand in line at the box office.

Unfortunately, for those who like short cuts and the easy road to success, there are practically no rules for composing pictures. The few that can be laid down "hard and fast" are negative rather than positive. They are "don'ts." But there are guiding principles and basic factors which may be learned and used as working tools in the creation of good visual continuity.

Condensed from Hoyland Bettinger's forthcoming book, "Television Programming" (Harpers & Bros., 1946).

A design is an arrangement of shapes. A picture is a design plus a story or mood. A great picture has, in addition, a spark of the artist's personality.

Shapes are made up of line, mass and form. Our emotional reaction to shapes is very pronounced. We react quite differently to a huge bulky shape than we do, let us say, to a petite blond. It is because of the known and predictable reaction to shapes that the artist and photographer are able to compose pictures that attract an audience.

Shapes Create Moods

The arranging of shapes into pictures that will convey a story or mood requires an understanding of the *psychological* factors which control our response to pictorial effects. These factors can be traced directly to our reactions to things commonly experienced in life. To make this clear: when in a prone, relaxed position, we rest or go to sleep; hence, the picture in which horizontal, quiet lines predominate, gives us a feeling of restfulness and repose; whereas, the picture built on strong diagonals gives us something of the same reaction we get from watching violent action.

From this it will be clear that the *basic structure* of the picture—the abstract form around which it is built—governs our emotional response to it. These basic forms or structures can be listed, described, and memorized. They can be utilized to create and control audience reaction. Before considering them in detail, however, we should become familiar with the significance of line, mass and form.

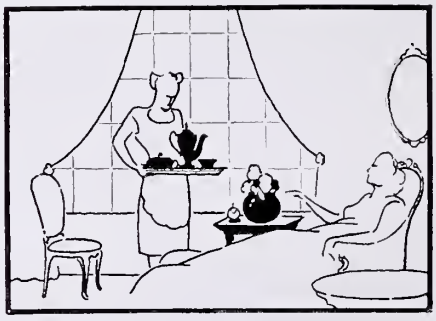
Significance of Line

Line, as it is thought of in a picture, is formed by the edge of a mass or an area. It may be a line that is actually seen, or a line that is suggested by a repetition of spots. These are called transitional lines—a means of getting from one place to another. Our mental reactions establish lines where none actually exist. We "feel" a line running from head to head in a scene involving a number of people, provided they are arranged in some geometrical pattern, such as a triangle. Line may also be felt by direction of movement.

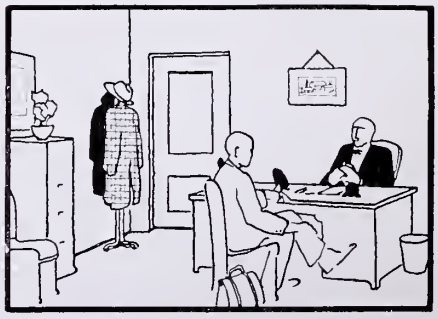
We think of lines as being straight or curved or broken, and as being horizontal, vertical or diagonal. Each has its psychological meaning.

The Psychology of Line

Straight lines give a feeling of directness, rigidity, masculinity and the like. They should be used where those feelings dominate a scene.



Curved lines express charm, grace and femininity. The curved line is the line of beauty and graceful movement.



Broken lines express informality, indecision, disorder, and similar states.

(*Continued on page* 62)

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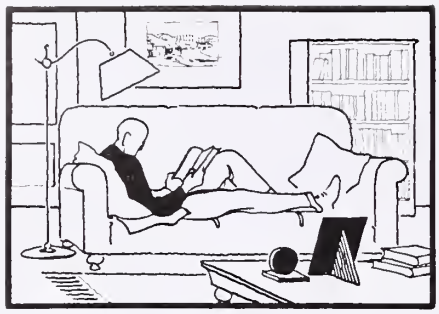
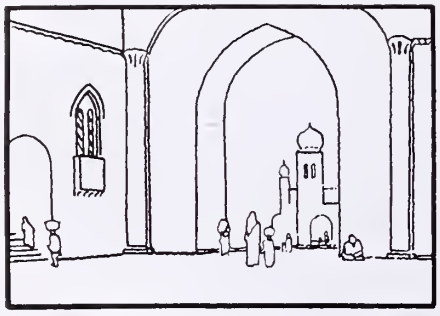
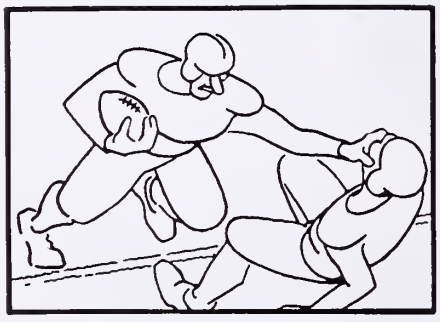


Horizontal lines express repose, tranquility, stability, and are monotonous, if used to excess.



Vertical lines are expressive of importance, uplift, aspiration, and spirituality. They possess more attraction power than horizontals.



Diagonal lines are the lines of force, action, aggressiveness, and change of movement. They are the most dramatically exciting lines, because of their power to attract and hold attention.

The scenic artist uses the psychology of line in set design. He does so because *it is necessary to fit the linear design to the mood.* If the content of the scene is light and informal, he will use broken horizontals, perhaps in combination with curved lines. If the feeling is formal and dignified, the linear structure of the setting must be formal. He will not design his sets merely to look well as sets, but to contribute to the effect which the producer wishes to achieve.

The cameraman uses line as the structure of his shots. He grabs on to a near horizontal for the lower part of the composition, if a feeling of stability is desired. He watches out for the distracting vertical that divides his picture centrally into two pictures. He looks for transitional lines that will hold the picture together.

The producer uses line psychology in the placement and movement of his characters, in the disposition of properties, and in the lighting effects he requests.

Since line is produced on the television screen by contrasts of light and dark along the edge of masses, it will be seen that linear structure can be regulated in two ways: by the degree of contrast in the objects themselves, that is to say, putting a light object against a darker one, or vice versa; and by lighting the edges of objects so that they separate from what is behind them. We must continually think of the *intensity* of the line, because the same linear structure can produce two different psychological effects; brightness, gayety, excitement are expressed, if the shapes are "edgy" and the lines are strongly felt; calmness, solemnity, peace, if the lines are soft and diffused.

Mass or Psychological Weight

Mass in the dictionary sense is a quantity of matter. Pictorially, mass is used to denote the psychological weight of an area, an object or a group of objects. We intentionally or instinctively group individual shapes into masses, because the arrangement produces an emo-

tional response. We are moved by the wide expanse of the sea, by the precipitous drop of the cliff, by the majesty of the mountain. We speak of cathedral pines, for we associate the regular massing of tall verticals with things spiritual.

Our emotional response to mass is quite definite, as a few examples will prove. The virile, dominating husband playing against the weakly submissive, frightened wife, could not seriously be cast with a puny, dried-up specimen of a man against a big, raw-boned Gashouse Gertie hunk of a woman. It wouldn't *feel* right. Conversely, its very absurdity could be turned to advantage in a comedy.

A graceful, informal massing of living room properties induces nostalgic feelings of ordered domesticity — but bring a jumbled group of characters into the room and disorder prevails.

The character of the masses, their relationship, one to the other, and their distribution, together with the linear structure of the television picture, play a vital part in establishing the mood. These factors are present in every picture; therefore they should be carefully analyzed and used in a way that will create harmony between content and treatment. If not, they may induce contradictory emotions.

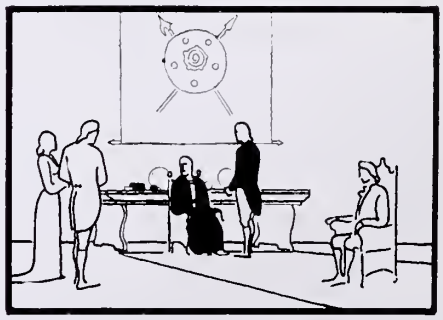
Form or Aesthetic Shape

Form, in the sense we are using it here, is the aesthetic shape of the areas and masses which make up the picture. Whereas we think of mass as being light or heavy, slight or bulky, we think of form in a more specific way, for we instinctively associate form either with our knowledge of things, or our emotional response to them. For instance, we speak of Venus as "the form divine." We speak of a "tubby" man, a "towering" giant; we associate the square with honesty, the circle with continuity, the scales with justice. Form calls to mind *conscious* associations and *subconscious* reactions. For this reason, it is imperative that the pictorial forms used be compatible with the intent of the scene.

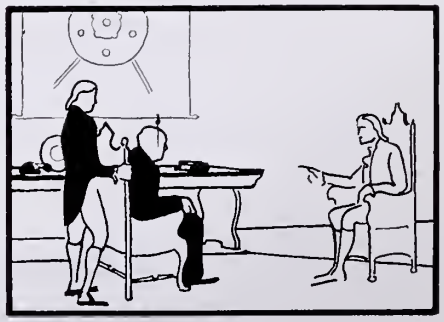
Select the Right Basic Form

We use form in two ways; first, in the individual picture units; second, in the structure or basic form of the picture as a whole. A picture affects us in two ways: Our minds take in its content; our emotions respond to its mood. The one is concrete and obvious. The other is abstract and not apparent to the uninitiated. But the *abstract form of the picture is what makes it what it is,* and the selection of the right basic form is the first step in composition. It is the abstract structure—the framework —on which the picture elements can be arranged.

It will help in grasping the significance of these basic forms, if the mind is kept closed to recognizable shapes, and they are looked at in the abstract, as line, mass and form.

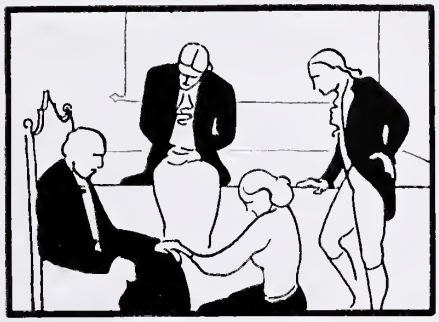


The **Square** is used to express equality of interest or formality.

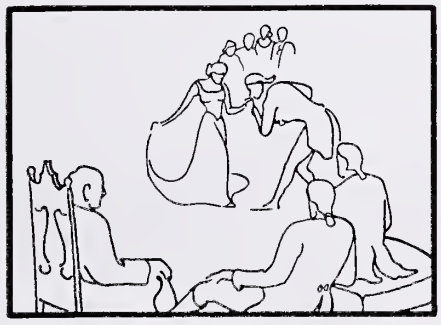


The **Right Angle** is used to express opposition of interest or informality.

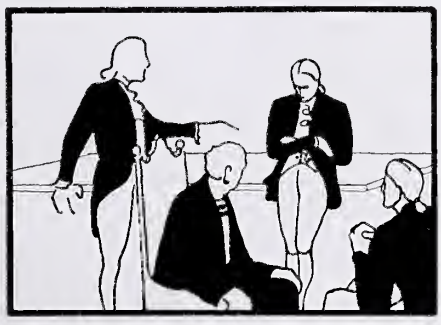
The **Triangle** is used to express unity of interest, stability, or climax.



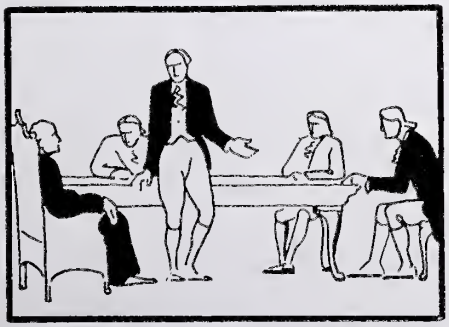
The **Circle** is used to express continuity of interest, or continuous movement.



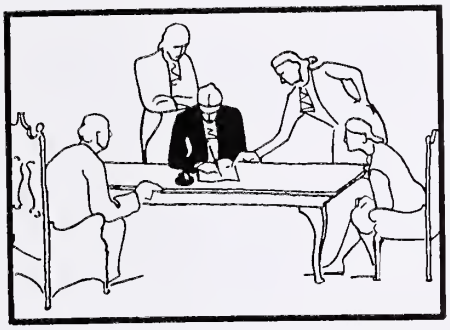
The **S Curve** is used to express variety of interest, grace or beauty of movement.



The **Z Shape** is used to express excitement of interest or extreme change.



The **Cross** is used to express merging of interest, or cohesion.



The **Radii** is used to express concentration of interest or intensity of focus.

All of the foregoing forms may be used, of course, in the special depth of the picture, as well as in the two-dimensional vertical plane.

How to Use the Basic Forms

The first consideration in planning a television program is how to present it visually. The solution of this problem will be found in the answer to the following questions: (1) What is the basic character of the program as a whole—formal or informal, light or serious, factual or imaginative, charming, bizarre, gay or macabre? This will determine the over-all feeling which the pictorial continuity should have. (2) What is the mood pattern of each scene and what specific effects are desired? (3) What basic forms of composition will produce those specific moods and effects? (4) In each situation, throughout the program, what treatment of line, mass and form will best suit the content?

Just as the actor must think of the appropriate gesture, so must the writer, producer, set designer, cameraman, lighting and technical director think of the appropriate picture. This means thinking of the picture in its *abstract* form.

The procedure should be to start with the abstract and work through to the concrete. It will be somewhat difficult for the novice to think in abstract terms at first, but once he has caught on and acquired that habit, it will become almost instinctive. Then he will be prepared for catching good visuals "on the fly" in the heat of production, where there are no retakes and excuses don't count. That is what television demands.

Why Is Visual Planning Necessary?

Television program production is a complex process, and an expensive one. In camera rehearsal, a lot of equipment and many payroll members are tied up, as well as high-priced talent. Minutes count, and yet enough time must be spent on rehearsal to insure good production. There are only two answers: 1—*preplanning*, and 2—*more preplanning*.

Visual planning involves picturization, either in the mind or on paper. As time goes on and as visual-mindedness develops, much of the picturization can be planned mentally. But to develop that ability and to insure top ratings even with the ability, the method proposed herein will be found helpful. It is a simplified form of the story-board method used extensively in Hollywood, particularly in the Walt Disney studios. Its application to television is even more necessary than in motion pictures, for the reason that there can be no retakes when the television show goes on the air; it is good or bad in direct proportion to the way it has been *planned*.

In some television station set-ups it is not inconceivable that the management will find that it pays to have one or more artists whose main function is to prepare these skeleton story-board treatments, for in this way the program manager can see and evaluate how the production will look—even before it has been started.

A Method of Visual Planning

Even if a skilled artist is not available for making story-board sketches, this should be no deterrent to the producer; he should get his picturization down on paper. Even though he "can't draw a straight line," if he can think straight, he will be able to draw "straight" enough for the purpose. It is not to be implied that it is necessary to make sketches of each camera shot, or even of many of them; but there is no denying the fact that a few simple line sketches (no matter how crude) of the key scenes are of inestimable value. They may look like hen tracks to anyone else, but they will help the producer to crystallize his own thinking. It will save time in the end and make for better productions. The basic procedure is as follows:

1—Analyze the emotional content of the key situations.

2—Select the basic compositional form or combination of forms that will best portray the emotional content involved.

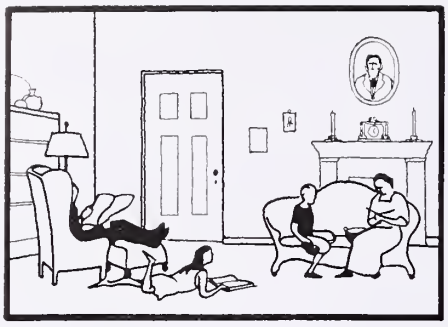
3—Apply the psychology of line, mass and form to the arrangement of the set, the casting of the talent, their placement and movement.

Any one who is visual-minded can use this method of visual planning, and unless one is visual-minded, he has no place in television program production. Let us see how the method might be applied to a dramatic episode.

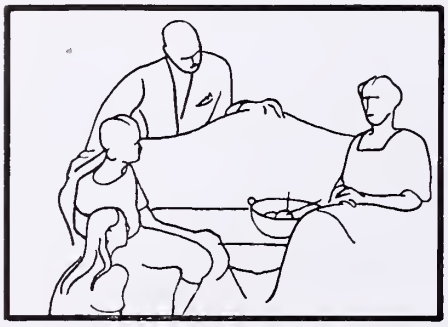
Our problem is a scene of domestic, middle-class family life. At the opening, a mother and three children are engaged in quiet conversation. An air of peace is established. Suddenly, the drunken father enters and conflict ensues between him and an older son as the father threatens the youngest child. She, a little girl of ten, runs terror-stricken out of the room and the house. Soon, from offstage, the screech of brakes is heard. We cut, by means of film, to the scene of the accident, with its excitement, and then back to the room as the child is brought in and laid on the sofa. The child dies, in the best soap-opera tradition, with forgiveness on her lips and the ghost of a heart-rending smile.

Our first consideration is the set. Since the feeling at the opening is one of friendly informality, we can use broken horizontals, quiet verticals and graceful curving shapes in informal balance. We shall select a combination of basic forms: the right angle for its informality, softened by S curves for quiet charm.

Any one of a number of opening shots

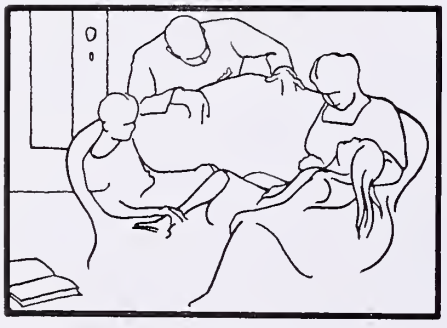


comes to mind, but since the climax is to be the death of the little girl, suppose we open with a close-up of her, stretched out on the floor, reading from a story book. We shall then dolly back to reveal the first key picture—the establishing shot of the family group.



We maintain diffused focus of attention until a line from the mother motivates movement toward her, ending in this triangular form, used for its stability and unity of interest.

This is followed by a sequence of three-shots, in which the focus is passed from character to character at a leisurely pace. We then see them pull more compactly together in a circular form,

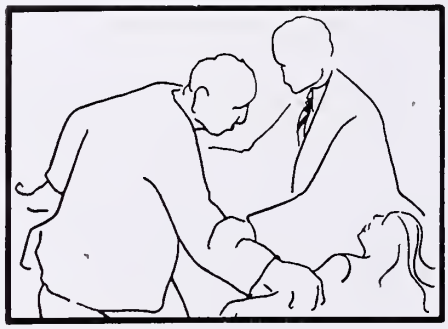


thus heightening the feeling of close relationship, and setting the stage for the contrasting mood created by the drunken father's entrance.

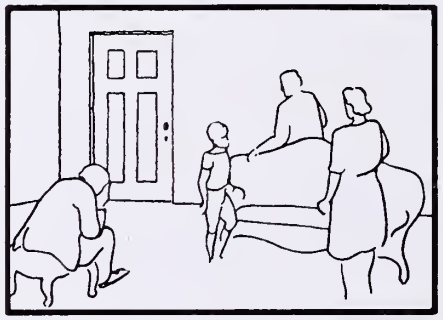
On his entrance the circle breaks dramatically to this right angle form.

Note that the mother and children are grouped in a mass that counts as a vertical. The direction of their attention forms the line of opposition as it leads directly to the father at the door.

The conflict between the father and son is a brief, rapid sequence, built on dynamic diagonal lines.

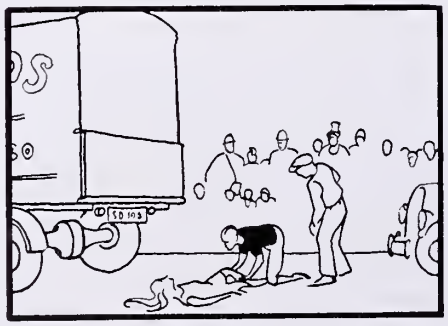


After the exit of the terrified child, there should be a brief period at lower pace and pitch. To achieve this, we make use of the rigidity of the square form of composition. The screech of brakes is heard. We catch the reactions of the mother and the two sons. We build another key picture on the right angle form, in which the three figures stand-



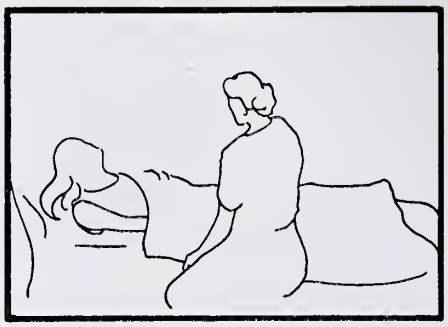
ing momentarily rigid are in dramatic contrast with the father who has slumped down at stage right.

At the scene of the accident, we shall use strong lines and dramatic contrasts of mass to point up the helplessness of the fragile child against brutal forces.

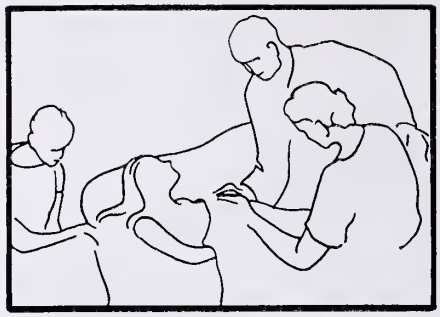


Back in the living room, after the child has been brought in, the solemnity and suspense of the scene are achieved by developing tense diagonals in contrast with the horizontal of her prone position. Through a shift to the cross form [See picture, top right], the interest is merged in the possibility that the injuries may prove fatal.

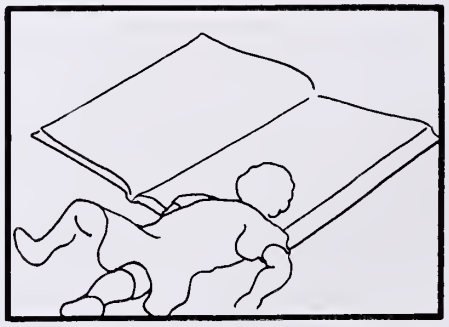
By a shift to the radial structure, the interest is still further concentrated



on the child. We have built to our climax and doubtless will not be able to resist dollying in for a close-up to catch that faint smile as the eyelids close.



A concluding shot suggests itself: a close-up of the little girl's open story book, with her doll near it, just as she left it in the opening scene.



Having thus worked out the visual treatment of the key scenes in a television production, having nailed them down on paper, it is possible for the producer to plan supporting scenes and transitions. By this method he can direct the movements of the players so as to culminate in strong pictorial compositions for all important scenes; confusion and meaningless pictures will be avoided; strong continuity will be achieved. The method is applicable not alone to dramatic productions, but to all types of programs, for they all depend on good visual continuity for their effect.

We have previously pointed out that, even though television is a new medium, there is nothing new in the fundamental principles on which its visual manifestations must rest. Let us see how they may be applied in building television continuity.

1—Unity

A picture, like a sentence, must have *unity*. It should tell only one story. There should be nothing in it that is not needed or does not contribute to the over-all effect, either in thought con-

tent or in line, mass or form. Any irrelevant elements will raise doubts in the mind of the viewer as to what is intended.

2—Variety

More than anything else it is *variety* that holds the attention of the audience. It must be kept under control, however, or the state of unity will be disrupted. Not only is it essential in individual shots, but variety of type, mood, pace and proportion is essential in building continuity.

In the linear structure of the picture there must be variety in the kind of line, the direction, the spacing, and the accent. The picket fence lacks variety and keeps people out, so does the linear structure that is not varied. The same holds true for mass and form. The checkerboard is monotonous. Variety, however, is not used for its own sake; it is used for aesthetic reasons dictated by our subconscious reaction to rhythm and to space and measure.

In composing a picture, the beginner will tend to look at the objects of which it consists, whereas it is the spaces between them, and/or the shapes of those areas between that make the picture what it is. This is particularly true in television because most of the pictures consist of medium close-ups of people. Over and over again these same shapes are used. Only by constantly varying spaces and measures can this amount of repetition be tolerated.

3—Harmony

Harmony involves both unity and variety, for it implies the putting together of unlike but related things. It is an important element in holding the picture together.

4—Balance

Balance is so intimately tied into our physical state that we are subconsciously aware of any condition of unbalance. Through the functioning of the internal ear, a state of balance is maintained that enables us to stand or move about without toppling over. We subconsciously demand a state of balance in pictures.

To understand how this may be achieved, it must be realized that a picture is made up of separate units, each of which has *weight*, in the sense of pulling power or attraction to the eye. These units consist of line, mass, color, and direction or speed of movement. All of these elements must be kept not necessarily in complete balance but close to it, except in those instances where, by departing from balance intentionally, a specific effect is achieved. Keeping in mind that each unit of a picture has weight due to its attraction, it will be seen that balance is achieved through the control of the *relative attraction* of lines, masses, colors, or movement. Attraction may be controlled by placement, contrast, emphasis, repetition, and in the case of movement, by direction and speed. By way of further amplification, the following statements can be made. They should be memorized and fully comprehended.

a—*Vertical* lines have more effect on balance than horizontals.

b—*Diagonal* lines have more attraction than either vertical or horizontal.

c—*A vertical line* cutting through the *center* of the picture makes it impossible to achieve anything but formal balance, and is bad, because it cuts the picture in two.

d—*A large mass* may be balanced by a *small* one by placing it in an *empty area*. This is the principle of the lever or the seesaw.

e—A unit in an empty area *near the edge* has more attraction than in the center.

f—*A unit in the foreground* has less attraction than in the middle distance, provided the contrasts are the same.

g—An area surrounded by a *hard edge* has more attraction than if the edge is soft.

h—Repetition of a unit weakens its attraction. The exception to this is when a principal character in the foreground is supported by others directly in back of it. Then it is strengthened by repetition.

i—*Black against white*, or white against black has more attraction than black or white against gray.

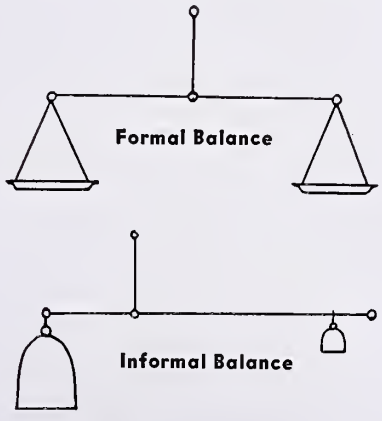
j—*A small white unit in a large black area* will have more attraction than the reverse, for the reason that the eye instinctively seeks light.

k—The eye goes first to the *point of strongest contrast* in value or color, or the strongest line; in the case of movement, it is attracted by *change in direction*.

l—The eye is attracted to *geometric or symbolic shapes*, particularly if they seem to be formed by happenstance.

m—Emphasis may be achieved by a *gradation in tone*. The eye will follow this gradation in a direction *toward the light*.

Since we are dealing with a visual subject, it will be found helpful to *visualize the principles* involved, wherever possible. For instance, a mental picture of balance itself as applied to pictures will be of great help, especially in times of stress when it is necessary to compose on the fly. The analogy of the scales is apt, because balance is the relationship of weights. We should,



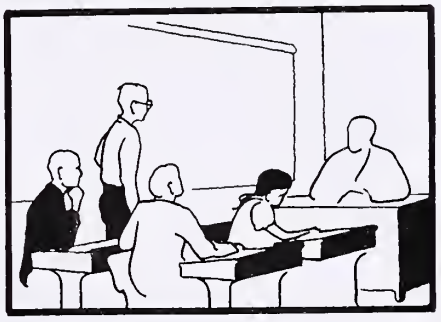
therefore carry in our minds symbolic images representing formal and informal balance as it is used in both the vertical and horizontal (perspective) plane.

Equal weights at equal distances from the center or fulcrum convey a static feeling, hence formal balance is more often applied to decorative design.

Unequal weights at unequal distances from the fulcrum are the form most commonly used in television because of the feeling of variety.

Examples of Informal Balance

This drawing illustrates informal balance in the vertical plane.



This drawing illustrates informal balance in the perspective plane.

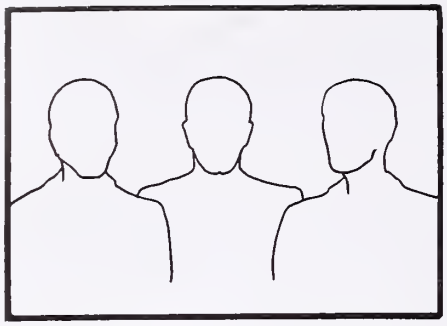
5—Rhythm

The word rhythm suggests music or the dance. Though its application to pictorial composition is not obvious, it is actually of vital importance, and the analogy of the dance is very apt. Take the rhythm of the waltz: One-two-three-one-two-three-, or more particularly the accented rhythm—*one*-two-three-*one*-two three. Think of it in terms of movement rather than cadence of sound—in terms of eye movement as it goes from one line or shape to another in looking at a picture. Now apply it to one of the commonest pictures in television—the three-shot. [See illustrations, page 66.]

Note that by merely shifting the positions of the three characters and lowering the camera to get variety in height, we have made the arrangement interesting by adding rhythm. In fact, we have created three rhythms. By moving two of the heads closer together, the accented rhythm of the waltz—*one*-two-three—has been introduced in spacing. By having one of the characters seen in profile and the other two in three-quarter view, we have rhythm of body position. And again, by the change in head level, still another rhythm has been added.

Rhythm is particularly effective when applied to line pattern and to movement. A rhythmic pattern in the linear structure of the set, when it echoes the rhythmic disposition and movement of the characters, produces the ultimate in effect.

In building continuity it is by means of rhythmic patterns that moods are



NO RHYTHM: An uninteresting arrangement because there is an absence of rhythm.

controlled. The intervals used in cuts, fades and dissolves, and the cadence in the flow of picture continuity will have a very definite effect on the emotions induced. For this reason it is important that the rhythmic pattern of the continuity be in harmony with the program content.

6—Pace

Variety of pace, suitable to the content, is very desirable in continuity. The pacing of a sequence of short shots is important because the intervals become obvious.

There is also the factor of pace or time interval in the observation of a picture. In each composition there is a definite time in which it can be taken in, and there is a more or less definite rate of eye travel through it. Hence, for the picture that is to be held on the screen for only a short time, the eye travel must be fast, while for one of long duration, the pace of observation may be as leisurely as desired.

Pace of eye travel is subject to control. It may be made fast or slow depending upon the number and placement of shapes and the use of transitional lines that lead the eye from one place of interest to another.

7—Proportion

It is axiomatic that everything should be in proportion—in life and in pictorial composition. Subtle proportioning of shapes, lines, colors, and gradations of light gives a picture distinction and contributes to its effectiveness. It would be wonderful if a set of formulas could be written for making things with good proportions, but it can't be done—such things must be felt instinctively. Some people have an innate feeling for proportion. If you have it you are fortunate; if you haven't, the only thing to do is to be observant of things around you, and to study the proportions in pictures that have stood the test of time.

8—Emphasis

The actor emphasizes important words and phrases in order that they will stand out from the rest. The same principle applies in picture construction. In order that the eye may be attracted to the important parts of the picture, it is necessary to give them emphasis. This can be accomplished by the use of line, by contrasts of light and dark or of color, by isolation, by repetition, by placement, and by movement.

By referring to the list of factors contributing to balance you will find many of the methods of obtaining dramatic emphasis.

9—Dominance

The two greatest essentials of pictorial composition are unity and dominance. To tell a story, to create a mood, or to convey information a picture must have a dominant theme and one spot or area of attraction to which the eye is irresistibly led. If the picture is to be held on the screen for only an instant, the eye must find this place instantly; there must be no doubt or wavering as to the intent, or the scene is lost. If, on the other hand, the scene is long, the eye must be given other areas of lesser attraction, so that it may be led from one to another, always coming back to the dominant area. This may be done through repetition, similarity, or counterpoint in which some contrapuntal theme or pictorial form supports the main theme. It almost always involves the sacrificing of interest in certain areas in the order of relative importance.

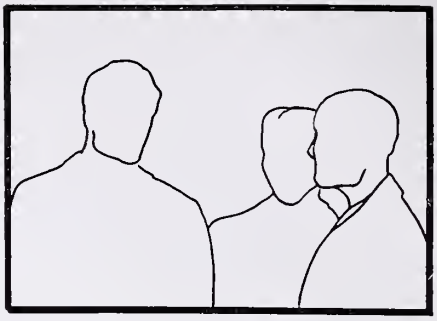
The greater the number of interesting shapes a picture contains, the more difficult the problem of control becomes. Therefore, except in skilled hands, the safest rule is to keep the picture simple.

10—Continuity

As pointed out earlier, television involves not only the composition of separate camera shots, but putting those shots together in continuity. No matter how good the shots are, they will fall apart if the continuity is badly constructed.

In the paragraphs above, we spoke of eye travel from one place of attraction to another. This is continuity within individual pictures. In television the flow is so continuous from scene to scene that the whole program is, in effect, one picture. This means that we must apply to continuity the same principles on which the individual pictures are built. The entire production must have varied unity embellished by rhythmic harmony; it must be balanced in pace and proportion; and controlled in emphasis by a dominant theme.

These are the ten mileposts to good composition. They mark out the route which must be travelled in arriving at pictorial effectiveness. They apply to every segment of the program day and to every picture therein. The telling may make them seem all too complicated, but so it seems when first learning to drive a car until, through familiarity and practice, it has become second nature. As you progress, you will add touches of distinction that reflect your own personality. You will develop a style that is your very own, and by it your work will be known.



ACCENTED rhythms in this arrangement of a three-shot make it alive and interesting.

Procedure in Planning Pictorial Continuity

There are, as we have seen, so many factors involved in television picturization that they can only be handled successfully by intelligent planning; there are too many other things to be thought of during production to leave the working out of visual continuity until the cameras are turned on. A fixed procedure for visual planning will be of infinite help for it will establish habits that make quick decisions possible when under the tension of production. Such habits will have definite value in handling the off-the-cuff program which demands split-second thinking and plenty of "know how."

In planning visual continuity, proceed as follows:

1—Determine the over-all feeling which the production demands.

2—Analyze the key picture sequences and the transitional scenes for their mood or factual content.

3—Select the picture treatment—the basic compositional forms—best suited to those needs.

4—Work out the supporting continuity.

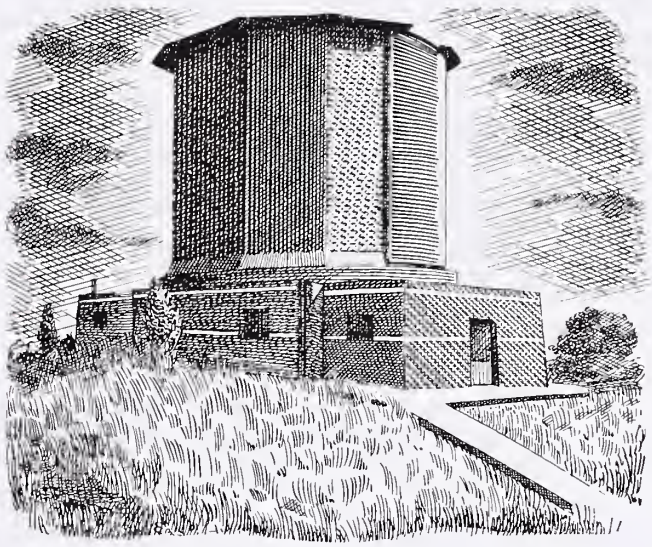
5—Put it down on paper, if possible, either in verbal outline or in storyboard form.

Pictorial continuity should be worked out in essentially the same way that an intelligent sales campaign is planned: It should open with some device to capture the attention; gradually it should unfold the charms or merits of what is being offered; it should appeal in varied ways to the fundamental desires and needs of a specific group of prospects; it should build to a climax, having left one thought, one image or impression so clearly developed that it will not be forgotten. Bear in mind that the audience will retain only a few highlights and an over-all impression. They will remember longest the spots they liked or disliked strongly. If the continuity builds to peaks of excellence and is not just a jumble of pictures, the audience will remember the program with pleasure and enthusiasm.

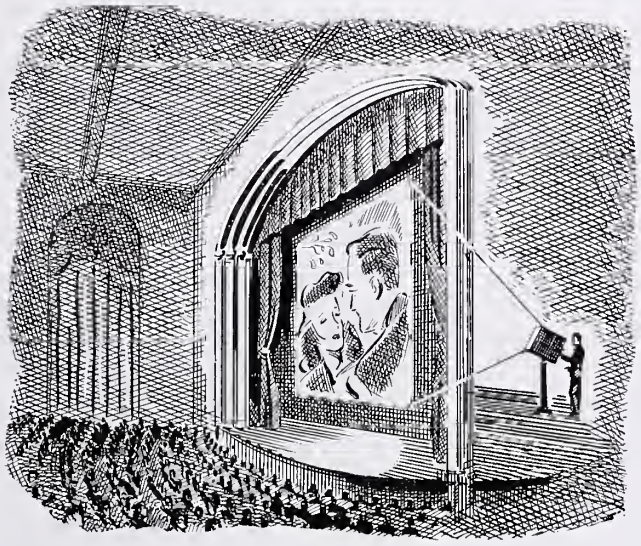
"I predict that within five years this nation will enjoy more than 5,000,000 television sets in home operation. Television will be a great new industry and a great new service to the American public."

—Ernest H. Vogel, *Vice President in Charge of Sales,* Farnsworth Television & Radio Corp.

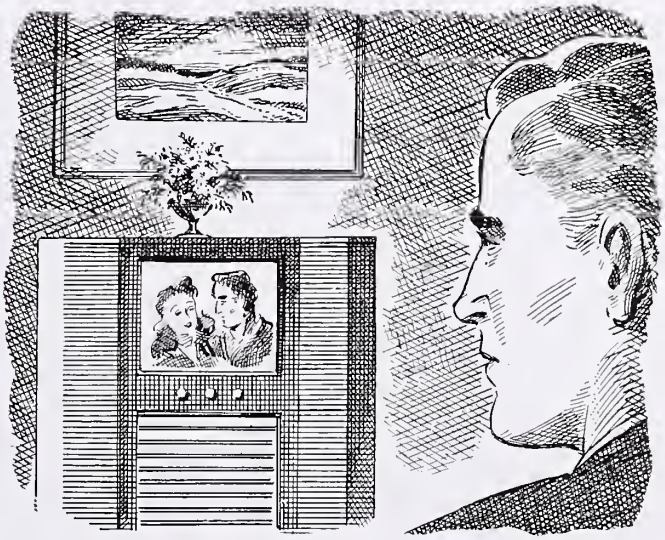
THREE THINGS That Perkin-Elmer Would Like to Have Television Engineers Know About



1. Perkin-Elmer made the optics for the largest Schmidt camera in the world. Owned by the Mexican Government, it is used at Tonanzintla, Mexico.



2. Perkin-Elmer originated a new form of Schmidt system at the request of The Rauland Corporation. This new system works close to the theoretical limit in light-grasp and has remarkable definition over a large angular field (45 degrees).



3. Perkin-Elmer has now produced an F/1.0 anastigmatic lens of plastic for home projection. Relatively simple in construction, its superb performance is the answer to "something better than the Schmidt."

THE PERKIN-ELMER CORPORATION GLENBROOK · CONN·

Designers, Engineers and Manufacturers of Optical Instruments and Components

HISTORY... AMERICAN TELEVISION SOCIETY

ATS has emerged from the years of war strong in direction and purpose. Its contributions for the new age ahead should be of immeasurable value to society.

By MYRTLE ILSLEY

CBS Promotion & Advertising

ELEVEN MONTHS before the United States found itself in the midst of World War II, the American Television Society was born under modest but very hopeful circumstances.

Eight people attended that first meeting on January 23, 1941—all members of a New York University class in television programming who had gathered together to form what they decided to call a "Television Guild." Its purposes were ambitious: "To create . . . and produce scripts and programs of every kind and variety suitable . . . to the television medium, to be . . . distributed and sold to the television, radio, theater or motion picture market . . . such scripts to be known as 'A Television Guild Production'; to provide and/or employ the personnel necessary to these undertakings, and to copyright and publish the Guild's material."

Further objectives were the advancement of the study and appreciation of television as a cultural, educational and entertainment medium; the establishment of a clearing house for television information, a forum for discussion of ideas and problems, and a complete television library. Toward these ends it was planned to invite recognized leaders in television or related fields to speak to the group at special meetings.

This young Guild was conceived primarily as a profit-making organization, and not the least of its difficulties was that of working out some practicable formula for dividing its prospective wealth. There were more immediate problems, however, some with a familiar ring—the lack of a suitable meeting place and laboratory space, a dearth of scripts, uncertainty about the FCC's plans for television, and corresponding uncertainty among the big television studios about the future.

It is not surprising therefore that May 15, 1941, saw the transformation of the little Guild into a new society, to be known as the American Television Society, a "*non*-profit-making organization which would serve as an intelligence center for the pooling of television information, but which would not exclude financial arrangements being made at a later time . . ."

ATS began with twenty-one members all told. There are some familiar names on the rolls of those first meetings—Don McClure, Fred Kugel, Jerry Danzig, J. Raymond Hutchinson, Carl Ruff—all of them former Guild members. The going was still pretty rough, but the new Society was launched in heroic style nevertheless, by a dinner at the Hotel Astor on June 26, the first public ATS television forum ever held. Sixty-five people attended; the guest speakers included Thomas H. Hutchinson, teacher of that first NYU class, Paul Lazarsfeld, Ira Hirschmann, Comdr. Mortimer W. Loewi, William Morris, and J. R. Poppele, and each one of them predicted the important part that such a group as this would play in the future of television.

In November of 1941 Warren Caro, first President of ATS, was forced by pressure of his own work to resign, and Norman D. Waters was elected to fill out his term.

Holding the Fort

Mr. Waters took office at a time of great confusion in the industry. With the outbreak of war the following month, no one could predict the immediate fate of television. The Society went ahead with plans to help in the preparation of televised defense programs, but it was soon apparent that although engineering activities would continue in the form of war research, television production would be curtailed and finally halted altogether. Faced with the choice of disbanding for the duration or holding the fort for an undetermined length of time, the members of ATS felt that they could serve best by keeping alive the greatest possible public interest in television until the war was over.

Nevertheless, 1942 was a rugged year for television enthusiasts. ATS meetings were infrequent; activity in the industry was at a standstill. Not until May, 1943, did the Society revive, with a well-attended gathering at the Hotel Capitol to hear a spirited exchange of programming ideas by Will Baltin, Paul Knight, Noran Kersta and Charles Kleinman. The ice was broken once more; a regular schedule of monthly meetings with well-known guest speakers began.

By the fall of 1943 the rapidly lengthening membership rolls were proof that this renewed enthusiasm was gaining momentum month by month. A re-statement of ATS policies and direction seemed essential, and so in December, 1943, a new Constitution was adopted, defining in greater detail the objectives first pointed out by the far-seeing little Television Guild. This was not enough, however, and in March of the following year the American Television Society filed a certificate of incorporation.

The briefly-held plans for profit had long since been forgotten, but the other early ideals were stronger than ever. ATS was officially organized to "advance, promote and foster the study, understanding and appreciation of television as a cultural, educational, entertainment and advertising medium." Advertising was a new addition to the older definition, but the provisions still included an information clearing-house, a discussion forum, a television library, and special meetings on television.

Three types of membership had finally been determined: charter, regular, and associate (for student and junior members). The Society's business would be directed as before by a seven-man Board of Directors together with the four officers elected annually. And to insure the widest possible representation, it was specified that never could a majority of this Board be employed in the same phase of television, nor could more than two Directors be employed by the same company.

It did not seem at all fantastic now for the by-laws to provide for authorization of local ATS chapters in other cities, because membership was climbing steadily—the original eight of the first meeting had grown to 85 by 1943, and to 350 by 1945.

A Parade of Speakers

In 1944 Dan D. Halpin succeeded Norman Waters as President, and in turn was succeeded by George T. Shupert the following year. The Terrace Room of the Hotel Capitol had given way to the auditorium of the Museum of Modern Art as a meeting-place, and an array of guest speakers lined its platform every month to discuss tele-

(*Continued on page* 70)

THE ATS AWARDS...AND THE ADVANCEMENT OF TELEVISION

The Society's recognition of achievements in the new art has provided incentive for improvement of video quality.

By J. RAYMOND HUTCHINSON

Former Chairman, ATS Awards Committee

THE DURABLE VALUE of an award in an art must be measured in the challenge it creates for continued advancement. Otherwise, the plaque, medal, or other form of recognition becomes a museum piece and the recipient may develop a fatal psychosis that the best has been achieved. When people subscribe to the latter philosophy, art dies.

The American Television Society has one fundamental purpose, namely, the advancement of television. To help achieve this high purpose, annual awards are presented. The award period extends from June 1 to May 31 coinciding with the Society's fiscal year.

There has been an increasing interest in the ATS Awards. There is also, and rightly so, an increasing interest in learning how the Awards are made. What determines the categories in which awards are made? On what bases are the recipients selected? These are two of the questions frequently asked.

The first awards of the Society were made through the action of the Officers and Board of Directors in 1942-1943 based on available information from many sources on advancement in television art. Nominations for awards were open to all members of the Society, and they were encouraged to present evidence to substantiate their claims. In 1943-1944, even a cursory examination of the field still showed the major portion of television activity to be the direct result of station enterprise or policy. It seemed logical as a beginning, therefore, to ask each station for a brief resume, illustrated if possible, of programs and outstanding achievements over their facilities. These formed a basis for initial study by the Awards Committee. Final recognition, of course, would never be based on a station's own evaluation or promotion material.

Policy on Awards

The Committee's evaluation was based largely on actual observation of television productions, and the action of the Committee as approved by the Officers and Board of Directors is now a matter of record.

In addition to serving as chairman of this Committee, the writer also has had the good fortune to serve since 1939 as Chairman of the Committee on Television, Department of Secondary Teachers of the National Education Association. This group first initiated public observation and evaluation of television programs in America, and its findings were available to the Awards Committee for consideration.

Recent requests for information on awards contained the following questions: What classifications of television awards are bestowed? When were these awards established and why? How are the judges chosen? Who are they?

Our interrogators also asked: How are candidates for awards nominated? How are final selections made? What are the rules for these awards? What individuals and organizations have been presented with these awards since their creation? And for what achievements? Is there an indication of the industry's opinion of these awards? Does your organization feel that these awards are serving the purpose for which they were created? How are these awards announced to the industry and to the public? Does your organization contemplate broadening the scope of these awards?

These are questions I shall attempt to answer. The accompanying list of ATS Awards, together with the names of recipients, summarizes the activities recognized by the Society as advancing television to date. This list, however, does not answer the questions of *why* or *how* the decisions were actually reached. No brief article could possibly answer all these questions in detail. A brief resume of action in which the writer has participated may help to clarify the Society's awards procedure.

In the field of Public Service, in which no award was made for 1943-1944, one station deemed all of its activity to be in this category since it did not offer any commercially-sponsored service. Another station received an award, even though it did not produce programs itself, because its policy attracted the best experimentation and achievement in a special field.

On December 1, mid-point of the 1944-1945 award year, each active television station was asked for a brief resume of achievement together with station plans for the remaining quarters. At the same time steps were taken to keep fully advised on the increased television activity throughout the nation. It was noted that advertising and commercial firms were adding greatly to their number of hours on the air and that programming was growing less dependent on station initiative.

To help measure television's advances with a greater degree of accuracy, a number of prominent editors and other personnel of the television press were asked to serve on the Awards Committee. They rendered the Society invaluable service. Under the able leadership of Richard Manville, a specialist in mass response, final recommendations for 1944-1945 were made to the Officers and Directors. The Society's records attest the official action taken.

Logic in Evaluation of Merit

In considering the problem of presenting awards, the basic philosophy governing the value of recognition of meritorious effort deserves further exploration. There could be extended discussion of the question: Can an art be measured objectively?

The writer developed the first evaluation check-list actually used in attempting to measure the television art objectively. The following items were considered: the artist(s), the director, camera work, sound and visual effects and scripts.

Under the item of artist(s), the competence, sincerity, inspiration, originality, and challenge to participate were checked. Under the item of production and the work of the director, the clarity of detail, continuity, transitions, the tempo whether natural, fast or slow; the tie-in with previous programs, and staging were all considered and evaluated. Camera work, sound effects and visual effects together with the scripts, when available, were studied carefully.

All this was but a beginning. Those intrinsic items of artistry, including lighting, illusion, fantasy, humor, pathos, realism, and the thousand other items or treatments which make the difference between a polished, professional art form and a mere presentation often evaded full evaluation. Sometimes a half-hour presentation evoked an hour and half of serious discussion.

It was comparatively easy to have people register whether they liked or disliked a production and to what ex-

AMERICAN TELEVISION SOCIETY AWARDS

1943 PLAQUES

To WRGB, General Electric, Schenectady
For the station contributing most to programming in 1942

To WNBT, National Broadcasting Co., New York
For the station contributing most to television as a public service

1944 PLAQUES

To WABD, DuMont, New York
For the station contributing most to the art of commercial television

To WRGB, General Electric, Schenectady
For the station contributing most to the art of television programming

To W6XYZ, Television Productions Inc., Los Angeles
Honorable mention for adaptation of motion picture techniques to television

To Norman D. Waters, ATS President, 1941-1944
Special Service Award

1945 PLAQUES

To Ruthrauff & Ryan, Inc., New York, for Lever Bros. show
For the most consistent effort in developing effective television commercials

To WNBT, National Broadcasting Co., New York
For the most consistent sports programming
For the outstanding television program, "Men in White," directed by Ed Sobol

To WCBW, Columbia Broadcasting System, New York
For the best educational program, "Opinions on Trial"
For the outstanding news program, "CBS Newscast," with Everett Holles

1945 SPECIAL AWARDS

To WABD, DuMont, New York
For the development of television commercially

To W6XAO, Don Lee, Hollywood
For making television facilities available for commercial development on the West Coast

To WBKB, Balaban & Katz, Chicago
For preparing the Midwest for commercial television

To Klaus Landsberg, W6XYZ, Television Productions Inc., Los Angeles
For consistent technical excellence in television production

To WRGB, General Electric, Schenectady
For the best institutional commercial, "Conquest Over Darkness"
For the outstanding contribution to children's programming

To Paul Alley, WNBT, National Broadcasting Co., New York
For the outstanding editing of news films, "The War As It Happens"

To WPTZ, Philco, Philadelphia
For developing football television technique

To Paul Mowrey, American Broadcasting Co., New York
For preparing the American Broadcasting Co. for television

To Dan D. Halpin, ATS President, 1944-1945
Special Service Award

tent. But to determine *why* was another problem. The degree of acceptability was entirely contingent upon the individuals viewing the production. Highly sophisticated material which may be thoroughly approved by people in certain areas will often fall flat among people in other areas. Score cards on programs should provide the same number of check places for dislikes as for approval to get proper balance in an objective rating. It is hardly possible, however, to expect stations on their check cards to ask if each program is poor, very poor or terrible as well as good, very good, or excellent.

One group holds that the public is not qualified to judge program quality. Another believes that mass approval is the only basis for true judgment. For example, following the reasoning of the first group, radio fare in one country is placed entirely in the hands of a national director because he, in his wisdom, knows who and what is best. The second group's beliefs, carried to the full, recall the lines of "The Coliseum": "Here where the millions' blame or praise was life or death, the plaything of a throng." An awards committee might well feel that a happy medium of these two philosophies is most desirable, yet decisions must be made solely on the actual merits involved in each case.

There is also the awards philosophy that would recognize and honor numerous factors or persons for innumerable reasons. This policy leads to diminishing values for each award because the recognition is so scattered. Opposed to this practice is the fundamental truth that there is only *one* best.

The cynic may blithely ask, best for whom, or at what? It is splendid to hear the director or producer of the best-rated program of 1944-45 modestly declare that good scripts are the prime requisite for good productions. These things must be considered by an awards committee, and the public's reaction watched in more than a single local area. There are many things backstage, and in the higher offices which do not meet the eye. There are many programs which are highly commendable but not necessarily popular. The intensity of response may be just as important as the numerical volume of approval for either productions or policy.

Progress Sincerely Evaluated

All these debatable issues add up to a convincing reason why an award should be made to the members of an award committee. Their real reward is realized from knowing that they have approached their work without bias, labored intelligently and diligently to make their decisions valid beyond question. Their service is most worthy, and essential to television's advancement.

There is a hitherto unheralded value to these awards which should be recognized. For example, what reward is there, aside from remuneration, for the many people who are responsible for each program? After the presentation and the show is off the air, what tangible evidence of their effect is at hand? There is no box-office, no long run, no film record—only a new program schedule to be met with something new.

The degree to which that *new* effort will be improved depends in no small measure upon proper recognition of true achievement. The ATS Awards are dedicated to this high purpose.

ATS HISTORY

(*Continued from page* 68)

vision from varied and occasionally conflicting points of view. For with the spring of 1944 television had come to life again in the big studios and the "future" of television seemed close at hand. Subsequently, the meeting-place was moved to the Barbizon-Plaza.

Committees, always important in ATS work, shouldered heavier loads than ever. There was a committee providing monthly programs, a committee doing educational research, another building a television collection in a corner of the N. Y. Public Library, to point out a few. The television program laboratory became one of the most popular activities, offering an opportunity to members actually to produce their own shows on television. Panel discussion groups covering specific phases of television provided even more intensive exploration of members' interests than was possible through general meetings alone. And the yearly ATS Awards for outstanding work in television grew to be an increasingly important function of the Society.

The 1945-46 season which has just begun finds a world at peace for the first time since the American Television Society was in its infancy. By rights the war should have stunted its growth, and yet, like the television industry itself, ATS has emerged from the years of blight stronger in direction and purpose than ever before, with much to do and much to give in the new age ahead.

EXECUTIVES OF THE AMERICAN TELEVISION SOCIETY

President 1945-46
Director 1944-46

GEORGE T. SHUPERT, since 1943, has served as assistant to Paul Raibourn, president of Television Productions, Inc., wholly-owned subsidiary of Paramount Pictures, Inc., operating television station W6XYZ, Hollywood. From 1940 to 1943, he was sales director of Paramount Pictures Industrial Film Division, which he organized. From 1938 to 1940 he was associated with Industrial Pictures, Inc., of Detroit. From 1925 to 1938 he was in the investment banking business, helped organize the National Security Traders Association and, for two years, was an officer and director of the Michigan Security Traders Association. During the 1944-1945 season, Mr. Shupert was a director of the American Television Society and chairman of its Membership Committee. He is also a member of the Program Committee of the Television Broadcasters Assn. and of the Radio Manufacturers Assn. subcommittee on facilities for television.

Vice Presdent 1945-46
Director 1944-46

DAVID HALE HALPERN, after six years as vice-president and general manager of Henry Souvaine, Inc., radio program producer, recently joined Owen & Chappell, Inc., advertising agency, as vice-president in charge of radio and television. Mr. Halpern has had extensive experience in writing, directing and teaching radio. He has served as program director of radio stations WMAS, WATR and WBRY and, for the Massachusetts State Department of Education, developed and taught courses in creative writing for radio. He holds an L.L.B. from St. Lawrence University; has served as radio director for the Republican Party in Connecticut, and is a member of the Radio Committee of the Civil Liberties Union. During the 1944-45 season, Mr. Halpern served as a director of the American Television Society and also as chairman of its Program Committee.

Secretary 1944-46
Director 1944-46

ALICE PENTLARGE has been affiliated with radio station WQXR, New York, since 1936. She is currently co-moderator and producer of the weekly *New York Times* program, "What's on Your Mind?" Other programs in which she played major roles include "So You Haven't the Time," "Fashions of the Times," "Can It Be Done?," "Fashions in Art," and "Counterspy." During the war she worked with the Radio Section of the Office of Emergency Management for OCD and appeared on more than 70 radio programs as a representative of the War Production Board's Division of Information. Miss Pentlarge has traveled extensively and studied in Europe and North Africa. While living in Switzerland from 1931 to 1934 she collaborated with Don Francisco de Reynoso in writing "Reminiscences of a Spanish Diplomat." Her articles have appeared in *Reader's Digest* and *The Woman*. She is serving her second term as secretary of the American Television Society.

Photograph of Mr. Halpern by Pach Bros.
Photograph of Mr. McClure by Larry Colwell.

Treasurer 1944-46
Director 1944-46

DON McCLURE, after graduating from Carnegie Tech, spent four years in Hollywood as a writer, actor and director. Moving to New York, he applied the same trio of talents to Broadway. In 1936 he turned to radio and joined the radio writing and directing staff of the J. Walter Thompson advertising agency. Later, he wrote and directed radio programs for Young & Rubicam. From Pearl Harbor until last autumn he served as a test engineer for Consolidated Ship Builders, producers of PC boats. He is now director of television for N. W. Ayer & Son, Inc. Mr. McClure is one of the pioneer members of the American Television Society and is serving his second term as treasurer.

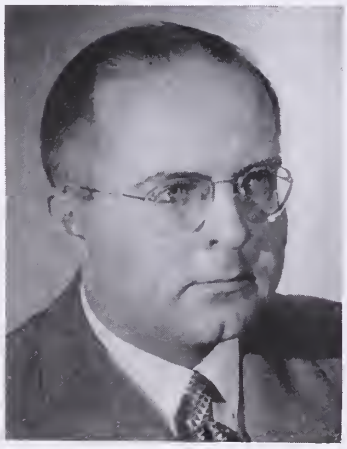
Director 1944-46
Chairman, National Expansion Committee 1945-46

EDWARD C. COLE has served as assistant professor and technical director of the Department of Drama at Yale University's School of Fine Arts since 1935. He has served as a member of the faculty since 1930. During the summer of 1944 he was a member of the program staff of television station WRGB. During the summer of 1945 he

lectured at the Randall School in Hartford. Several previous summers were spent as technical director of The Hampton Players, Southampton, N. Y. He is author of "A Stage Manager's Manual" and co-author of "Scenery for the Theatre." Mr. Cole holds an A.B. degree from Dartmouth and an M.F.A. from Yale. He is the delegate for the Yale Department of Drama to the Television Broadcasters Association; a charter member of the American Television Society and a veteran member of the Board of Directors. Last year he also served as chairman of the ATS Library Committee.

Director 1945-46

THEODORE HUSTON is a radio and television director of Ruthrauff & Ryan, Inc., the advertising agency responsible for the veteran television program, "Wednesdays at Nine is Lever Brothers' Time" and such radio programs as "Big Sister" and "Philo Vance." Mr. Huston was formerly a CBS radio director and also has served two years as a television director-writer at WRGB, Schenectady. He was featured in a G-E industrial motion picture showing how television works. He graduated from the University of Pennsylvania and served as an announcer and producer for a number of small radio stations in New England before entering the field of television. Mr. Huston is a charter member of ATS.



Director 1945-46

JOHN FLORY is a writer, director and producer of motion pictures. He heads the documentary and educational film producing firm of Grant, Flory & Williams which has produced movies for the U. S. Department of Agriculture, the Cleveland Trust Company, *Good Housekeeping* and others. Mr. Flory spent five years with Paramount producing radio transcriptions, film motion picture prevues and short subjects. He served as production manager of the documentary film, "The City." While at Yale, where he studied under the late Professor George Pierce Baker, he served as editor and motion picture critic of "The Yale Daily News." He has studied also at the LaVilla School, Lausanne, Switzerland. In recent months, out of his considerable research into film's role in television, he has contributed many articles to "Television," "Televiser," "Education Digest," "Educational Screen," "International Projectionist" and other magazines. Motion pictures are a family affair in the Flory household as Mrs. Flory, the former Elizabeth Harding, is executive secretary of the Educational Film Library Association.

President 1944-45
Director 1944-46

DAN D. HALPIN was president of ATS for the 1944-45 term. He is a television receiver sales specialist for the RCA Victor Division of the Radio Corporation of America. He joined RCA Victor in 1940 as manager of television receiver sales in New York and also directed the merchandising of RCA personal radios. He served as coordinator for the world premiere of RCA Theatre Television at the New Yorker Theatre, May 1941. Later, as manager of RCA Industrial Music Service, he contributed materially to the growing use of music in industry. During 1945, he acted as chairman of the Music in Industry Committee of the Music War Council. Before joining RCA Victor, Mr. Halpin was a director, vice-president and general sales manager of the Dictograph Products Company. He managed Knute Rockne's National Championship Football Team of 1930; is a charter member of the Sales Executives Club of New York, and a member of the Society of Motion Picture Engineers. Mr. Halpin is one of the two recipients of the American Television Society's service award, presented to him in 1945.

Photo of Mr. Halpin is © by Bachrach; Photos of Miss Peirce and Mr. Taylor by Larry Colwell.

Director 1945-46
Chairman, Program Committee 1945-46

HERBERT E. TAYLOR, Jr. has been director of transmitter equipment sales for Allen B. DuMont Laboratories, Inc., for the past two years. In the DuMont organization, he has also served as assistant priority supervisor; manager of the War Service Department; and assistant director of Cyclograph sales. His favorite subject of conversation is the economics of television and he has acquired extensive experience in the use of all types of television equipment. He recently completed a 25,000-mile transmitting equipment marketing study. Prior to his DuMont affiliation, Mr. Taylor piled up experience as a salesman, bank clerk, professional singer and writer of dramatic sketches.

Director 1945-46

EVELYN BARNES PEIRCE is supervisor in charge of daytime radio at Compton Advertising, Inc. and a staff director of Theatre Production Service, both of New York. She received her B.A. at Wellesley College and her theatre training in the Maria Ouspenskaya Studio of Acting. Miss Peirce has handled virtually all phases of theatrical work and radio programming; has directed and acted with well-known summer stock companies; has served the Theatre Guild in casting and directorial capacities; was casting director of all Federal Theatre productions in New York; headed the drama, dance and music departments of the National Youth Administration; stage-managed "Seventh Trumpet," "Richard III" and

Ballet International productions. She has written and directed many radio programs and was formerly in charge of special programs selection at Batten, Barton, Durstine & Osborn.

Director 1944-46

CHARLES H. KLEINMAN is a former vice-president of ATS, a charter member of the organization and former chairman of both the ATS Laboratory and Membership committees. He is a commercial engineer on broadcast and television equipment for the RCA Victor Division, Radio Corporation of America. Before joining RCA, Mr. Kleinman served as project engineer for Hudson-American Corporation and Dictograph Sales Corporation. In 1941-1942, he was program director of Metropolitan Television where he instituted experimental television programming. Mr. Kleinman entered radio broadcasting in 1934 and has been associated with WNEW, WABC, WBBM, WQXR and WEVD. From 1930-1935, he was director of stage lighting for the Kauffman Theatre, New York. He was a research technician in acoustics and allied fields with E. E. Free Laboratories from 1929 to 1934.

Chairman, Motion Picture Committee 1945-46

DON WIDLUND is head of the distribution of sponsored film for the J. Walter Thompson Co. For almost a decade he was with the Jam Handy organization in Detroit; helped set up a theatrical distribution system there and served as its Army Air Forces contact for three years on the production of training films. In 1937, working with Handy, he began a study in cooperation with television stations in New York, Chicago and Hollywood to ascertain the acceptability of various types of films for television. More than 100 films were televised. Mr. Widlund was formerly a booker for Warner Bros. theatres and was at one time with RKO as an office manager and salesman.

Chairman, Committee on Awards 1944-46 and Co-Chairman, Panel Discussion Groups 1945-46

RICHARD MANVILLE is a consultant on advertising and research to many advertising agencies and media in this country and Canada. He was formerly the director of research for Donahue & Coe, Inc., Warwick & Legler, Inc., and was advertising analyst at Newell-Emmett Co. He authored "How to Create and Select Winning Advertisements," which will be included in a new book published by Harper's, titled "Advertising Results and How to Get Them." He spoke on television audience research at the 1944 convention of the Television Broadcasters Assn., and at *Televiser's* 1945 "Television Institute."

Chairman, Library Committee 1945-46

MYRTLE ILSLEY chronicled the history of the American Television Society for this pioneering issue of the American Television Directory. Miss Ilsley is a member of the CBS sales promotion and advertising staff. She has a bachelor of arts degree from Hunter College, a master of arts degree from Radcliffe College and worked for some time with the American Red Cross. Her association with radio and television began at the Harvard University Radio Research Laboratory. She joined the Columbia Broadcasting System Research Department in 1943 and until the summer of 1945 was connected with the CBS Television Engineering Department.

Chairman, Membership Committee 1945-46

J. J. DOUGHNEY has been with Paramount Pictures, Inc. since 1920. He is assistant to Paul Raibourn, economist of Paramount Pictures, Inc. who heads Paramount's television interests. Mr. Doughney also serves as assistant treasurer of Allen B. DuMont Laboratories, Inc. He has held every office in the Paramount Pep Club except secretary. He was president in 1941-42 and member of the Board of Governors.

Chairman, Public Relations Committee 1945-1946

DAVID O. ALBER, president of David O. Alber Associates, Inc., is a veteran radio and industrial publicist with 19 years' experience to his credit. In addition to handling public relations for the American Television Society, his organization serves Allen B. DuMont Laboratories, Inc., Chelsea Cigarettes, Kate Smith, Ralph Edwards of "Truth or Consequences," Ben Grauer, Sammy Kaye, Guy Lombardo and other products, personalities and programs.

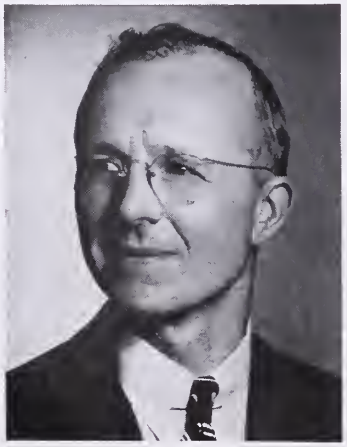
David O. Alber Associates has consistently won first place in the annual *Billboard* Exploitation Awards. Mr. Alber is a former reporter for the *New York Evening World* and the *New York Sun*. He is a charter member of ATS.

Chairman, Finance and Budget Committee 1945-46

ARCHIBALD U. BRAUNFELD is a graduate of New York University, a Certified Public Accountant, and a member of the New York State Society of CPA's. He is also a member of the Radio Executives Club of New York and New York University Commerce Alumni.

Chairman, Reception Committee 1945-46

STERLING E. NORCROSS attended the School of Civil Engineering at Cornell University and since then has been engaged in industrial sales engineering and advertising. He has been particularly interested in the visual sales potentialities of television and has created many slogans, trade marks and mailing pieces to capitalize upon them.



Chairman, Directory Committee 1945-46

RICHARD P. STEINER is director of market research for General Cable Corporation. He acquired a B.S. at Southwestern and took post-graduate work at Kansas University. He has served as assistant treasurer of Theatre Service Corp. and Fashion Creators Guild and also as manager of market research for Darco Corp., a subsidiary of Atlas Powder Co. He served as chairman, ATS Research Committee, 1944-45.

Chairman, Program Laboratory 1945-46

RAYMOND E. NELSON is vice president of Charles M. Storm Co., New York, in charge of radio and television activities. He has produced over 100 television programs, including dramatic, variety, musical, fashion, educational, demonstration and spot news presentations. These programs have been presented for Tintex, Alfred Dunhill of London, Park & Tilford, Fawcett Publications, Hillman Publications, *Esquire*, Conover Models, U. S. Army, American Red Cross, and others. His pioneering includes production of the first original full-length musical comedy written for television, "The Boys from Boise"; a full-length musical, "The Television Follies of 1944," and a continuous three-hour spot-news show on presidential election night.

Co-Chairman, Panel Discussion Group 1945-46

FREDERICK ALLEN KUGEL is publisher of *Television* which he founded in May 1944. He was educated at the University of London's School of Economics and the University of Pennsylvania's Wharton School of Finance and Commerce. Mr. Kugel has served as advertising manager of Carbona Products Co.; was in charge of prewar sales of DuMont television receivers in metropolitan New York, and, in 1941, launched the *Review of Recorded Music*, which he distributed through music dealers. His chief interest is the practical application to education of films and television. Mr. Kugel, a charter member of ATS, is one of the country's youngest publishers. *Television*, first launched as a quarterly, quickly won recognition with the industry, and expanded to a monthly. In it, Mr. Kugel emphasizes his own factual, practical approach to all phases of television.

Chairman, Committee on Education 1945-46

DR. LEONARD POWER is an independent educational consultant. He was formerly Coordinator of Radio Research for the Federal Radio Education Committee, and assistant to Dr. John W. Stude-

BY-LAWS OF

Article One: Organization

1—The name of this organization shall be AMERICAN TELEVISION SOCIETY, INC.

2—The organization shall have a seal which shall be in the following form:

3—The organization may at its pleasure by a majority vote of the membership body change its name.

Article Two: Purposes

The following are the purposes for which this organization has been organized:

1—To advance, promote and foster the study, understanding and appreciation of television as a cultural, educational, entertainment and advertising medium.

Photographs of Messrs. Steiner, Kugel and Rockafellow by Larry Colwell; of Dr. Power by Pach Bros.

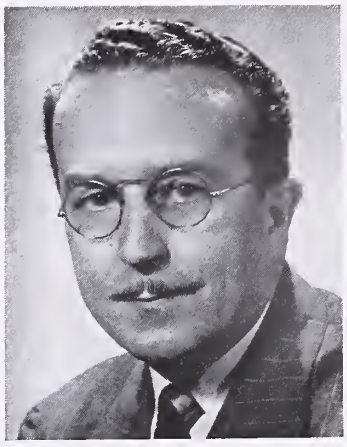
baker, U.S. Commissioner of Education. Dr. Power was the first president of the Department of Elementary School Principals, National Education Association. He has been associated with the University of Chicago and Columbia University.

Associate Editor, "ATS News"

PATRICIA MURRAY is associate editor of *TV*, a new magazine. A graduate of the University of Pennsylvania, she was a member of Jasper Deeter's Hedgerow Theatre for four years and has been heard on many radio programs. Pat started with NBC Television in 1938 as actress, announcer and mistress of ceremonies. She was selected "Miss Television of the New York World's Fair" both years of the Fair, and also won the title "Miss Liberty" in a field of 500 contestants. She was sent to Hollywood by *Liberty* to make the film, "I'll Tell the World." In television, Pat is probably best known as the announcer for the Lever Bros.' show, "Wednesdays at Nine," having been connected with this program since its inception in 1943. In recent months, she has been seen with John Reed King in the "Thanks for Looking" show at WABD.

President 1941-44

NORMAN D. WATERS has been president of his own New York advertising agency, Norman D. Waters & Associates, since its inception in 1927. His strong and early enthusiasm for television was the breath of life to the American Television Society on many occasions in its early history. His agency has experimented with scores of television dramas, fashion shows and commercial techniques at WABD.



Editor, "American Television Directory" 1946 and Editor, "ATS News"

RALPH ROCKAFELLOW, an advertising executive with Buchanan & Co., has an extensive background in publishing, the legitimate theatre, motion pictures and television. He has served as an actor and assistant director in motion pictures, stock and Broadway productions; as an editor with *Printers' Ink, Outdoors Pictorial, World's Work, Golden Book Magazine* and *Review of Reviews;* and as business manager for seven years with Review of Reviews Corp. He has contributed extensively to trade and general magazines, and has authored dramatic scripts for motion pictures, the theatre, radio and television. He has been associated with Doubleday, Doran & Co., Reiss Advertising, Young & Rubicam, and E. B. Weiss, advertising consultant.

THE AMERICAN-TELEVISION SOCIETY, INC.

2—To establish and provide an intelligence center or clearing house for information pertaining to television and its development.

3—To provide a forum for an exchange of ideas, and discussions of mutual problems affecting or relating to the television field, and to provide group activity to aid in the growth and improvement of the television industry.

4—To collect and build a full and complete library on television, to be made available to members.

5—To sponsor special meetings, or other functions for the dissemination of information pertaining to television, and to invite to such meetings or functions recognized leaders in television or related fields to speak on various phases of the medium and its use.

6—To place the advantages of the Society within the reach of all who are thoroughly interested in the new medium, by affording the opportunity for affiliation or membership, as provided in the Constitution and By-laws of the American Television Society.

7—To do all and everything necessary, suitable and proper for the complete accomplishment of these purposes and the attainment of the objects herein set forth.

Article Three: Membership and Dues

Membership in this organization shall be open to all who have had actual experience in television, or those who by reason of learning, training, general experience or background are deemed suitable for membership. Members of the herein membership corporation shall have the rights of direct participation in all activities of the herein membership corporation, including the right to attend meetings, to participate in the herein membership corporation's discussions or forums, and to have access to the herein membership corporation's library and documentary material pertaining to the field of television; it being understood, however, that associate members shall not have voting rights.

All members of American Television Society, the unincorporated association which preceded the herein membership corporation, are automatically temporary members of the herein corporation until May 31, 1944, by which time they can become permanent members of the herein membership corporation if they pay dues for the year commencing June 1, 1944.

All members of the former American Television Society, the unincorporated association, except those in the Armed Forces, shall be automatically dropped from the rolls of membership of the herein membership corporation if they have not paid their dues for one year from June 1, 1944, on or before May 31, 1944.

All members, who have paid their dues for one year in advance from June 1, 1944 on or before May 31, 1944, are to be deemed as charter members of the herein membership corporation.

The annual dues for regular members shall be $10.00 per annum, the same to be computed on a fiscal year basis, fiscal year to commence on June 1st of each year, commencing June 1, 1944. Any and all members who join the herein membership corporation on and after June 1, 1944 shall pay an entrance fee of $5.00 in addition to the aforesaid dues. Any and all members who have joined the herein membership corporation on or before May 31, 1944 shall not pay such entrance fee.

GUESSING ABOUT TELEVISION

By LOWELL THOMAS

NBC Commentator

The world of radio is talking televisian. All technicol signs point to o wide-spreod broadcosting of scenes as well as sound in the neor future. Progrom experts and shaw builders ore rocking their brains, foreseeing revolutions in the styles of entertainment transmitted by wireless ond trying to guess ot the patterns thot televisian will develop.

What about news, for exomple? How will televisian present the tidings of the day? It is eosy, of course, to foresee the televising of such events as fires, heodline oirplone flights, sports—such spectacles as permit the operation of equipment at the scene. But whot about the raundup of the news, most of which connot be televised?

It hoppens that I hove hod some experience with thot, having given the first televised news broodcost put on by NBC ond the first sponsored series of televisian news programs. The wor cut the development short, but now, occording to all signs, the threod of progress will be picked up ogoin.

Whot to do while televising news? Whot oction con there be on the screen? One obvious thing is for the norrotor to point out ploces on o map—when it's thot kind of news story. I did thot in my own televised progroms. These were during the Europeon wor, ond war puts emphosis on mops.

But the mop is, ot best, only a portiol onswer. After o few repetitions, mop pointing becomes monotonous, the some old thing.

We were thinking, a few yeors back, of newsreel film—ond newsreel, no doubt, will be on importont element of television entertoinment. Reels mode up os now, with sound, norrating voice ond music, could be televised. Films mode shortly before ot the scene of events could be used, ond news stories could be illustroted by moteriol from the film library.

For example, in tolking obout the President ond the White House, you might construct your story in such fashion thot it could be neotly illustroted with stock scenes of the President doing something or other ot the White House. I myself am a newsreel worker, ond fram my own experience I con see mony ongles in the opplicotian of the newsreel to television.

However, I think thot people who are poring over problems of televised news moy ploce too much emphosis on the necessity of hoving o voriety of oction on the television screen while news is being recited. There moy be too much ossumption that to show merely the imoge of the broodcaster would become monotonous.

After all, people do listen to speokers who stond up there ond soy things, lecturers for exomple. If the tolk is good they don't find it monotonous merely becouse they have nothing to look ot but the individuol os he discourses. They can let their eyes wander without losing the continuity of whot's going on—ond thot makes for eose. People listen to lectures, speeches or sermons on hour long, and news recital is brief.

So moybe in television the technique to o consideroble extent moy be to televise o news norrotor talking, with o shifting of pictoriol ongles for voriety. In other words, televised news moy not be so for owoy from present doy rodio news os some people believe.

All members provided for as aforesaid shall have full voting rights.

There shall also be a participating non-voting membership open to students and junior members under twenty-five years of age, who have a serious interest in television. This membership shall be known as "Associate Membership." The dues for such associate members shall be $5.00 per annum and there shall be no entrance fee charged to them. Associate members shall not have the voting rights.

Application for membership in the herein membership corporation shall be submitted to the Board of Directors on a form which it shall be its duty to prescribe; and each applicant shall be sponsored by a member.

The Board of Directors shall conduct such investigation and examination as will enable it satisfactorily to learn the qualifications of the applicant.

Application shall be voted upon by the Board of Directors at any regular or special meeting of the said Board. The Board may vote to accept, reject or withhold such application for a time to be fixed in its discretion. A two-thirds vote of the Board members present but not less than fifty per cent of the entire Board shall be necessary to elect an applicant to membership. The individual action of the members of the Board shall be kept secret. The Board of Directors may call upon the advice and assistance of the Membership Committee in considering new applicants for membership.

Upon the election of a new member the President of the herein membership corporation or the Chairman of the Board of Directors shall notify the Secretary, who shall notify the applicant of his election, and shall include his name in the next succeeding notice of meeting of the herein membership corporation.

In case of a member's unreasonable neglect to pay dues, the Board of Directors may, in its discretion, declare such membership terminated.

All members of the Armed Forces who have not previously been members of the society may become members for the duration of the war, upon payment of a $2.00 fee for the duration of the war or until their earlier discharge from the Armed Forces; entrance fees are waived for such members of the Armed Forces.

Suspension or expulsion:

If a member should, without just cause, become wholly inactive and should fail to cooperate in carrying out the work of the Society, should fail to attend meetings, and otherwise should unreasonably fail to contribute in any way to the carrying on of the functions and activities of the Society as an active member,—or if the conduct of any member shall appear to the Board of Directors to be objectionable to the character and welfare of the Society or contrary to the Constitution and By-laws, rules or spirit of the Society, the Board of Directors shall inform such member thereof in writing. The offending member may respond in writing or in person at a time appointed by the Board. A full hearing shall be had on any charges so preferred. Any such member may be censured, suspended or expelled by an affirmative vote of two-thirds of the members of the Board of Directors present, but not less than fifty (50) per cent of the entire board.

Article Four: Meetings

The annual membership meeting of this organization shall be held on the second Thursday in May each and every year except that if such day be a legal holiday then and in that event the Board of Directors shall fix the day, other than that prescribed herein; but it shall not be more than two weeks from the date fixed by these By-Laws. The Secretary shall cause to be mailed to every member in good standing at his address as it appears on the membership roll of this organization a notice telling the time and place of such annual meeting.

Regular meetings of this organization shall be held monthly at such time and place as is fixed by the President of the herein membership corporation.

The Board of Directors may eliminate summer meetings if it deems it advisable.

The presence of not less than 25 per cent of the voting Members shall constitute a quorum and a quorum shall be necessary to conduct the business of this organization; but a lesser number may adjourn the meeting for a period of not more than 14 days from the date fixed by these By-Laws and the Secretary shall cause a notice of this

scheduled meeting to be sent to all those members who were not present at the meeting originally called. Any number present shall constitute a quorum at the second meeting and all business transacted at such adjourned meeting shall be binding upon the organization.

Special meetings of this organization may be called by the President when he in his discretion deems it for the best interest of the organization. Notices of such meeting shall be mailed to all members at their addresses as they appear on the membership roll at least five days but not more than ten days before the scheduled date set for such special meeting. Such notice shall state the reasons that such meeting has been called, the business to be transacted at such meeting and by whom called.

At the request of three members of the Board of Directors or twenty members of the organization the President shall cause a special meeting to be called but such request must be made in writing at least twelve days before the requested scheduled date.

No other business but that specified in the notice may be transacted at such special meeting without the unanimous consent of all present at such meeting.

Article Five: Voting

At all meetings, all votes shall be viva voce, except that for election of officers and directors ballots shall be provided and there shall not appear any place on such ballot any mark that might tend to indicate the person who cast such ballot.

At any regular or special meeting if a majority so requires any question may be voted upon in the manner and style provided for election of officers and directors.

The use of proxy shall be forbidden.

At all votes by ballot the chairman of such meeting shall immediately prior to the commencement of balloting appoint a committee of three who shall act as "Inspectors of Election" and who shall at the conclusion of such balloting certify in writing to the chairman the results and the certified copy shall be physically affixed in the minute book to the minutes of that meeting.

No inspector of election shall be a candidate for office or shall be personally interested in the question voted upon.

Article Six: Order of Business

1—Roll Call.
2—Reading of the minutes of the preceding meeting.
3—Reports of Committees.
4—Reports of Officers.
5—Old and Unfinished Business.
6—New Business.
7—Good and Welfare.
8—Adjournments.

Article Seven: Board of Directors

The business of this organization shall be managed by a Board of Directors consisting of seven members together with the officers of this organization. At least one of the directors

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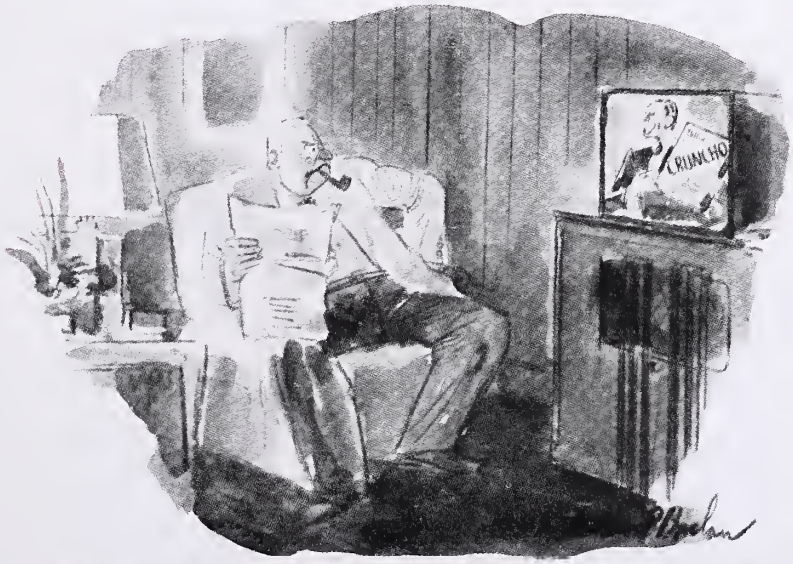

ONE of the delights of television will be that you will be oble not only to heor, but olso see the fascinoting commerciol onnouncements.

Drowings by Perry Borlow, courtesy Collier's.

elected shall be a resident of the State of New York and a Citizen of the United States.

The directors to be chosen for the ensuing year shall be chosen at the annual meeting of this organization in the same manner and style as the officers of this organization and they shall serve for a term of one year.

The Board of Directors shall have the control and management of the affairs and business of this organization. Such Board of Directors shall only act in the name of the organization when it shall be regularly convened by its chairman after due notice to all the directors of such meeting.

A majority of the members of the Board of Directors shall constitute a quorum and the meetings of the Board of Directors shall be held as frequently as required. Each director shall have one vote and such voting may not be done by proxy.

The Board of Directors may make such rules and regulations covering its meetings as it may in its discretion determine necessary. Vacancies in the said Board of Directors shall be filled by a vote of the majority of the remaining members of the Board of Directors for the balance of the year.

A director may be removed when sufficient cause exists for such removal. The Board of Directors may entertain charges against any director. A director may be represented by counsel upon any removal hearing. The Board of Directors shall adopt such rules as it may in its discretion consider necessary for the best interests of the organization, for this hearing.

The Board of Directors may elect from its members a Chairman of the Board of Directors.

At no time shall a majority of the Board of Directors be employed in the same phase of television and no more than two members of the Board of Directors shall be employed by the same company, firm, corporation, or subsidiary.

Article Eight: Officers

The officers of the organization shall be as follows: President, Vice President, Secretary, and Treasurer.

The President shall preside at all membership meetings.

He shall present at each annual meeting of the organization an annual report on the work of the organization.

He shall appoint all committees, temporary or permanent.

He shall see that all books, reports and certificates as required by law are properly kept or filed. He may be one of the officers who may sign the checks or drafts of the organization.

He shall have such powers as may reasonably be construed as belonging to the chief executive of any organization. The Vice President shall in the event of the absence or inability of the President to exercise his office become acting president of the organization with all the rights, privileges and powers, as if he had been the duly elected president.

The Secretary shall keep the minutes and records of the organization in appropriate books. It shall be his duty to file any certificate required by any statute, federal or state.

He shall give and serve all notices to members of this organization.

He shall be the official custodian of the records and seal of this organization. He may be one of the officers required to sign the checks and drafts of the organization.

He shall present to the membership at any meetings any communication addressed to him as Secretary of the organization. He shall submit to the Board of Directors any communications which shall be addressed to him as Secretary of the organization.

He shall attend to all correspondence of the organization and shall exercise all duties incident to the office of Secretary.

The Treasurer shall have the care and custody of all monies belonging to the organization and shall be solely responsible for such monies or securities of the organization. He shall cause to be deposited in a regular business bank or trust company a sum not exceeding $1,000.00 and the balance of the funds of the organization shall be deposited in a savings bank except that the Board of Directors may cause such funds to be invested in such investments as shall be legal for a savings bank in the State of New York.

He must be one of the officers who shall sign checks or drafts of the organization. No special fund may be set aside that shall make it unnecessary for the Treasurer to sign the checks issued upon it.

He shall render at stated periods as the Board of Directors shall determine a written account of the finances of the organization and such report shall be physically affixed to the minutes of the Board of Directors of such meetings.

He shall exercise all duties incident to the office of Treasurer.

No officer shall for reason of his office be entitled to receive any salary or compensation, but nothing herein shall be construed to prevent an officer or director from receiving any compensation from the organization for duties other than as a director or officer.

Article Nine: Salaries

The Board of Directors shall hire and fix the compensation of any and all employees which it in its discretion may determine to be necessary in the conduct of the business of the organization.

"THE TIME is here to put out less talk about color, or stratovision, or coaxial cable, or high definition, and still higher definition. The time is here to put out programs which can compete with what John Q. Public now gets for nothing on the radio or for a few cents per hour at the movies."

—RALPH AUSTRIAN, *Vice President*, RKO Television Corp.

Article Ten: Committees

All committees of this organization shall be appointed by the President and their term of office shall be for a period of one year or less if sooner terminated by the action of the Board of Directors.

The permanent committees shall be such as may be determined upon by the Board of Directors.

Article Eleven: Elections

The fiscal year of the herein membership corporation shall begin on June 1st of each year, and the first regular meeting in May of each year, which shall be held the second Thursday of said month, shall be the annual meeting of the herein membership corporation; if for some reason the meeting cannot be held on that day, then and in that event it shall be held not more than two weeks from the date fixed by these By-Laws.

The annual meeting shall be devoted to elections and such other business as may come before the meeting.

Before the first meeting in March of each year, the President shall appoint a Nominating Committee of seven members, three of whom shall be chosen from the Board of Directors and the other four from the membership at large.

This Nominating Committee shall prepare and present to the membership, at least five days before the first meeting in April, a suggested slate of officers and directors to be elected for the next fiscal year.

The candidates for officers and directors presented by the Nominating Committee shall automatically be put in nomination at the first meeting of the membership corporation in April. In addition to those nominated by the Nominating Committee, any other voting member of the herein membership corporation may be placed in nomination, at the first meeting in April, providing such nomination is made in writing and is signed by at least ten of the voting members in good standing of the herein membership corporation.

At the election meeting the members of the Board of Directors and officers shall be elected by written ballot and a plurality vote of the members present at the said election meeting shall constitute an election.

Article Twelve: Amendments

These By-Laws may be amended by the affirmative vote of two-thirds of the members present at any regular or special meeting, but not less than a majority of the entire herein membership corporation, provided that notice of such meeting and the purpose thereof have been duly given to the membership in writing at least ten days prior to the meeting.

Article Thirteen: Chapters

The herein membership corporation may authorize local chapters to be formed in cities other than New York City, upon such terms and conditions as the Board of Directors may determine.

MEMBERS... AMERICAN TELEVISION SOCIETY

Each member's professional activity, his business connection, address and phone number are given wherever possible. His class of membership is indicated as ATS-Charter, ATS-Active, ATS-Associate and ATS-Armed Services. His chief interests in television, as set down in a recent member survey, are keyed as follows:

Tele-A—Advertising
Tele-B—Acting
Tele-C—Business Consultant
Tele-D—Camera Technique
Tele-E—Directing
Tele-F—Education
Tele-G—Equipment or Supplies manufacture and sales
Tele-H—Engineering
Tele-I —Make-Up
Tele-J —Merchandising
Tele-K—Motion pictures in advertising and television
Tele-L—Programming
Tele-M—Production
Tele-N—Promotion
Tele-P—Publishing
Tele-Q—Public Relations
Tele-R—Script Writing
Tele-S —Set Design
Tele-T—Telecasting
Tele-U—Service and installations
Tele-V—Studio design

ACHER, DON. Director. Columbia Broadcasting System, Inc. 485 Madison Ave., New York 22. WI 2-2000. ATS-Charter. Tele-E, F, M.

ACKERMAN, JEAN MARIE. Scriptwriter. Signal Corps Photo Center, and A. W. Kelly, 522 Fifth Avenue, New York 17. MU 2-0882. ATS-Charter. Tele-K, R.

ALBER, DAVID O. Public Relations. David O. Alber Associates, 654 Madison Ave., New York 21. RH 4-1681. ATS-Charter. Tele-Q.

ALEXANDER, HENRY R. Film Editor. U. S. Army, Hotel Sutton, 330 E. 56th St., New York. AS 8-3500. ATS-Armed Services. Tele-D, K, M, T.

ALICOATE, CHARLES A. Advance Television Pictures, Inc., 729 Seventh Ave., New York 19. BR 9-7117. ATS-Active. Tele-C, E, K, L, M.

ALLEN, RICHARD. U. S. Army Signal Corps. 483 Montgomery St., Brooklyn, N. Y. PR 4-2257. ATS-Armed Services. Tele-B, D, E, K, M.

ALSWANG, RALPH. Scenic Designer. 729 Greenwich Ave., New York 14. CH 2-7452. ATS-Active. Tele-J, S.

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ANDREWS, RUTH. 58 W. 56th St., New York 19. ATS-Active.

ANSEN, SYLVIA. Radio Time Sales. Radio Station WLIB, 850 Flatbush Ave., Brooklyn, N. Y. BU 7-5900. ATS-Charter. Tele-A, C, J, L, R.

ARMSTRONG, JULIAN. Allen B. DuMont Laboratories, Inc., 515 Madison Ave., New York 22. PL 3-9800. ATS-Active.

ARNOLD, HELEN T. John Wanamaker, 9th Street and Broadway, New York 3. ST 9-4700. ATS-Active.

ARNOLD, JUDITH S. Public Relations. Ann R. Silver Associates, 551 Fifth Ave., New York 17. MU 2-8633. ATS-Active. Tele-R.

ARNSTEIN, BENJAMIN S. Industrial Specialist. War Department - Army Engineers. 120 Wall St., New York 5. WH 4-5500. ATS-Associate. Tele-C, J, M, N, Q.

AYRES, ELIZABETH C. 37 Charles St., New York 14. ATS-Charter. Tele-E, L, M.

BAKER, DOROTHY. Singer. R. D. 1, Box 147-C, Maple Rd., Riverside, Conn. ATS-Active. Tele-B, L, M, Q.

BAKER, FAY. 310 E. 44th St., New York 17. ATS-Active.

BALESTRIERI, VICTORIA. Outpost Representative, Office of War Information. 250 W. 57th St., New York 19. CI 6-4400. ATS-Active. Tele-D, F, I, M.

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BALTIN, WILL. Secretary - Treasurer, Television Broadcasters Association, Inc., 500 Fifth Ave., New York 18. LA 4-4788. ATS-Active. Tele-Q.

BALZ, D. ELEANOR. Television Producer. 132 East 36th St., New York. MU 4-9014. ATS-Active. Tele-E, K, L, M.

BARBINEL, ANN. Radio Director, Ann Barbinel Productions, 54 Riversde Dr., New York 24. EN 2-4351. ATS-Charter. Tele-E, I, L, R.

BARLOW, PERRY. Artist. Westport, Conn. ATS-Active.

BARRETT, LT. HALSEY V. Executive. USNR, Army-Navy Munitions Board, Fourth and "C" Streets, S. W., Washington 4, D. C. Republic 7400. ATS-Charter. Tele-A, C, J, N, Q.

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BARTLETT, KENNETH G. University Radio Workshop, Syracuse 10, N. Y. ATS-Active.

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BERNSOHN, AL. Television Publicist, Account Executive, David O. Alber Associates, 654 Madison Ave., New York 21. RH 4-1681. ATS-Charter. Tele-A, J, N, Q.

BERSE, LENORE. Program Director, Station W2XJT. Macy's Department Store, 34th Street and Herald Square, New York 1. CH 4-2000. ATS-Active. Tele-A, J, K, L, M.

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BLUM, ABRAHAM. Translator and Writer. U. S. Government. 1642 E. 19th St., Brooklyn, N. Y. ATS-Armed Services. Tele-C, F, R.

BOHLKE, W. HOLLANDER. Commercial Engineering Manager, Radio Corporation of America, Electronic Apparatus Section, Camden, New Jersey. Camden 8000. ATS-Charter. Tele-D, G, H, T.

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BOTWINICK, T/5 LEONARD. U. S. Army, Hq. & Hq. Co., 3117th Sig. Sv. Bn., APO 244, c/o Postmaster, San Francisco, Calif. ATS-Armed Services. Tele-E, F, L, Q, R.

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BOYLE, JAMES. American Forces Network, Hq. Co. Z Etousa Rearm. APO 413 c/o Postmaster, New York. ATS-Armed Services.

BRADLEY, VIRGINIA MEYER. Producer, Director. 219 North Swarthmore Ave., Swarthmore, Pa. Swarthmore 2003-J. ATS-Active. Tele-E, L, M.

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BRYAN, JULIEN. Producer, 291 W. 12th St., New York 14. WA 9-3917. ATS-Active. Tele-K.

BUCHWALD, SAMUEL. Producer, Famous Studios (Paramount Pictures), 25 W. 45th St., New York 19. BR 9-1600. ATS-Active. Tele-K.

BUCKMAN, ENSIGN THOMAS R. USNR. U.S.S. PC 1084, FPO, New York, N. Y. ATS-Armed Services.

BURGER, ALFRED G. Telenews Theatres, 32 E. 57th St., New York 22. PL 3-6277. ATS-Active.

BURROUGHS, GORDON S. Federal Telephone and Radio Laboratories, 67 Broad St., New York 4. ATS-Charter. Tele-G, H.

BUTTNER, H. H. President, Federal Communications Laboratories, 67 Broad St., New York 4. BO 9-3800. ATS-Active.

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CARTER, LEE. Walter Thornton Model. 420 Lexington Ave., New York 17. LE 2-7215. ATS-Associate. Tele-A, B, D, M.

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CHOPNICK, MAX. Attorney, Conner and Chopnick, 9 E. 46th St., New York 17. WI 2-9190. ATS-Active. Tele A, C, K, P, Q.

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CLARK, JAY. Program Producer, Ted Bates, Inc., 630 Fifth Ave., New York 20. CI 6-9700. ATS-Active. Tele-A, E, K, L, M.

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COLE, GEORGE H. President, Television Film Industries Corp., 340 Third Ave., New York 10. LE 2-6780. ATS-Charter. Tele-A, K, L, M, P.

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COLWELL, LARRY. Photographer, Larry Colwell Photographer, 38 E. 50th St., New York 20. PL 8-0581. ATS-Active. Tele-A, K, Q.

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CURRAN, CHARLES W. Motion Picture Writer, Producer, Director, 385 Madison Ave., New York 17. PL 8-1727. ATS-Active. Tele-K, L, M.

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FLORMAN, LT. ARTHUR. Signal Corps Photo Center, 35-11 35th Ave., Long Island City 1, N. Y. AS 8-3500. ATS-Armed Services.

FLORY, JOHN. Motion Picture Producer and Director, Grant, Flory & Williams, 441 Lexington Ave., New York 17. MU 2-8127. ATS-Charter. Tele-E, F, K, L, T.

FOSTER, ORVILLE. In charge of FM, South Bend Tribune Radio Station WSBT, South Bend, Ind. ATS-Charter. Tele-F.

FOX, FONTAINE. Cartoonist. 1 W. Elm St., Greenwich, Conn. ATS-Active.

FRANK, JAMES, JR. Sales Executive, National-Simplex-Bludworth, Inc., 356 W. 44th St., New York 18. CI 5-6900. ATS-Active. Tele-G.

FRANKLIN, DEL. Commercial Writer. Station WSRR, 270 Atlantic St., Stamford, Conn. Stamford 4-7575. ATS-Associate. Tele-A.

FREEDLEY, GEORGE. Librarian, Theatre Collection of the New York Public Library, 476 Fifth Ave., New York 18. BR 9-1500. ATS-Active. Tele-F, P, R.

FREEMAN, JOAN. Free-lance Advertising. 17 E. 96th St., New York 28. AT 9-3440. ATS-Active. Tele-G, M.

FROHLICH, RICHARD P. Director of Public Relations, ASCAP, 30 Rockefeller Plaza, Room 4507, New York 20. CO 5-7464. ATS-Active. Tele-L, N, Q.

FROMER, JOSEPH. Supervisor, National Radio Service, 57 First Ave., New York 3. ATS-Charter. Tele-G, H.

FROMM, LLOYD. Signal Corps, Camera Dept., Long Island City, N. Y. ATS-Armed Services.

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FURSE, CORP. RUSSELL R. Signal Corps Photo Center, Astoria, Long Island. ATS-Armed Services.

GANZ, WILLIAM P. Motion Picture Producer. 40 E. 49th St., New York, N. Y. EL 5-1444. ATS-Active. Tele-A, F, J, Q.

GAUBERT, HELEN A. Bibliographical Researcher and Cataloguer. James F. Drake, Inc., 24 W. 40th St., New York 18. PE 6-2380. ATS-Charter. Tele-F.

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GETTS, CLARK H. President, Clark H. Getts, Inc., 430 Park Ave., New York 22. PL 8-0910. ATS-Active. Tele-M, T.

GILBERT, CAROLINE LEE. Research, Buchanan & Company, Inc., 1501 Broadway, New York 18. ME 3-3380. ATS-Active.

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SCHNEIDER, WILLIAM H. Donahue & Coe, Inc., 1270 Avenue of the Americas, New York 20. CO 5-4252. ATS-Active. Tele-A, D, K, L.

SCHUSTER, CSp(P) ALBERT C. Instructor, sound recording. U.S.N.R. U.S. Naval Photo Science Laboratory, Anacostia, D. C. FR 1400. ATS-Armed Services. Tele-D, H, K, M.

SCHWARTZ, LEONARD F. 317 W. 93rd St., New York 25. ATS-Charter. Tele-E, M.

SEIDMAN, JULES. International Club, Columbia University, New York 27. ATS-Active.

SEMRAU, SGT. WALTER S. Sqd. K, 2135th A.A.F. B.U., Tyndall Field, Panama City, Fla. ATS-Armed Services. Tele-A, J, N.

SERENO, PAOLO. Producer. 90 Bank St., New York 14. CH 3-1647. ATS-Active. Tele-A, E, L, M.

SHANE, IRWIN A. Editor-Publisher, Television Workshop, *Televiser Magazine*, 11 W. 42nd St., New York 18. LO 5-1683. ATS-Charter. Tele-L, P.

SHELDON, JAMES. Radio director-writer, MacFarland Aveyard & Co., 10 Rockefeller Plaza, New York 20. CI 6-2890. ATS-Active. Tele-A, E, M, R.

SHERMAN, HARRY. Editor, *International Projectionist*, 19 W. 44th St., New York 18. MU 2-2948. ATS-Active.

SHORTT, HUBERT L. President, Polytron Corporation, 133 Martine Ave., White Plains, N. Y. White Plains 8608. ATS-Active. Tele-G, H.

SHUPERT, GEORGE T. Television Executive, Paramount Pictures, Inc., 1501 Broadway, New York 18, N. Y. BR 9-8700. ATS-Charter.

SIEGEL, CHARLES. Pilot. 61 Nesmith St., Lawrence, Mass. ATS-Active. Tele-A, L, M, N.

SIMMONS, IRA H. Motion Picture Producer. 542 Fifth Ave., New York, N. Y. ATS-Active.

SIMMONS, T/5 STANLEY H. 3908 S. Sv. Bn. (Photo GHQ), APO 887, c/o Postmaster, New York, N. Y. ATS-Armed Services.

SKINNER, CHARLES E. Motion Picture Producer-director. U. S. Army Signal Corps Photo Center, 35-11 35th Ave., Long Island City, N. Y. AS 8-3500. ATS-Armed Services. Tele-A, C, E, K, M.

SMALLEY, FRANK M. Administrative Assistant. 4 Soldiers Place, Buffalo, York 19. CI 6-5280. ATS-Active.

SMITH, FLETCHER. Producer of Animated Motion Pictures, Fletcher Smith Studios, Inc., 1585 Broadway, New York 19. CI 6-5280. ATS-Active.

SMITH, K. R. 250 W. 54th St., New York, N. Y. ATS-Active.

SMITH, RICHARD E. Make-up Artist, NBC Television, 30 Rockefeller Plaza, New York 20, N. Y. CI 7-8300. ATS-Active. Tele-I.

SOBOL, EDWARD. Television Producer, NBC Television, 30 Rockefeller Plaza, New York 20, N. Y. CI 7-8300. ATS-Charter.

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SOUTHCOMB, HAROLD J. 10 Park Place, Metuchen, N. J. ATS-Charter.

SOZIO, SANTINO R. 630 Fifth Ave., New York 20. Member O.S.S. ATS-Active. Tele-A, K.

SPEER, CHARLES C. Radio Script Writer, 7712—35th Avenue, Jackson Heights, L. I., N. Y. NE 9-4621.

SPENCER, DON. Televised Sports, Inc., 271 Madison Ave., New York 16. MU 5-7880. ATS-Active. Tele-A, T.

STASHEFF, EDWARD. Teacher of Radio and Television. Station WNYE, 29 Fort Greene Place, Brooklyn 1. ST 3-0120. ATS-Active.

STEEN, AL. *Film Daily*, 1501 Broadway, New York 18. BR 9-7117. ATS-Active.

STEINER, RICHARD P. Director of Market Research, General Cable Corp., 420 Lexington Ave., New York 17. MO 4-2920. ATS-Charter. Tele-C, G, J.

STERN, ALFRED. Promotion Manager, *Radio-Craft Magazine*, 25 W. Broadway, New York 7. RE 2-9690. ATS-Active. Tele-A, G, J, N, P.

STERN, BILL. National Broadcasting Co., 30 Rockefeller Plaza, New York 20. CI 7-8300. ATS-Active.

STEWART, DONALD A. Salesman Executive, Allen B. DuMont Laboratories, Inc., 515 Madison Ave., New York 22. PL 3-9800. ATS-Active. Tele-A, C, G, K, Q.

STEWART, W. S. R.C.A.F. Repat. Depot, Rockcliffe, Ottawa, Ontario. ATS-Active.

STOFFI, MICHAEL. 19 Stilwell Ave., Stamford, Conn. ATS-Active.

STOOPACK, MURRAY. Cable Editor, Netherlands Indies News Agency, 50 Rockefeller Plaza, New York 20. CO 5-3875. ATS-Active. Tele-E, F, M, Q, R.

SUBOTSKY, MILTON. Motion Picture Writer-director. 1859—53rd St., Brooklyn, N. Y. ATS-Armed Services. Tele-E, F, K, M, R.

SWENSON, WALTER J. Engineer, Paramount Pictures, Inc., 1501 Broadway, New York 18. BR 9-8700. ATS-Active. Tele-H.

SWIFT, LELA. Assistant Director-writer, CBS Television, 15 Vanderbilt Ave., New York 17. MU 6-6340. ATS-Charter. Tele-E, R.

TAYLOR, HERBERT E. JR. Director of Transmitter Sales, Allen B. DuMont Laboratories, Inc., 515 Madison Ave., New York 22, N. Y. PL 3-9800. ATS-Active. Tele-D, G, J, K, N.

TAYLOR, RONALD P. Smith, Taylor & Jenkins, Inc., 223 Fourth Ave., Pittsburgh 22, Pa. Atlantic 9312. ATS-Charter. Tele-A, E, L, M, R.

TEMPLE, MARGUERITE. Assistant Radio Director, American Society for Russian Relief, 5 Cedar St., New York 5. WH 3-2460. ATS-Charter. Tele-B, E, K, L, M.

THOMAN, CLARENCE W. Director of Special Events, Philco Corp., Television Broadcasting Div., Tioga and "C" Sts., Philadelphia 34, Pa. Nebraska 5100. ATS-Active. Tele-D, E, F, L, M.

THOMAS, LOWELL. Author, Radio News Commentator, 30 Rockefeller Plaza, New York 20, N. Y. ATS-Active.

THOMPSON, LUCILLE A. 17169 Greenlawn Ave., Detroit 21, Mich. ATS-Charter.

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TOBIAS, CPL. ROBERT D. 263 Griffen Ave., Scarsdale, N. Y. ATS-Armed Services. Tele-E, K.

TROTTA, GERI. *Mademoiselle*, 122 E. 42nd St., New York 17. MU 3-8910. ATS-Active.

TULIN, MIRIAM. Production Manager, Station W2XJT. 440 W. 34th St., New York 1. ATS-Active. Tele-E, L, M.

TURNER, T/SGT. CHARLES L. Film Editor and Equipment Supervisor. Signal Corps Photo Center, 35-11 35th Ave., Long Island City, N. Y. AS 8-3500. ATS-Armed Services. Tele-E, L, M.

USKALI, WILLIAM. Manager N. Y. Office, The Jam Handy Organization, 1775 Broadway, New York 19. CO 5-7144. ATS-Active. Tele-F, K, M, Q, R.

VALENTINO, THOMAS J. Manager, Thomas J. Valentino, Inc., 1600 Broadway, New York 19. CI 6-4675. ATS-Active. Tele-C, K, M.

VAN KLEEK, MARTHA LOUISE. 2930 Northern Blvd., Manhasset, N. Y. ATS-Associate.

VILAS, WILLIAM H. Director, Motion Picture Department, J. M. Mathes, Inc., 122 E. 42nd St., New York 17. LE 2-7450. ATS-Active. Tele-A, C, J, K, L.

VOLGER, GEORGE J. Assistant Manager, Art Rush, Inc., NBC Bldg., Hollywood 28 Calif. HI 5161. ATS-Charter. Tele-A, F, L, M.

VREELAND, FRANK. Writer, United Artists Corporation, 729 Seventh Ave., New York 19. BR 9-7300. ATS-Charter. Tele-M.

WAGMAN, DAVE. Sales Manager, Bruno-New York, 460 W. 34th St., New York 1. ME 3-5716. ATS-Active. Tele-G, J.

WALLACE, LEE. Executive Producer, Lee Wallace Teleshows, 56 East 53rd St., New York 22. EL 5-6794. ATS-Active.

WALSH, M. A. Engineer, Radio Corporation of America Manufacturing Co., 26 Pocantico Rd., Ossining, N. Y. ATS-Armed Services. Tele-G, H, K.

WARING, NANCY LEE. Publicity, Allan Metzer, Inc., 509 Madison Ave., New York 22. PL 3-7647. ATS-Active. Tele-E, R.

WATERS, NORMAN D. Advertising, Norman D. Waters & Associates, Inc., 1140 Broadway, New York 1. CA 5-7430. ATS-Charter. Tele-A, L.

WEIL, CHESTER. Head, Television Dept., King Features Syndicate, 235 W. 45th St., New York 18. ATS-Active.

WEIL, JOSEPH. 30 Rockefeller Plaza, New York 20. ATS-Active.

WEINER, IRVING R. Film Editor, U. S. Maritime Commission, 45 Broadway, New York 7. WH 3-8000. ATS-Active. Tele-E, K, M, T.

WEISS, EDWARD B. Advertising Agency Consultant, Twin Brook Farm, Sherman, Conn. ATS-Active.

WERBLOW, JAMES. Secretary and Sales Manager, Polygraphic Co. of America, 310 E. 45th St., New York 17. MU 4-1200. ATS-Active.

WEST, MARY LEONARD. 4 Grove Court, New York 14, N. Y. ATS-Associate.

WHATMORE, KENNETH N. Television Director, J. D. Tarcher & Co., 630 Fifth Ave., New York 20. CI 6-2626. ATS-Charter. Tele-A, E, M, R, S.

WIDLUND, DON E. Motion picture distribution, J. Walter Thompson Co., 420 Lexington Ave., New York 17. MU 3-2000. ATS-Charter. Tele-A, J, K, M.

WILCKEN, DORATHA. Promotion, Cluett Peabody & Co., 40 Worth St., New York 13. BA 7-2082. ATS-Active. Tele-A, J.

WILLARD, HARRY W. Manager, Theatrical Division, The Jam Handy Organization, 2900 E. Grand Blvd., Detroit 11, Michigan. Madison 2450. ATS-Active. Tele-A, K, L, M, Q.

WILLIAMS, ANNIE LAURIE. 118 E. 40th St., New York 17. ATS-Active.

WILSON, GLENN. Writer. 233 W. 14th St., New York 11. ATS-Active.

WITHE, STANLEY F. Manager, Advertising and Publicity, Aetna Life & Affiliated Cos., 151 Farmington Ave., Hartford, Conn. Hartford 2-9141. ATS-Active. Tele-A, F, K, N, Q.

WOLFE, WINIFRED. Ward Wheelock Co., Inc., 444 Madison Ave., New York 17. PL 3-7120. ATS-Associate.

ZURHORST, CHARLES S. President, Charles S. Zurhorst Radio & Public Relations, 1627 "K" Street, N. W., Washington 6, D. C. District 3250. ATS-Charter. Tele-C, M, N. Q.

TELEVISION STATIONS AND PENDING APPLICATIONS

This list includes commercial and experimental stations — both operating and proposed — as of November 1, 1945. The majority have applications for construction permits pending before the Federal Communications Commission.

COMMERCIAL STATIONS NOW ON THE AIR

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL
Chicago, Ill.	Balaban & Katz Corp.	No. 4	WBKB	4kw	2kw
New York, N. Y.	Columbia Broadcasting System, Inc.	No. 2	WCBW	3kw	2.5kw
New York, N. Y.	Allen B. DuMont Laboratories, Inc.	No. 5	WABD	4kw	1kw
New York, N. Y.	National Broadcasting Co., Inc.	No. 4	WNBT	5.2kw	2.2kw
Schenectady, N. Y.	General Electric Co.	No. 4	WRGB	40w	20kw
Philadelphia, Pa.	Philco Radio & Television Corp.	No. 3	WPTZ	3kw	3kw

EXPERIMENTAL STATIONS NOW ON THE AIR

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL
Los Angeles, Cal.	Don Lee Broadcasting System	No. 1	W6XAO	1kw	150w
Los Angeles, Cal.	Television Productions, Inc.	No. 4	W6XYZ	4kw (peak)	1kw
Chicago, Ill.	Zenith Radio Corp.	No. 1	W9XZV	1kw	1kw
Jamaica, L. I., N. Y.	William B. Still tr/as Jamaica Radio & Television Co.	No. 13	W2XJT	400w	100w

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
CALIFORNIA						
Fresno	J. E. Rodman	No. 2		4kw	2kw	Commercial construction permit application
Hollywood	Don Lee Broadcasting System	No. 1	KTSL	4kw	2kw	Commercial construction permit granted
Hollywood	Fox West Coast Theatre Corp.	No. 5		—	—	Commercial construction permit application
Hollywood	Warner Bros. Broadcasting Corp.	No. 3		4kw	3kw	Commercial construction permit application
Los Angeles	American Broadcasting Company, Inc.	No. 6		4kw	3kw	Commercial construction permit application
Los Angeles	Earle C. Anthony, Inc.	No. 6		4kw	2kw	Commercial construction permit application
Los Angeles	Consolidated Broadcasting Corp., Ltd.	No. 7		4kw	3kw	Commercial construction permit application
Los Angeles	Don Lee Broadcasting System	No. 1	W6XAO	1kw	150w	Operating experimental station
Los Angeles	Don Lee Broadcasting System	(318-330mc)	W6XDU	6.5w	50w	Television relay with W6XAO
Los Angeles	Hughes Productions, Division of Hughes Tool Co.	No. 2		4kw	2kw	Commercial construction permit application
Los Angeles	Metro-Goldwyn-Mayer Studios, Inc.	No. 8		4kw	2kw	Commercial construction permit application
Los Angeles	National Broadcasting Co.	No. 4		1kw	3kw	Commercial construction permit application
Los Angeles	Television Productions, Inc.	No. 2	KTLA	4kw	1kw	Commercial construction permit application
Los Angeles	Television Productions, Inc.	No. 4	W6XYZ	4kw (peak)	1kw	Operating experimental station
Los Angeles	Television Productions, Inc.	No. 11 & 12	W6XLA	100w (peak)	—	Portable-Mobile. Experimentally licensed as television relay with W6XYZ
Los Angeles	The Times-Mirror Co.	No. 5		40kw	20kw	Commercial construction permit application
Riverside	The Broadcasting Corp. of America	No. 3		4kw	3kw	Commercial construction permit application
Los Angeles Co.	Pacific Coast Broadcasting Co.	No. 6		—	—	Experimental construction permit application
San Francisco	The Associated Broadcasters, Inc.	No. 4		4kw	3kw	Commercial construction permit application
San Francisco	Television Productions, Inc.	No. 4		25kw	25kw	Commercial construction permit application
San Francisco	Don Lee Broadcasting System	No. 1		4kw	2kw	Commercial construction permit application
San Francisco	Hughes Productions, Division of Hughes Tool Co.	No. 2		4kw	2kw	Commercial construction permit application
Stockton	E. F. Peffer	No. 3		4kw	3kw	Commercial construction permit application

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
COLORADO						
Denver	KLZ Broadcasting Co.	No. 3		4kw	3kw	Commercial construction permit application
CONNECTICUT						
Booth Hill	The Connecticut Television Company	No. 8		4kw	2kw	Commercial construction permit application
Hartford	The Travelers Broadcasting Service Corp.	No. 3		4kw	3kw	Commercial construction permit application
Hartford	The Yankee Network, Inc.	No. 9		4kw	2kw	Commercial construction permit application
DELAWARE						
Wilmington	WDEL, Inc.	No. 1		4kw	3kw	Commercial construction permit application
DISTRICT OF COLUMBIA						
Washington, D. C.	Bamberger Broadcasting Service, Inc.	No. 4		1kw	3kw	Commercial construction permit application
Washington, D. C.	Capital Broadcasting Co.	No. 6		4kw	3kw	Commercial construction permit application
Washington, D. C.	Allen B. DuMont Laboratories, Inc.	No. 1		400w	200w	Commercial construction permit application
Washington, D. C.	Allen B. DuMont Laboratories, Inc.	To be assigned	W3XWT	1kw	1kw	Experimental construction permit
Washington, D. C.	Marcus Loew Booking Agency	No. 8		4kw	2kw	Commercial construction permit application
Washington, D. C.	National Broadcasting Co., Inc.	No. 4		4kw	2kw	Commercial construction permit application
Washington, D. C.	Eleanor Patterson, tr/as *The Times Herald*	No. 8		—	—	Commercial construction permit application
Washington, D. C.	Philco Radio and Television Corp.	No. 4		—	—	Commercial construction permit application
Washington, D. C.	Scripps-Howard Radio, Inc.	No. 1		4kw	3kw	Commercial construction permit application
Washington, D. C.	The Evening Star Broadcasting Co.	No. 6		—	—	Commercial construction permit application
FLORIDA						
Jacksonville	Jacksonville Broadcasting Corp.	No. 1		4kw	1kw	Commercial construction permit application
Miami Beach	A. Frank Katzenstine	No. 2		4kw	2kw	Commercial construction permit application
ILLINOIS						
Chicago	American Broadcasting Co., Inc.	No. 6		4kw	2kw	Commercial construction permit application
Chicago	Balaban & Katz Corp.	No. 2	W9XBK	4kw	2kw	Experimental license
Chicago	Balaban & Katz Corp.	(384-396mc)	W9XBB	10w	—	Experimental license. Television relay with W9XBK. Portable-Mobile
Chicago	Balaban & Katz Corp.	No. 11 & 12	W9XBT	40w	—	Experimental license. Television relay with W9XBK. Portable-Mobile
Chicago	Balaban & Katz Corp.	(384-396mc)	W9XPR	10w	—	Experimental license
Chicago	Balaban & Katz Corp.	No. 4	WBKB	4kw	2kw	Operating commercial station
Chicago	Johnson Kennedy Radio Corp.	No. 7		1kw	1kw	Commercial construction permit application
Chicago	National Broadcasting Co., Inc.	No. 4		1kw	3kw	Commercial construction permit application
Chicago	Raytheon Manufacturing Co.	No. 1		40kw	20kw	Commercial construction permit application
Chicago	WGN, Inc.	No. 4		40kw	20kw	Commercial construction permit application
Chicago	Zenith Radio Corp.	No. 1	W9XZV	1kw	1kw	Operating experimental station
Chicago	Zenith Radio Corp.	To be assigned	W9XZC	1kw (peak)	1kw	Experimental construction permit
Chicago	Zenith Radio Corp.	No. 1	WTZR	2kw	2kw	Commercial construction permit granted
INDIANA						
Fort Wayne	Farnsworth Television & Radio Corp.	To be assigned	W9XFT	4kw (peak)	6kw	Experimental construction permit
Indianapolis	The Wm. H. Block Co.	No. 1		4kw	3kw	Commercial construction permit application
Indianapolis	Capitol Broadcasting Corp.	No. 3		4kw	3kw	Commercial construction permit application
Indianapolis	Indianapolis Broadcasting, Inc.	No. 5		4kw	3kw	Commercial construction permit application
Indianapolis	P. R. Mallory & Co., Inc.	To be assigned	W9XMT	600w (peak)	100w	Experimental construction permit
Indianapolis	WFBM, Inc.	No. 2		4kw	3kw	Commercial construction permit application

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
W. Lafayette	Purdue University	No. 3	W9XG	750w	750w	Experimental construction permit
IOWA						
Ames	Iowa State College of Agriculture and Mechanic Arts	No. 3		4kw	3kw	Commercial construction permit application
Iowa City	State University of Iowa	No. 1 & 12	W9XUI	100w	—	Experimental license
KENTUCKY						
Louisville	WAVE, Inc.	No. 1		4kw	3kw	Commercial construction permit application
LOUISIANA						
New Orleans	Loyola University	No. 6		4kw	3kw	Commercial construction permit application
New Orleans	Maison Blanche Co.	No. 1		4kw	3kw	Commercial construction permit application
MARYLAND						
Baltimore	Hearst Radio, Inc.	No. 6		4kw	3kw	Commercial construction permit application
Baltimore	Maryland Broadcasting Co.	No. 3		4kw	2kw	Commercial construction permit application
Baltimore	The Tower Realty Co.	No. 4		4kw	3kw	Commercial construction permit application
Baltimore	Jos. M. Zamoiski Co.	No. 6		—	—	Commercial construction permit application
MASSACHUSETTS						
Boston	E. Anthony & Sons, Inc.	No. 2		25kw	12.5kw	Commercial construction permit application
Boston	Allen B. DuMont Laboratories, Inc.	No. 4		4kw	2kw	Commercial construction permit application
Boston	Filene's Television, Inc.	No. 10 (letter)		40kw	20kw	Commercial construction permit application
Boston	New England Theatres, Inc.	No. 4		—	—	Commercial construction permit application
Boston	Westinghouse Radio Stations, Inc.	No. 5		4kw	3kw	Commercial construction permit application
Boston	The Yankee Network, Inc.	No. 2		4kw	2kw	Commercial construction permit application
Wolthom	Raytheon Manufacturing Co.	No. 2		40kw	20kw	Commercial construction permit application
MICHIGAN						
Detroit	The Evening News Association	No. 1		4kw	2kw	Commercial construction permit application
Detroit	International Detrola Corp.	No. 2		4kw	2kw	Commercial construction permit application
Detroit	The Jam Handy Organization, Inc.	No. 1		4kw	3kw	Commercial construction permit application
Detroit	King Trendle Broadcasting Corp.	No. 2		4kw	3kw	Commercial construction permit application
Detroit	United Detroit Theaters Corp.	No. 5 (letter)		4kw	2kw	Commercial construction permit application
Detroit	WJR, The Goodwill Station, Inc.	No. 6		40kw	20kw	Commercial construction permit application
MINNESOTA						
St. Paul	KSTP, Inc.	No. 1		4kw	3kw	Commercial construction permit application
MISSOURI						
Kansas City	The Kansas City Star Co.	No. 1		4kw	3kw	Commercial construction permit application
St Louis	Michael Alfend, Truman L. Brown, Samuel I. Berger and Sidney J. Heiman, d/b as ALFCO Company	No. 4		4kw	2kw	Commercial construction permit application
St. Louis	Globe-Democrat Publishing Co.	No. 1		4kw	3kw	Commercial construction permit application
St. Louis	Thomas Patrick, Inc.	No. 1		4kw	3kw	Commercial construction permit application
St. Louis	The Pulitzer Publishing Co.	No. 1		4kw	3kw	Commercial construction permit application
St. Louis	Star-Times Publishing Co.	No. 2		4kw	2kw	Commercial construction permit application
NEBRASKA						
Omoha	Radio Station WOW, Inc.	No. 1		4kw	3kw	Commercial construction permit application
Omoha	World Publishing Co.	No. 7		4kw	3kw	Commercial construction permit application
NEW JERSEY						
Camden	Radio Corp. of America	No. 5	W3XEP	30kw	30kw	Experimental license

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
Camden	Radio Corp. of America	(321-327mc)	W3XAD	500w	500w	Experimental license as television relay
Passaic	Allen B. DuMont Laboratories, Inc.	No. 4	W2XVT	50w	50w	Experimental license
Newark	Bremer Broadcasting Corp.	No. 5		4kw	2kw	Commercial construction permit application
NEW MEXICO						
Albuquerque	Albuquerque Broadcasting Co	No. 1		4kw	3kw	Commercial construction permit application
NEW YORK						
Buffalo	WEBR, Inc.	No. 1		4kw	3kw	Commercial construction permit application
Jomoica, L. I.	William B. Still tr/as Jamaica Radio & Television Co.	No. 13	W2XJT	400w	100w	Experimental construction permit
New York	Bamberger Broadcasting Service, Inc.	No. 6		4kw	2kw	Commercial construction permit application
New York	American Broadcasting Co., Inc.	No. 6		—	—	Commercial construction permit application
New York	Columbia Broadcasting System, Inc.	(346-358mc)	W2XCB	25w (peak)	—	Experimental construction permit. Portable. Television relay with WCBW
New York	Columbia Broadcasting System, Inc.	No. 2	WCBW	3kw	2.5kw	Operating commercial station
New York	Columbia Broadcasting System, Inc.	(480-496mc)	W2XCS	1kw (peak)	1kw	Experimental construction permit
New York	Allen B. DuMont Laboratories, Inc.	To be assigned	W2XEM	1kw (peak)	1kw	Experimental construction permit. Television relay
New York	Allen B. DuMont Laboratories, Inc.	No. 4	W2XWV	1kw	1kw	Experimental license
New York	Allen B. DuMont Laboratories, Inc.	No. 5	WABD	4kw	1kw	Operating commercial station
New York	Debs Memorial Radio Fund, Inc.	No. 17		40kw	50kw	Commercial construction permit application
New York	Allen B. DuMont Laboratories, Inc.	No. 15 & 16	W10XKT	50w	—	Experimental license. Portable-Mobile. Television relay with W2XVT
New York	Palmer K. & Lois C. Leberman	No. 10		4kw	2kw	Commercial construction permit application
New York	Marcus Loew Booking Agency, Inc.	No. 17		4kw	2kw	Commercial construction permit application
New York	Metropolitan Television, Inc.	No. 9 (letter)		4kw	2kw	Commercial construction permit application
New York	Metropolitan Television, Inc.	No. B	W2XMT	50w (peak)	50w	Experimental construction permit
New York	National Broadcasting Co., Inc.	No. 4	WNBT	3kw	5.2kw	Operating commercial station
New York	National Broadcasting Co., Inc.	No. B	W2XBT	400w	—	Experimental license. Portable-Mobile Television relay with WNBT
New York	National Broadcasting Co., Inc.	No. 17 & 18	W2XBU	15w	—	Experimental license. Portable-Mobile television relay with WNBT
New York	News Syndicate Co., Inc.	No. 11		40kw	20kw	Commercial construction permit application
New York	Philco Radio & Television Corp.	No. 9		—	—	Commercial construction permit application
New York	Raytheon Manufacturing Co.	No. 1		40kw	20kw	Commercial construction permit application
New York	Twentieth Century-Fox Film Corp.	No. 5		40kw	20kw	Commercial construction permit application
New York	WLIB, Inc.	No. 17		—	—	Commercial construction permit application
Rochester	Stromberg-Carlson Co.	No. 1		4kw	3kw	Commercial construction permit application
Schenectady	General Electric Co.	No. B	W2XGE	60w (peak)	50w	Experimental license. Television relay with WRGB
Schenectady	General Electric Co.	No. 4	WRGB	40kw	20kw	Operating commercial station
New Scotland	General Electric Co.	No. B	W2XI	50w (peak)	—	Experimental license. Television relay with WRGB
White Plains	Westchester Broadcasting Corp.	No. 13		4kw	2kw	Commercial construction permit application
Brooklyn	Sherron Metallic Corp.	As may be assigned	W2XDK	10kw (peak)	10kw	Experimental construction permit
OHIO						
Akron	United Broadcasting Co.	No. 5		4kw	2kw	Commercial construction permit application
Cincinnati	Cincinnati Broadcasting Co.	No. 10 (letter)		40kw	20kw	Commercial construction permit application
Cincinnati	The Crosley Corp.	No. 1		50kw	50kw	Commercial construction permit application
Cincinnati	The Crosley Corp.	No. 1	W8XCT	1kw	1kw	Experimental construction permit
Cleveland	National Broadcasting Co., Inc.	No. 4		1kw	3kw	Commercial construction permit application
Clevelond	Scripps-Howard Radio, Inc.	No. 2		4kw	3kw	Commercial construction permit application

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
Cleveland	United Broadcasting Co.	No. 2		40kw	20kw	Commercial construction permit application
Cleveland	The WGAR Broadcasting Co.	No. 3		—	—	Commercial construction permit application
Cleveland	WJW, Inc.	No. 4		—	—	Commercial construction permit application
Columbus	Central Ohio Broadcasting Co.	No. 9		4kw	2kw	Commercial construction permit application
Columbus	The Crosley Corp.	No. 2		50kw	50kw	Commercial construction permit application
Columbus	United Broadcasting Co.	No. 4		4kw	2kw	Commercial construction permit application
Dayton	The Crosley Corp.	No. 4		10kw	10kw	Commercial construction permit application
OKLAHOMA						
Oklahoma City	WKY Radiophone Co.	No. 1		4kw	3kw	Commercial construction permit application
OREGON						
Portland	Oregonian Publishing Co.	No. 4		4kw	3kw	Commercial construction permit application
PENNSYLVANIA						
Springfield Township	Philco Radio & Television Corp.	No. 3	W3XE	10kw (peak)	11kw	Experimental license. S. A. rebroadcast programs of WNBT
Springfield Township	Philco Radio & Television Corp.	To be assigned	W3XF	1kw (peak)	1kw	Experimental construction permit
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 11 & 12	W3XPD	40w (peak)	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 13 & 14	W3XPE	40w	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 11 & 12	W3XPF	40w (peak)	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 11 & 12	W3XPG	40w (peak)	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 13 & 14	W3XPH	40w	—	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 11 & 12	W3XPI	40w	—	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 13 & 14	W3XPK	40w (peak)	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 13 & 14	W3XPL	40w (peak)	40w	Experimental license television relay
Area of Central Md., N.E. Md., S.E. Penna. and D. C.	Philco Radio & Television Corp.	No. 13 & 14	W3XPR	40w (peak)	40w	Experimental license television relay
Area of Washington, D. C., Philadelphia and New York City	Philco Radio & Television Corp.	To be assigned	W10XAD	50kw (peak)	—	Experimental construction permit
Area of Washington, D. C., Philadelphia and New York City	Philco Radio & Television Corp.	To be assigned	W10XAE	50kw (peak)	—	Experimental construction permit
Area of Washington, D. C., Philadelphia and New York City	Philco Radio & Television Corp.	To be assigned	W10XAF	50kw (peak)	—	Experimental construction permit
Area of Washington, D. C., Philadelphia and New York City	Philco Radio & Television Corp.	No. 13 & 14	W10XP	40w (peak)	40w	Experimental license television relay
Area of Philadelphia, Washington, D. C., and New York City	Philco Radio & Television Corp.	No. 13 & 14	W10XPA	40w (peak)	—	Experimental license television relay
Area of Philadelphia, Washington, D. C., and New York City	Philco Radio & Television Corp.	No. 13 & 14	W10XPC	40w (peak)	—	Experimental license television relay
Area of Philadelphia, Washington, D. C., and New York City	Philco Radio & Television Corp.	No. 13 & 14	W10XPR	40w (peak)	—	Experimental license television relay
Philadelphia	Philco Radio & Television Corp.	No. 3	WPTZ	3kw	3kw	Operating commercial station
Harrisburg	Keystone Broadcasting Corp.	No. 2		—	—	Commercial construction permit application
Johnstown	WJAC, Inc.	No. 3		4kw	3kw	Commercial construction permit application
Lancaster	WGAL, Inc.	No. 4		4kw	3kw	Commercial construction permit application
Lancaster	Lancaster Television Corp.	—		—	—	Commercial construction permit application
Philadelphia	Bamberger Broadcasting Service, Inc.	No. 7		1kw	3kw	Commercial construction permit application

LOCATION	APPLICANT OR OWNER	CHANNEL	CALL LETTERS	POWER VISUAL	POWER AURAL	STATUS
Philadelphia	Pennsylvania Broadcasting Co.	**No. 4**		**4kw**	**2kw**	Commercial construction permit application
Philadelphia	Philadelphia Daily News, Inc.	**No. 9**		**5kw**	**2.5kw**	Commercial construction permit application
Philadelphia	*The Philadelphia Inquirer*, A Division of Triangle Publications, Inc.	**No. 4**		**4kw**	**3kw**	Commercial construction permit application
Philadelphia	Seaboard Radio Broadcasting Corp.	**No. 18**		**4kw**	**3kw**	Commercial construction permit application
Philadelphia	WCAU Broadcasting Co.	**No. 5**		**4kw**	**2kw**	Commercial construction permit application
Philadelphia	WDAS Broadcasting Station, Inc.	**No. 9**		**4kw**	**2kw**	Commercial construction permit application
Philadelphia	Westinghouse Radio Stations, Inc.	**No. 7**		**4kw**	**3kw**	Commercial construction permit application
Philadelphia	WFIL Broadcasting Co.	**No. 7**		**4kw**	**2kw**	Commercial construction permit application
Pittsburgh	WCAE, Inc.	**No. 4**		—	—	Commercial construction permit application
Pittsburgh	Scripps-Howard Radio, Inc.	**No. 3**		**4kw**	**3kw**	Commercial construction permit application
Pittsburgh	Westinghouse Radio Stations, Inc.	**No. 1**		**4kw**	**3kw**	Commercial construction permit application
Pittsburgh	Allen B. DuMont Laboratories, Inc.	**No. 2**		—	—	Commercial construction permit application
Wilkes-Barre	Louis G. Baltimore	**No. 5**		**1kw**	**3kw**	Commercial construction permit application
RHODE ISLAND						
Providence	E. Anthony & Sons, Inc.	**No. 10**		**25kw**	**12.5kw**	Commercial construction permit application
Providence	The Outlet Co.	**No. 7**		**40kw**	**50kw**	Commercial construction permit application
Providence	The Yankee Network, Inc.	**No. 6**		**4kw**	**2kw**	Commercial construction permit application
TENNESSEE						
Nashville	J. W. Birdwell	**No. 1**		**4kw**	**2kw**	Commercial construction permit application
TEXAS						
Dallas	Interstate Circuit, Inc.	**No. 2**		**25kw**	**12.5kw**	Commercial construction permit application
Dallas	KRLD	**No. 2**		—	—	Commercial construction permit application
UTAH						
Salt Lake City	Frank C. Carman, David G. Smith, Jack L. Powers and Grant R. Wrathall d/b as Utah Broadcasting Co.	**No. 4**		**4kw**	**3kw**	Commercial construction permit application
Salt Lake City	Intermountain Broadcasting Corp.	**No. 2**		—	—	Commercial construction permit application
VIRGINIA						
Arlington Co.	Philco Radio & Television Corp.	**To be assigned**	**W3XAF**	**3kw (peak)**	**3kw**	Experimental construction permit
Richmond	Havens & Martin, Inc.	**No. 3**		**4kw**	**3kw**	Commercial construction permit application
WASHINGTON						
Seattle	Radio Sales Corp.	**No. 1**		**4kw**	**3kw**	Commercial construction permit application
Spokane	Louis Wasmer, Inc.	**No. 1**		**4kw**	**3kw**	Commercial construction permit application
WEST VIRGINIA						
S. Charleston	Gus Zabaris	**No. 1**	**W8XGZ**	**200w (peak)**	**110w**	Experimental construction permit
WISCONSIN						
Milwaukee	Hearst Radio, Inc.	**No. 4**		**4kw**	**3kw**	Commercial construction permit application
Milwaukee	The Journal Company	**No. 3 or 4**	**WMJT**	**4kw**	**2kw**	Commercial construction permit granted

Frequencies Assigned to Radio and Television Broadcasting Services

Standard Broadcast Amplitude Modulation
535—1605 kc

Television (TV)
(In Megacycles)
44-50 Channel 1
54-60 Channel 2
60-66 Channel 3
66-72 Channel 4
76-82 Channel 5
82-88 Channel 6
174-180 Channel 7
180-186 Channel 8
186-192 Channel 9
192-198 Channel 10
198-204 Channel 11
204-210 Channel 12
210-216 Channel 13

Frequency Modulation (FM)
88-92 Educational
92-106 Commercial

Experimental Television
480-920 mc

Television Relay Systems
1295-1375 mc

Experimental Region
30,000-100,000 mc

MARKET ANALYSIS OF TELEVISION STATION ALLOCATIONS

Location	No. of Stations	Total State Population (1940 Census)	Television Coverage of State's Population	% of Television Coverage to Total State Population	Population Station's Coverage 50 Mi. Radius	Station Coverage Population Breakdown by States	Retail Sales in Coverage Areas (000 Omitted)	% of Retail Sales Coverage to State Totals	Total Retail Sales Coverage by States (000 Omitted)	Retail Sales Station Coverage State Breakdown (000 Omitted)
CALIFORNIA		6,907,387	5,050,000	73.0				74.0	$2,369,274	
*Fresno	1			3.4	237,100		$ 99,049	3.1		99,049
*Hollywood	3			43.6	3,009,000		1,415,177	44.4		1,415,177
*Los Angeles	8			43.6	3,009,000		1,415,177	44.4		1,415,177
*Riverside	1			29.5	2,035,000		1,058,024	33.2		1,058,024
*San Francisco	3			16.0	1,099,800		492,842	15.5		492,842
*Stockton	1			15.3	1,059,700		491,686	15.4		491,686
COLORADO		1,123,298	459,600	40.9				51.9	212,189	
*Denver	1			40.9	459,600		212,189	51.9		212,189
CONNECTICUT		1,709,200	1,709,200	100.0				100.0	717,262	
Booth Hill	1				12,095,100		5,097,046			
Conn.				52.8		902,700		54.2		388,652
N. Y.				66.7		8,984,100		69.0		3,849,040
N. J.				53.1		2,208,300		54.4		859,354
Hartford	2				2,285,500		866,924			
Conn.				100.0		1,709,200		100.0		717,262
Mass.				13.4		576,400		13.2		229,393
DELAWARE		266,505	214,000	80.3				81.8	90,070	
Wilmington	1				4,072,900		1,464,054			
Md.				4.9		89,500		3.5		21,442
Del.				80.3		214,000		81.8		90,070
N. J.				13.0		540,400		10.7		168,328
Pa.				32.6		3,229,000		37.8		1,184,214
DISTRICT OF COLUMBIA		663,100	663,100	100.0				100.0	402,768	
Washington	9				1,278,200		531,313			
D. C.				100.0		663,100				402,768
Md.				25.1		457,500				94,413
Va.				5.9		157,600				30,214
FLORIDA		1,897,414	610,000	32.1				40.6	249,421	
Jacksonville	1				299,600		94,413			
Florida				15.1		288,400		15.1		92,999
Georgia				.3		11,200		.2		1,414
*Miami Beach	1				321,600		156,422			156,422
†**GEORGIA**		3,123,723	11,200	.3				.2	1,414	
†**IDAHO**		524,873	29,600	5.6				43.9	77,154	
ILLINOIS		7,897,241	6,402,600	80.2				72.4	2,069,504	
Chicago	7				5,028,900		2,065,158			
Ill.				58.0		4,580,700		66.8		1,901,328
Ind.				11.2		384,700		12.4		132,400
Wis.				2.0		63,500		2.1		22,430
INDIANA		3,427,796	1,378,200	40.2				36.4	388,072	
*Indianapolis	4			14.2	487,100		147,607	13.8		147,607
La Fayette	1				556,200		160,017			
Ind.				13.7		469,400		12.6		134,395
Ill.				1.1		86,800		.9		25,622
IOWA		2,538,268	1,121,000	45.2				46.9	385,761	
*Ames	1			19.3	488,700	488,700	182,649	22.2		182,649
Iowa City	1				611,600					
Iowa				18.9		480,600		19.3		159,135
Ill.				1.7		131,000		1.5		44,188
†**KANSAS**		1,801,028	154,000	8.6				6.9	32,851	
KENTUCKY		2,845,627	800,900	28.1				43.5	220,600	
Louisville	1				627,300		192,578			
Ky.				19.4		553,000		31.0		161,315
Ind.				5.1		174,300		2.9		31,263
LOUISIANA		2,363,880	809,300	34.2				42.3	205,653	
New Orleans	2				820,600		206,945			
La.				34.2		809,300		42.3		205,653
Miss.				.5		11,300		.5		1,292
MARYLAND		1,821,244	1,639,400	90.00				90.6	560,834	
Baltimore	4				2,662,500		1,068,461			
Md.				83.9		1,528,600		84.9		525,527
Pa.				4.3		429,900		4.3		135,465
Va.				1.5		40,900		.7		4,701
D. C.				100.0		663,100		100.0		402,708
MASSACHUSETTS		4,316,721	4,148,100	96.1				98.8	1,717,278	
Boston	6				4,472,800		1,789,117			
Mass.				85.5		3,694,000		98.4		1,710,482
N. H.				41.3		203,000		42.9		78,635
R. I.				80.7		575,800		82.7		227,671
Seekonk	1				2,622,200		1,164,348			
Mass.				40.0		1,727,500		47.2		820,175
R. I.				100.0		713,300		100.0		275,447
Conn.				10.6		181,400		9.6		68,726
Waltham	1				4,472,800		1,789,117			
N. H.				41.3		203,000		42.9		78,635
Mass.				85.6		3,694,000		85.3		1,482,811
R. I.				80.7		575,800		82.7		227,671
MICHIGAN		5,252,106	2,815,200	53.6				59.3	1,080,088	
*Detroit	6			53.6	2,815,200		1,080,888	59.3		1,080,888
MINNESOTA		2,792,300	1,147,600	41.1				52.1	529,545	
St. Paul	1				1,220,100		547,788			
Minn.				41.1		1,147,600		52.1		529,545
Wis.				2.3		72,500		1.7		18,243

* Covers an area in one state only.
† Covered by stations outside the state.

Location	No. of Stations	Total State Population (1940 Census)	Television Coverage of State's Population	% of Television Coverage to Total State Population	Station's Population Coverage 50 Mi. Radius	Station Coverage Population Breakdown by States	Retail Sales in Coverage Areas (000 Omitted)	% of Retail Sales Coverage to State Totals	Total Retail Sales Coverage by States (000 Omitted)	Retail Sales Station Coverage State Breakdown (000 Omitted)
†**MISSISSIPPI**		**2,183,796**	**11,300**	**.5**				**.5**	**1,292**	
MISSOURI		**3,784,664**	**1,915,500**	**50.6**				**67.8**	**747,296**	
Kansas City	1				**854,800**		**334,941**			
Mo.				**18.5**		**700,800**		**27.4**	**302,090**	
Kan.				**8.6**		**154,000**		**6.9**		**32,851**
St. Louis	5				**1,604,100**		**534,602**			
Mo.				**10.5**		**398,700**		**40.4**		**445,206**
Ill.				**15.3**		**1,205,400**		**3.1**		**89,396**
NEBRASKA		**1,315,834**	**460,600**	**35.0**				**17.6**	**70,079**	
Omaha	2				**612,300**		**109,056**			
Neb.				**35.0**		**460,600**		**17.6**		**70,079**
Iowa				**6.0**		**151,700**		**4.7**		**38,977**
†**NEW HAMPSHIRE**		**491,524**	**203,000**	**41.3**				**42.9**	**78,635**	
NEW JERSEY		**4,160,200**	**4,160,200**	**100.0**				**100.0**	**1,580,401**	
Newark	1				**12,078,500**		**5,040,642**			
N. J.				**84.2**		**3,428,900**		**83.3**		**1,316,154**
N. Y.				**64.2**		**8,649,600**		**66.7**		**3,724,488**
NEW MEXICO		**531,818**	**145,300**	**27.3**				**30.6**	**38,439**	
*Albuquerque	1				**145,300**		**38,439**	**30.6**		
NEW YORK		**13,479,142**	**9,619,800**	**71.4**				**92.3**	**5,146,913**	
New York	14				**12,504,000**		**5,242,972**			
N. Y.				**64.6**		**8,706,900**		**67.3**		**3,754,037**
N. J.				**81.2**		**3,378,700**		**82.3**		**1,300,836**
Conn.				**24.5**		**418,400**		**26.2**		**188,099**
*Buffalo	1			**9.3**	**1,258,500**		**467,261**	**8.4**		
*Rochester	1			**5.2**	**704,800**		**13,479,142**	**5.0**		
White Plains	1				**11,944,300**					
N. Y.				**65.8**		**8,863,600**	**5,001,252**	**68.0**		**3,791,488**
N. J.				**64.0**		**2,662,300**		**64.6**		**1,021,665**
Conn.				**24.5**		**418,400**		**26.2**		**188,099**
Schenectady	1				**920,400**		**369,001**			
N. Y.				**5.8**		**775,800**		**5.6**		**312,027**
Mass.				**2.8**		**122,300**		**2.8**		**49,406**
Vt.				**6.2**		**22,300**		**6.1**		**7,568**
OHIO		**6,907,612**	**5,379,300**	**77.9**				**58.9**	**1,437,968**	
*Akron	1			**39.5**	**2,730,800**		**1,028,457**	**42.1**		
Cincinnati	2				**1,573,800**		**560,204**			
Ohio				**17.8**		**1,232,100**		**19.8**		**482,577**
Ky.				**8.7**		**247,900**		**11.2**		**58,016**
Ind.				**2.7**		**93,800**		**1.8**		**19,611**
*Cleveland	5			**38.4**	**2,652,700**		**1,014,583**	**41.5**		
*Columbus	3			**13.3**	**934,400**		**325,499**	**13.3**		
Dayton	1				**1,629,700**		**604,191**			
Ind.				**2.9**		**99,000**		**2.8**		**29,717**
Ohio				**22.0**		**1,521,700**		**23.5**		**574,474**
OKLAHOMA		**2,336,434**	**612,200**	**26.2**				**33.3**	**170,943**	
*Oklahoma City	1			**26.2**	**612,200**		**170,943**	**33.3**		
OREGON		**1,089,684**	**597,700**	**54.9**				**59.0**	**260,713**	
Portland	1				**692,400**		**290,074**			
Ore.				**54.9**		**597,700**		**59.0**		**260,713**
Wash.				**5.5**		**94,700**		**4.4**		**29,361**
PENNSYLVANIA		**9,900,180**	**7,840,400**	**70.2**				**80.4**	**2,519,503**	
Philadelphia	10				**1,960,400**		**1,840,704**			
Pa.				**34.0**		**3,362,900**		**39.3**		**1,231,394**
N. J.				**34.1**		**1,417,900**		**35.9**		**567,195**
Del.				**67.4**		**179,600**		**71.0**		**78,115**
Lancaster	1				**2,905,100**		**1,004,568**			
Pa.				**16.1**		**1,596,500**		**15.7**		**491,522**
Del.				**67.4**		**179,600**		**71.0**		**78,115**
Md.				**70.0**		**1,129,000**		**70.2**		**434,931**
*Scranton	1			**11.5**	**1,143,000**		**304,993**	**9.7**		
*Wilkes-Barre	1			**16.4**	**1,621,900**		**436,215**	**16.4**		
Pittsburgh	4				**2,815,300**		**902,238**			
Pa.				**25.2**		**2,496,900**		**25.4**		**795,089**
Ohio				**2.7**		**188,200**		**2.6**		**63,098**
W. Va.				**6.8**		**130,200**		**10.9**		**44,051**
Johnstown	1				**1,175,500**		**296,717**			
Pa.				**11.0**		**1,088,600**		**8.6**		**268,659**
Md.				**4.8**		**86,900**		**4.5**		**28,058**
RHODE ISLAND		**717,300**	**717,300**	**100.0**				**100.0**	**275,447**	
Providence	3				**3,152,900**		**1,354,713**			
R. I.				**100.0**		**717,300**		**100.0**		**275,447**
Mass.				**51.6**		**2,226,300**		**57.7**		**1,003,086**
Conn.				**12.5**		**213,300**		**10.6**		**76,170**
TENNESSEE		**2,915,841**	**568,300**	**19.5**				**21.9**	**132,122**	
Nashville	1				**617,600**		**139,791**			
Tenn.				**19.5**		**568,300**		**21.9**		**133,122**
Ky.				**1.7**		**49,300**		**1.3**		**6,669**
TEXAS		**6,414,824**	**1,029,300**	**16.0**				**20.6**	**370,715**	
*Dallas	2			**16.0**	**1,029,300**		**370,715**	**20.6**		
UTAH		**550,310**	**352,800**	**64.1**				**74.1**	**126,515**	
*Salt Lake City	2			**64.1**	**352,800**		**128,515**	**74.1**		
†**VERMONT**		**359,200**	**22,300**	**6.2**				**6.1**	**7,568**	
VIRGINIA		**2,677,773**	**740,400**	**27.6**				**33.4**	**209,499**	
*Richmond	1			**21.8**	**582,800**		**179,285**	**28.5**		
WASHINGTON		**1,736,191**	**1,128,000**	**65.0**				**69.2**	**462,743**	
*Seattle	1			**48.3**	**837,900**		**353,954**	**52.9**		
Spokane	1				**225,000**		**86,805**			
Wash.				**11.3**		**195,400**		**11.9**		**79,428**
Idaho				**5.6**		**29,600**		**4.2**		**7,377**
†**WEST VIRGINIA**		**1,901,974**	**130,200**	**6.8**				**10.9**	**44,051**	
WISCONSIN		**3,136,587**	**1,354,200**	**43.2**				**44.9**	**477,836**	
*Milwaukee	2			**43.2**	**1,281,700**		**459,593**	**43.2**		

* Covers an area in one state only.
† Covered by stations outside the state.

Courtesy, Buchanan & Company, Inc.

BROADCASTING SERVICE IN 140 METROPOLITAN AREAS

Metropolitan District	Sales Rank	Population in 1,000's (1940 Census)	No. of TV Applications and Stations Operating: Commercial	No. of TV Applications and Stations Operating: Experimental (includes TV Relays)	Allocations of TV Channels: Channel Nos.: Metropolitan	Allocations of TV Channels: Channel Nos.: Community	Allocations of TV Channels: Total Stations: Metropolitan	Allocations of TV Channels: Total Stations: Community	FM Applications: Licensed FM Stations	FM Applications: Conditional	FM Applications: Remaining Applications	No. of Stand. B'cast Sta. Oper. Full Time 6-1-45
New York—Northeastern New Jersey	1	11,691	17 (3 op.*)	13 (1 op.*)	2, 4, 5, 7, 9, 11, 13		7		11		33	18
Chicago	2	4,499	6 (1 op.)	6 (1 op.)	2, 4, 5, 7, 9, 11, 13		7		4		19	8
Los Angeles	3	2,905	11	5 (2 op.)	2, 4, 5, 7, 9, 11, 13		7		2		21	12
Philadelphia	4	2,899	10 (1 op.)	2	3, 6, 10, 12		4		6		7	8
Boston	5	2,351	7		2, 4, 7, 9, 13		5		3		12	6
Detroit	6	2,296	6		2, 4, 5, 7, 9		5		2		9	6
San Francisco—Oakland	7	1,429	3		2, 4, 5, 7, 9, 11		6				18	6
Pittsburgh	8	1,994	4		3, 6, 8, 10		4		2		6	7
Cleveland	9	1,215	5		2, 4, 5, 7, 9		5				10	4
St. Louis, Mo.	10	1,368	5		4, 5, 7, 9, 13		5			4	4	6
Minneapolis, St. Paul	11	911	1		2, 4, 5, 7, 9		5			3	4	5
Washington	12	908	9	2	4, 5, 7, 9		4				10	6
Baltimore	13	1,047	4		2, 11, 13		3				7	5
Buffalo—Niagara Falls	14	858	1		4, 7, 9, 13		4				5	5
Milwaukee	15	790	1		3, 6, 8, 10		4		1	1	4	3
Cincinnati	16	789	2	1	2, 4, 7, 11		4				6	5
Kansas City, Mo.—Kansas City, Kan.	17	634	1		2, 4, 5 ,9		4		2	3	3	4
Providence	18	712	3		11		1				7	4
Seattle	19	453	1		2, 5, 7, 11		4			4		6
Hartford—New Britain, Conn.	20	502	2		8, 10		2		2		2	4
Houston, Texas	21	510			2, 4, 5, 7		4			2	1	3
Portland, Ore.	22	406	1		3, 6, 8, 10, 12		5			5	2	5
Albany, Schenectady, Troy	23	431	1	2 (1 op.)	2, 4, 7, 9, 11		5		2		3	5
Indianapolis	24	455	4	1	3, 6, 8, 10, 12		5				8	4
Atlanta, Ga.	25	442			2, 5, 8, 11		4			1	3	4
Denver, Colo.	26	384	1		2, 4, 5, 7, 9		5				2	5
Dallas, Texas	27	377	2		4, 8, 12		3				2	4
Rochester, N. Y.	28	412			2, 6, 11		3		2		1	3
Columbus, Ohio	29	366	3		3, 6, 8, 10		4		1		5	3
Scranton, Wilkes-Barre	30	630	1		11	1	1	1			2	4
New Orleans	31	540	2		2, 4, 6, 7, 10		5			2	4	5
Springfield, Holyoke, Mass.	32	395			3	1	1	1			2	3
Louisville, Ky.	33	434	1		5, 9		2			3		4
Toledo, Ohio	34	342			13		1				2	2
Akron, Ohio	35	350	1		11		1				6	1
Youngstown, Ohio	36	372			13		1				3	3
Memphis, Tenn.	37	332			2, 4, 5, 7, 9		5			1	2	3
Miami, Fla.	38	251	1		2, 4, 5, 7		4			4	1	3
New Haven, Conn.	39	308				6		1			1	2
Omaha, Council Bluffs	40	288	2		3, 6, 7		3			2	1	3
Worcester, Mass.	41	306			5		1				1	3
Birmingham, Ala.	42	408			4, 9, 13		3			1	3	4
Allentown, Bethlehem, Easton, Pa.	43	325				8		1			4	2
Dayton, Ohio	44	272	1		5, 13		2				3	2
Lowell, Haverhill, Lawrence, Mass.	45	335			6		1				3	2
Syracuse, N. Y.	46	358			5, 8, 10		3				5	4
Norfolk, Newport News, Portsmouth	47	330			4, 7, 11, 13		4			2	1	3
Richmond, Va.	48	246	1		3, 6, 8, 10		4			1	4	3
San Diego, Cal.	49	256			3, 6, 8, 10		4					3
San Antonio, Texas	50	319			2, 4, 5, 7, 9		5			1	2	5
Fort Worth, Texas	51	208			2, 5, 10		3				1	4
Oklahoma City	52	221	1		2, 4, 5, 9		4			4	1	4
Bridgeport, Conn.	53	217	1			1		1			1	2
Sacramento, Cal.	54	159			3, 6, 10		3				3	3
Fall River, New Bedford, Mass.	55	273				1		1			2	2
Nashville, Tenn.	56	242	1		4, 5, 7, 9		4		1	1	1	3
Grand Rapids, Mich.	57	210			7, 9		2				5	3
Salt Lake City, Utah	58	204	2		2, 4, 5, 7, 9		5		1	1		3
Des Moines, Iowa	59	184			2, 4, 5, 9		4			1	2	3
Trenton, N. J.	60	200				1		1			1	1
Tampa, St. Petersburg, Fla.	61	210			2, 4, 5, 7		4			2		4
Wilmington, Del.	62	189	1			7		1			2	2
Canton, Ohio	63	200				1		1			1	1
Flint, Mich.	64	189			11		1				1	1
Tulsa, Okla.	65	189			3, 6, 8, 10		4			1	2	3
Jacksonville, Fla.	66	196	1		2, 4, 6, 8		4			1	2	4
Davenport, Rock Island, Moline, Iowa	67	175			2, 4, 5, 9		4			1	1	2
Utica, Rome, N. Y.	68	197			3, 13		2				1	1

* Now operating.

Metropolitan District	Sales Rank	Population in 1,000's (1940 Census)	No. of TV Applications and Stations Operating: Commercial	No. of TV Applications and Stations Operating: Experimental (includes TV Relays)	Allocations of TV Channels: Channel Nos.: Metropolitan	Allocations of TV Channels: Channel Nos.: Community	Allocations of TV Channels: Total Stations: Metropolitan	Allocations of TV Channels: Total Stations: Community	FM Applications: Licensed FM Stations	FM Applications: Conditional Grants	FM Applications: Remaining Applications	No. of Stand. B'cast Sta. Oper. Full Time 6-1-45
Peoria, Ill.	69	163			3, 6, 12		3				5	1
Harrisburg, Pa.	70	173	1		8		1				3	2
Spokane, Wash.	71	141	1		2, 4, 5, 7, 9		5				1	4
Duluth, Superior, Minn.	72	157			3, 6, 8, 10		4					2
Reading, W. Va.	73	175				5		1			2	1
Tacoma, Wash.	74	156			4, 9, 13		3					3
Binghamton, N. Y.	75	145			12		1					1
Chattanooga, Tenn.	76	193			3, 6, 10, 12		4				4	3
Saginaw, Bay City, Mich.	77	153			3, 8, 13		3				2	2
San Jose, Calif.	78	129			13		1				2	1
Fresno, Calif.	79	98	1		2, 4, 5, 7		4			1	2	3
South Bend, Ind.	80	147				1		1	1			2
Fort Wayne, Ind.	81	134		1	2, 4, 7, 9		4		1		3	2
Wheeling, W. Va.	82	196			12		1				2	2
Atlantic City, N. J.	83	100				8		1			2	2
Phoenix, Ariz.	84	122			2, 4, 5, 7		4				1	3
Waterbury, Conn.	85	145			12		1				3	2
Wichita, Kan.	86	127			2, 4, 5, 9		4			1	2	3
Knoxville, Tenn.	87	152			2, 4 ,8, 11		4			2	1	3
Charleston, W. Va.	88	136			7, 11, 13		3				2	2
Portland, Me.	89	107			3, 8		2				1	2
Beaumont, Port Arthur, Texas	90	139			3, 6, 8, 10		4			1		3
Lancaster, Pa.	91	132	1			4		1			2	1
Huntington, Ashland, W. Va.	92	171			5		1				3	1
Evansville, Ind.	93	142			2, 11		2		1		2	2
Lansing, Mich.	94	110			6		1				1	1
Erie, Pa.	95	134			12		1					2
Shreveport, La.	96	112			2, 4, 6 ,8		4				1	3
Racine, Kenosha, Wis.	97	135				1		1		1		1
Little Rock ,Ark.	98	127			3, 6, 8, 10		4					3
Charlotte, S. C.	99	113			3, 9, 11		3					3
Johnstown, Pa.	100	152	1		13		1				1	1
Madison, Wis.	101	78			9		1			1		1
Rockford, Ill.	102	105			12		1				1	1
Springfield, Ill.	103	89			8, 10		2				3	2
Roanoke, Va.	104	111			5, 9, 12		3				2	2
El Paso, Texas	105	116			2, 4, 5, 7		4					2
Austin, Texas	106	106			8, 10, 12		3				1	2
Sioux City, Iowa	107	88			4, 9, 11, 13		4					2
Stockton, Calif.	108	79	1		8		1				2	2
Lincoln, Neb.	109	88			10, 12		2			1	1	2
Hamilton, Middletown, Ohio	110	113			9		1				1	1
Altoona, Pa.	111	114			9		1				1	1
Kalamazoo, Mich.	112	77			3		1					1
York, Pa.	113	93				1		1			3	1
Savannah, Ga.	114	118			3, 5, 9, 11		4				3	2
Cedar Rapids, Iowa	115	73			7, 11		2			1		1
Terre Haute, Ind.	116	83			4		1				2	1
Columbia, S. C.	117	90			2, 4, 8		3			1		2
Manchester, N. H.	118	82				1		1			2	2
Mobile, Ala.	119	115			3, 5, 9, 11		4			2		2
Waterloo, Iowa	120	67			3, 6, 13		3			1		1
Corpus Christi, Texas	121	71			3, 6, 8, 10		4					2
Decatur, Ill.	122	66			2		1				1	1
Topeka, Kan.	123	78			7, 11		2			1		0
Winston-Salem, N. C.	124	110			6, 8		2		1	1	1	2
Springfield, Ohio	125	77				1		1			3	1
Montgomery, Ala.	126	94			6, 10		2			2		2
Charleston, S. C.	127	99			7, 10, 13		3			1		2
Jackson, Miss.	128	88			2, 4, 5, 7		4				1	3
St. Joseph, Mo.	129	87			13		1				1	1
Greensboro, N. C.	130	73			2, 10		2				3	1
Galveston, Texas	131	72			9, 11, 13		3			1		1
Asheville, N. C.	132	76			5, 7, 12		3					2
Columbus, Ga.	133	92			3, 12		2			1	2	2
Springfield, Mo.	134	71			2, 4, 5, 9		4					3
Augusta, Ga.	135	88			6, 12		2			1	1	2
Amarillo, Texas	136	53			2, 4, 5, 7		4				2	2
Macon, Ga.	137	75			4, 7, 10		3			2	1	2
Waco, Texas	138	71			3, 6, 9, 11		4				1	1
Durham, N. C.	139	70			4, 7		2			3		1
Pueblo, Col.	140	62			3, 6, 8, 10		4				1	1
TOTALS	140	63,068	134	33			389	17	46	78	379	404

Courtesy, Buchanan & Company, Inc.

DIRECTORY OF TELEVISION

A listing of advertisers, advertising agencies, packaged-show producers, telecasting stations, organizations and publications — with their video activities summarized.

ADVERTISERS

Abraham & Straus, Inc., 420 Fulton St., Brooklyn. Department store. (See Bloomingdale's in this list of *Advertisers.* See WNBT under *Stations.*)

Acme News Pictures, Inc., 461 - 8th Ave., New York. Sponsored news program over WBKB in June, 1945. (See Henri, Hurst & McDonald under *Agencies.*)

Adam Hat Stores, 657 Broadway, New York 12. William Pludo, vice-president, is in charge of television. Sponsored "Adam Hats Television Sports Parade", boxing bouts from Ebbets Field, beginning July 22, 1941 over WNBT. Presented two bouts in August 1941, then, on October 28 sponsored wrestling matches from Ridgewood Grove Arena. There were 18 pickups to May 1942. Early in 1945, Adam sponsored a sports program over WABD, featuring Tom and Bill Slater. All shows were produced through Buchanan & Co., Inc.

Admiral Corp., 3800 Cortland, Chicago 47, Ill. Maker of Admiral Radio. Presents "Young Chicago" over WBKB every Thursday. Conducts auditions for talent in cooperation with the Chicago Board of Education.

Aetna Life Insurance Co. & Affiliated Companies, 151 Farmington Ave., Hartford, Conn. Stanley F. Withe, manager, advertising and publicity department, is in charge of television. Aetna exhibit at the New York World's Fair included a television demonstration using educational films. In 1944, Aetna, first insurance company to use television, presented a commercial broadcast over the NBC-GE-Philco network to promote Aetna Multiple Lines and Aetna Check Forgery insurance. Two 21-minute educational films, costing $1,000 each, were used. Company has full facilities for production of 16-mm sound films; plans to produce 10 or 12 one-reel educational subjects.

Air Transport Association of America, 1515 Massachusetts Ave., N.W., Washington 5, D. C. (See Cecil & Presbrey under *Agencies.*)

Aldens Chicago Mail Order Co., 511 Paulina, Chicago 7, Ill. Miss Ide Bodian, fashion catalog manager, 200 Madison Ave., New York, is in charge of television. Television activity began in August 1944, with three telecasts over WABD. Conscious of the promotional possibilities of television for a fashion catalog, the company experimented with it from this angle with an eye to anticipating its postwar potentialities. Desires primarily to bring the mail-order catalog to life. Account is handled by Buchanan & Co.

American Central Manufacturing Corp., Connersville, Ind. Maker of American Kitchens. On January 28, 1945, the company sponsored a comedy, "The Queen Was in the Kitchen", produced by Gerald O. Kaye over WABD. Program advertised "Planakit" matched kitchens. Subsequently, Jam Handy made a "behind the scenes" film showing how the program was telecast. This was used for sales promotion throughout the country.

American Institute of Food & Home Products, 509 Madison Ave., N. Y. C. (See WABD under *Stations.*)

Elizabeth Arden, 681 Fifth Ave., New York 22, N. Y. (See WRGB: *Stations.*)

Association of American Playing Card Manufacturers, 420 Lexington Ave., New York. (See J. Walter Thompson under *Agencies.* See WRGB: *Stations.*)

Atlantic Refining Co., 260 Broad St., Philadelphia, Pa. Wallace Orr, N. W. Ayer & Son, Inc., is the company television representative. Company sponsored first football game on television, September 1940; first night football game, September 1941; first network football game, September 1944 over WPTZ-WNBT-WRGB. Live and film talent used in commercials varying from 45 seconds to 5 minutes. Televised 35 to 40 times. Company plans to continue experimentation.

Augusta Knitting Corp., 700 Broad, Utica 2, N. Y. Maker of Jones Quality Underwear. (See Norman D. Waters under *Agencies.* See Television Workshop under *Producers.*)

Many of these listings, compiled by Richard Manville and Patricia Murray, were published in *Printers' Ink* for July 6, 1945. They have been revised and greatly augmented by Margaret Rice and Barbara Jones. Changes or omissions called to the attention of the Editor, will be incorporated in future yearbooks.

L. Bamberger & Co., 131 Market, Newark 1, N. J. Department store. (See WNBT under *Stations.*)

Black, Starr & Gorham, Inc., 594 Fifth Ave., New York. (See Norman D. Waters under *Agencies.* See Television Workshop under *Producers.*)

Block Drug Co., Inc., 190 Baldwin Ave., Jersey City, N. J. Maker of Omega Oil. (See Cecil & Presbrey under *Agencies.*)

Bloomingdale's, Lexington Ave. & 59th St., New York 17, N. Y. Ira A. Hirschmann, vice-president, is in charge of television. In August 1939, Bloomingdale's and Abraham & Straus (Brooklyn) applied jointly to the FCC for a television license. Application was filed by Metropolitan Television, Inc., subsidiary of the stores. Bloomingdale's put on a series of intra-store millinery shows. Early in 1942, the store participated in a fashion series on WNBT. In January 1945, Mr. Hirschmann was appointed to organize frequency modulation and television activities for Federated Department Stores, which, in addition to the two stores named, includes F. & R. Lazarus & Co., Inc., Columbus, the John Shillito Co., Cincinnati, and Wm. Filene's Sons Co., Inc., Boston. Bloomingdale's experimental television station is W2XMT.

Boots Aircraft Nut Corp., New Canaan, Conn. (See Cecil & Presbrey under *Agencies.*)

Botany Worsted Mills, Dayton Ave., Passaic, N. J. Charles F. H. Johnson, Jr., vice-president, is in charge of television. Through Alfred J. Silberstein-Bert Goldsmith agency, Botany sponsored a series of one-minute animated cartoons which promote Botany ties and forecast the weather. Beginning in October 1941, these spots appeared over WNBT four times weekly. In mid-1945, Botany moved this advertising to WABD, later returned it to WNBT. Company is looking forward to color television to obtain actual display of its ties.

Bulova Watch Co., 630 Fifth Ave., New York 20. R. F. Warren, advertising manager, is in charge of television. Bulova was the first advertiser to use commercials over WNBT. Beginning in 1941, the company had spot commercials six times a week. Except for the period when the war curtailed NBC television activities, Bulova has been a steady advertiser and now has two announcements a week; they consist of one-minute time signals with a visual animated clock face and a musical background of the Minute Minuet. The Biow Company handles the account.

The Butterick Co., Inc., 161 Sixth Ave., New York. Promoting its fashion patterns, Butterick gave the first commercial seen on WABD in May, 1943.

Buxton, Inc. (leather goods), 47 W. 34th St., New York. (See J. Walter Thompson under *Agencies.*)

Calvert Distillers Corp., 405 Lexington Ave., New York 17. (See Geyer, Cornell & Newell under *Agencies.*)

television

and the first wheel

Many thousands of years ago a Man watched a log rolling down a hill and then and there an inspiration crawled inside the Man's brain and wouldn't go away.

So the Man invented the Wheel.

Fortunately for us the Man hacked and chiseled and chipped until the Wheel was finished . . . he didn't spend all of his time going around talking about it.

He went out, or went in, or went somewhere, and built it.

He didn't stand before the Amalgamated Association of Cave Men Interested in the Development of Wheels and say, "Gentlemen, some day wheeled vehicles will skim along the earth at breathtaking speed."

No, sir, he didn't keep talking—he kept chipping.

We've done our share of talking, too. But let's remember that we've all got a lot of chipping to do.

BUCHANAN & COMPANY, Inc. *Advertising:* NEW YORK • CHICAGO • SAN FRANCISCO • LOS ANGELES • BEVERLY HILLS

Can Manufacturers' Institute, 60 East 42nd St., New York 17. Gordon E. Cole, advertising director. Agency: Benton & Bowles, Inc. (See WRGB: *Stations.*)

Canada Dry Ginger Ale, Inc., 100 E. 42nd St., New York. In 1944, the company sponsored a series of spot animated cartoons over WABD.

Carson, Pirie, Scott & Co., Chicago department store. (See WBKB: *Stations.*)

Carter Products, Inc., 52 Park Place, New York 8, N. Y. Maker of Arrid. Presented several adaptations of radio mysteries over WABD in 1945. (See Buchanan & Co. and Small & Seiffer under *Agencies.*)

The William Carter Co., Needham Heights 94, Mass. Maker of Carter's Underwear. William L. Carter, assistant vice president, is in charge of television. In September 1944, the Carter Co. cooperated with several manufacturers to present a series of commercials on WRGB. Carter's family skit, "Keeping Up With Baby," promoted infants' and children's underwear.

Casual Clothes, Inc., 744 Madison Ave., New York. (See Charles M. Storm under *Agencies.*)

Chef Boy-Ar-Dee Quality Foods, Inc., Milton, Pa. (See American Broadcasting Co. under *Producers.*)

Cluett, Peabody & Co., Inc., (Sanforizing Div.), 40 Worth, New York 13, N. Y. Young & Rubicam, the company's agency, produced a series of fashion programs for Sanforized over WABD. Nancy Dixon, who appears in Sanforized magazine advertising, guided the programs, each of which featured outstanding fashion designers and style trends. Series started January 24, 1945; productions lasted 15 minutes and occurred every two weeks. Advertising usually consisted of a one-minute skit worked in at the end of the program.

Colgate-Palmolive-Peet Co., 105 Hudson, Jersey City 2, N. J. Maker of Super Suds. (See William Esty Co. under *Agencies.* Also Newell-Emmett for Kirkman & Son Div., Bridge & Water, Brooklyn 2, N. Y.)

Commanwealth Edisan Co., 72 W. Adams, Chicago 3, Ill. Ardien B. Rodner, supervisor, special campaign division of the advertising department, is in charge of television. Company started telecasting over WBKB in August 1944, with an afternoon cooking lesson, "Cooking by the Dial", and an evening comedy-drama, "What's Cooking With the Scotts", which later became "Welcome to the Walkers". Company also sponsors "Telequizicalls", an audience participation quiz program. Prizes consist of electric appliances. Commonwealth's program experiments are aimed at developing advertising techniques and promoting the sale of electric appliances, particularly the electric range. Company has set up television receivers in public places to check audience reactions to its programs. In each series the programs have been built around the commercials. "Telequizicalls" is the only show Edison has on the air at present, but a new drama-comedy series is planned for the near future.

The Condé-Nast Publications, Inc., 420 Lexington Ave., New York 17. Publisher of *Vogue,* which sponsored a fashion show over WABD in March 1944, using pictures and models from the magazine. Also produced a program over WRGB in 1945, employing live talent and film.

Caty, Inc., 423 W. 55th St., New York 19. In July 1944, Glorianne Lehr produced a program over WABD, illustrating the methods of the Coty Salon and promoting its processes and beauty aids.

The Crowell-Callier Publishing Co., 250 Park Ave., New York 17. *American Magazine* collaborated with Station WRGB in April 1942 to produce a program bringing the magazine's stories and articles to life. *Collier's* was tied in with an I. J. Fox show glorifying the fur farmer in October 1944.

Curtis Publishing Co., Independence Square, Philadelphia. Publisher of *The Saturday Evening Post, Ladies' Home Journal, Country Gentleman, Jack and Jill,* and *Holiday.* Sponsored both radio and television broadcasts in 1945 of the Army-Notre Dame and the Army-Navy football games. Television broadcasts were aired over WPTZ, Philadelphia; WNBT, New York, and WRGB, Schenectady. Commercials employed still photographs of Curtis publications together with an off-screen voice.

Lilly Dache, 78 E. 56th St., New York 22. Lilly Dache hats have been featured on several programs at WABD.

Daly Bras. Shoe Co., Marion, Ind. Maker of Air-O-Magic shoes. (See Norman D. Waters under *Agencies* and Television Workshop under *Producers.*)

John David, Inc., 1271 Broadway, New York 1. Beginning in April 1945 at WABD, this company cooperated with American Broadcasting Co. in producing a series of nine variety programs titled "Letter to Your Serviceman" based on a radio program of the same name. Commercials strove for humor rather than conventional promotion.

Diana Corset Co., Inc., 1 E. 33rd St., New York. (See Lester Harrison under *Agencies.*)

Esther Darathy Furs, 78 E. 56th St., New York. Esther Dorothy furs were used in two "Fashion Frolic" programs produced over WABD. Eleanor Lambert, publicist, handles the account.

Allen B. DuMont Laboratories, Inc., 2 Main Ave., Passaic, N. J. DuMont owns and operates Station WABD. Has sponsored a number of programs promoting DuMont-engineered television. Features its trade character, Alec Electron. Agency: Buchanan & Co.

Alfred Dunhill of London, Inc. and Mary Dunhill, Inc., 660 Fifth Ave., New York 19. In December 1943, Alfred Dunhill and Mary Dunhill sponsored a program over WABD in which models suggested Christmas gifts and wrappings. Several scenes illustrated uses of these gifts. Producer: Glorianne Lehr. (Also see Charles M. Storm under *Agencies.*)

E. I. DuPant de Nemours & Co., Inc., Wilmington 98, Del. R. A. Applegate, advertising manager. Magic entertainment is being used to point up advantages of DuPont developments for better living in a new series at WRGB. Agency: BBD&O.

Durez Plastics & Chemical, Inc., North Tonawanda, N. Y. Sponsored a 13-week series of programs in 1944 depicting uses of plastics in the postwar world. (See Television Workshop: *Producers.*)

Easy Washing Machine Carp., Solar & Spencer, Syracuse 4, N. Y. (See Batten, Barton, Durstine & Osborn under *Agencies* and WRGB under *Stations.*)

Elgin National Watch Co., 107 National, Elgin, Ill. Elgin sponsors spot film commercials, "time by the stars", over WBKB and WNBT. These televised time signals run 90 seconds. Agency: J. Walter Thompson Co., Chicago.

Encyclopedia Britannica Films, Inc., 20 N. Wacker Drive, Chicago 6, Ill. Company collaborated with WCBW on a live talent and film series, "The World We Live In". The programs were documentaries, experimental educational shows directed toward creating a television "School of the Air". Programs made use of film in Encyclopedia Britannica Films' library. Agency: N. W. Ayer & Son.

Esquire, Inc., 919 N. Michigan Ave., Chicago, Ill. A. R. Pastel, advertising director, is in charge of television. On September 28, 1944, over WABD, *Esquire* sponsored "The Boys from Boise", first full-length (two hours) musical comedy written and produced exclusively for television. Audience response included over 300 letters from televiewers. Commercials, showing highlights from a current issue of *Esquire,* were presented between acts. Produced by Charles M. Storm Co. Through Schwimmer & Scott, and in cooperation with American Broadcasting Co., *Esquire* telefilmed its annual "*Esquire* All-American Boys Baseball Game" as a "special event" feature.

Everfast Fabrics, Inc., 40 Worth St., New York 13. Featuring the work of well-known designers, Everfast sponsored a fashion show over WABD in March 1944. Producer: Glorianne Lehr.

The Fair, State and Madison Sts., Chicago. Hector Suyker, president. Larry H. Foster, sales promotion manager. This department store has presented a cosmetic demonstration program and a series of station-break pictorial slides at WBKB. Has recently inaugurated a series, "Let's Go Teleshopping," designed to aid shoppers by dramatizing the activities of various departments.

Fashian Academy, 812 Fifth Ave., New York. Emil Hartman, director, is in charge of television. The Academy presented an hour fashion show over WNBT which outlined the steps in creating a design in women's clothes.

Fashian Fracks, Inc., 3301 Colerain Ave., Cincinnati 25, Ohio. (See Keelor & Stites under *Agencies* and RKO Television under *Producers.*)

Fawcett Publications, Inc., 1501 Broad-

way, New York 18. Publisher of *Mechanix Illustrated.* (See Charles M. Storm under *Agencies.*)

Marshall Field & Co., 222 N. Bank, Chicago 54, Ill. Department store. Produces a weekly series of programs over WBKB. (See WBKB under *Stations.*)

Firestone Tire & Rubber Co., 1200 Firestone Parkway, Akron 17, Ohio. Since 1943, Firestone has been a steady advertiser on WNBT. The company sponsors a weekly 15-minute program which has included a variety of films — musical, travel, novelty, industrial, etc.

I. J. Fox, 393 Fifth Ave., New York 16. Howard P. Abrahams, advertising and publicity director, is in charge of television. In September 1938, Fox presented a 20-minute program over WCBW, displaying the "world's rarest furs". In October 1944, Fox sponsored a program tied up with stories in *Click* and *Collier's* on the American fur farmer. This show, produced by Glorianne Lehr, and two other 30-minute programs appeared on WABD. Fox expects to use television from time to time when particular pieces of merchandise warrant special promotion.

John Frederics, Inc., 29 E. 48th St., New York. In January 1943, John Frederics hats and accessories were advertised in a "what's wrong with this picture" fashion quiz. Frederics hats have also been featured on other fashion shows over WABD. Producer: Glorianne Lehr.

General Electric Co., Schenectady, N. Y. Owns and operates Station WRGB. Has advertised over WRGB independently and in cooperation with other companies. (See Batten, Barton, Durstine & Osborn under *Agencies.*)

General Foods Corp., 250 Park Ave., New York 17. Maker of Post-Tens. (See Benton & Bowles under *Agencies.*)

General Mills, Inc., Chamber of Commerce Bldg., Minneapolis 15, Minn. C. S. Samuelson, advertising manager. This manufacturer of Gold Medal Flour, Softasilk Cake Flour, etc., sponsored a special 28-minute film on the history of cake, titled "400 Years in Four Minutes," which appeared over WCBW.

Gertz Department Store, 162-10 Jamaica Ave., Jamaica, L. I. (See Television Workshop under *Producers;* also Station W2XJT.)

Gillette Safety Razor Co., 15 W. First, Boston, Mass. Has sponsored WNBT pickups of boxing matches from Madison Square Garden and St. Nicholas Arena since September 1944. Commercials are still pictures with studio voice, flashed on the screen between bouts or rounds. (See Maxon, Inc.: *Agencies.*)

Gimbel Bros., Inc., Broadway at 33rd St., New York 1. Presented a half-hour fashion show on March 11, 1945 over WRGB-WNBT hookup. Featured Adelaide Hawley. Agency: Abbott Kimball Co. Producer: Television Workshop. Gimbel's Philadelphia store installed intra-store equipment and in collaboration with RCA-Victor, experimented from Oct. 26 to Nov. 14, 1945, with this form of promotion. Most important conclusion: shoppers want buying information, interestingly presented. Entertainment is unnecessary.

Gold Mark Hosiery Co., 392 Fifth Ave., New York 18. (See WNBT: *Stations.*)

B. F. Goodrich Co., So. Main St., Akron, Ohio. (See Batten, Barton, Durstine & Osborn under *Agencies* and WRGB under *Stations.*)

Gotham Silk Hosiery Co., Inc., 200 Madison Ave., New York 16. Sponsored show promoting Gotham Goldstripe Hosiery, in June 1944 over WABD. Producer: Glorianne Lehr.

The Guide Magazines, 400 N. Michigan Ave., Chicago 11, Ill. Publisher of *Click* and *Official Detective Stories.* (See I. J. Fox under *Advertisers* and Charles M. Storm under *Agencies.*)

Hamilton Watch Co., Columbia Ave., Lancaster, Pa. Robert Waddell, advertising manager. Presented time signal series at WRGB in 1943. Some were tied in with Red Cross, others with Blackstone Cigars. Agency: Batten, Barton, Durstine & Osborn.

The Hat Corp. of America, 417 Fifth Ave., New York 16. J. R. Swan, Jr., advertising manager, is in charge of television activity. Started television experiments in March 1944. Produced a 15-minute variety show, a 15-minute fashion show with continuity and a 30-minute play with integrated commercial, all over WABD in behalf of Knox and Dobbs hats. (For Knox, see Geyer, Cornell & Newell under *Agencies.* For Dobbs, see Abbott Kimball.)

Hat Style Council, Inc., 1123 Broadway, New York 10. (See WNBT under *Stations.*)

Hearst Magazines, Inc., 989 Eighth Ave., New York 19. Sponsored two fashion shows on WABD in the spring of 1944 for *Harper's Bazaar.* (See Abbott Kimball under *Agencies* and Glorianne Lehr under *Producers.*)

Herbert Manufacturing Co., 229 W. 36th St., New York. Maker of Herbert fabrics. (See Norman D. Waters under *Agencies* and Television Workshop under *Producers.*)

Hillman Periodicals, 1476 Broadway, New York 18. Publisher of *Real Story.* (See Charles M. Storm under *Agencies.*)

Richard Hudnut, 693 Fifth Ave., New York. Over WABD, sponsored three fashion programs in 1944 for the DuBarry Success School. (See Kenyon & Eckhardt under *Agencies* and Glorianne Lehr under *Producers.*)

Huffman Full Fashioned Mills, Inc., Meeting St., Morganton, N. C. Maker of Flatternit stockings. (See Norman D. Waters under *Agencies* and Television Workshop under *Producers.*)

Industrial Undergarment Corp., Poughkeepsie, N. Y. Maker of Stardust slips, blouses and underwear. (See Norman D. Waters under *Agencies* and Television Workshop under *Producers.*)

International Dress Co., 1400 Broadway, New York. (See Glorianne Lehr under *Producers.*)

International Shoe Co., 1507 Washington Ave., St. Louis, Mo. Maker of Winthrop shoes, Queen Quality shoes, Red Goose shoes. A. L. Johnson, advertising director, is director of television. Has presented four shows on WABD, two of them featuring stories from *Collier's* and *Woman's Home Companion.* First program, in August 1944, stressed presentation of men's shoes in a manner similar to that used in national advertising. Another program, promoting children's shoes, filmed the history of the circus especially for television. Company plans to continue experimentation. Agency: Westheimer & Co. Bud Gamble produced three of the programs. Fotosound Studios made the circus film.

Georg Jensen, Inc., 667 Fifth Ave., New York 22. (See Glorianne Lehr under *Producers.*)

Johansen Bros. Shoe Co., Inc., 3642 Laclede St., St. Louis 8, Mo. Sponsored a half-hour dramatic program in May 1945 over W6XAO. Plans experimental telecasts over television stations in the Midwest and East. Agency: Anfenger Advertising Agency, St. Louis. (See Dan B. Miner under *Agencies.*)

Lamont, Corliss & Co., 60 Hudson St., New York 13. Maker of Nestle's candy. (See Cecil & Presbrey under *Agencies.*)

Lanz Fifth Avenue Corp., 668 Fifth Ave., New York. Sponsored a "Fashion Frolic" over WABD in October 1943. Producer: Glorianne Lehr.

The Frank H. Lee Co., Danbury, Conn. Maker of Lee hats. (See WNBT under *Stations.*)

Lentheric, Inc., 761 Fifth Ave., New York 22. (See Geyer, Cornell & Newell under *Agencies.*)

Lever Bros. Co., 50 Memorial Dr., Cambridge, Mass. Maker of Rinso, Spry, Lifebuoy Soap, Lifebuoy Shave Cream and Vimms. A. E. Foster is television supervisor. In November 1943, Lever Bros. started a weekly, half-hour program over WABD, promoting several of its products in rotation. Series, which continued until September 1945, included experiments in serious drama, comedy, music, variety, fashion and audience participation, employing both live talent and film. Many advertising techniques have been tried. Lever Bros. has produced many shows at WNBT and is currently sponsoring a series of programs over WCBW. Future plans have not been announced. Agency: Ruthrauff & Ryan. BBD&O handled a program for Vimms at WRGB.

Libbey-Owens-Ford Glass Co., Nicholas Building, Toledo 3, Ohio. (See J. Walter Thompson under *Agencies* and WRGB under *Stations.*)

Liberty Mutual Insurance Co., 175 Berkeley, Boston, Mass. Sponsored a film produced specifically for television. (See Batten, Barton, Durstine & Osborn under *Agencies* and RKO Television under *Producers.*)

Liggett & Myers Tobacco Co., 630 Fifth Ave., New York 20. Maker of Chesterfield cigarettes. (See Newell-Emmett under *Agencies*.)

Loft Candy Corp., 38-38 - 9th, Long Island City, N. Y. (See Al Paul Lefton under *Agencies* and WABD under *Stations*.)

Look, Inc., 511 Fifth Ave., New York 18. WRGB adapted an issue of *Look* magazine for television. Recently, WCBW used the magazine's "Photocrime" feature as a basis for several detective dramas.

Lord & Taylor, 424 Fifth Ave., New York 18. Department store. (See Glorianne Lehr under *Producers*.)

The George W. Luft Co., 34-12 - 36th Ave., Long Island City, N. Y. Maker of Tangee lipstick. (See American Broadcasting Co. under *Producers*.)

Luxuray Corp., 450 Seventh Ave., New York. Maker of Dove-Skin Knit Undies. (See Norman D. Waters under *Agencies* and Television Workshop under *Producers*.)

R. H. Macy & Co., Inc., Broadway at 34th St., New York 1. Beginning in January 1945, Macy's sponsored a series of 5-minute commercial programs, promoting Macy merchandise and services. Presented over WABD, the programs were linked together by a central figure, Martha Manning, who acted as guide on the teleshopping tours. Program signature was on film. Producer: RKO Television.

Maritime Milling Co., Inc., Chamber of Commerce Building, Buffalo, N. Y. Maker of Hunt Club dog food. George E. Todd, vice-president, heads television activities. (See Baldwin, Bowers & Strachan under *Agencies*.)

Mars, Inc., 2019 N. Oak Park Ave., Chicago, Ill. Maker of Mars candy bars. (See Grant Advertising: *Agencies*.)

Alice Maynard, 558 Madison Ave., New York 18. Alice Maynard sweaters have been displayed on programs produced by Glorianne Lehr over WABD.

McCall Corp., 230 Park Ave., N. Y. 17, N. Y. Presented program at WRGB in behalf of *McCall's Patterns*.

James McCreery & Co., Fifth Ave. & 34th St., New York 1. Department store. (See Television Workshop under *Producers*.)

Miles Laboratories, Inc., 1127 Myrtle, Elkhart, Ind. A "Quiz Kids" adaptation of the radio program of the same name was presented over WABD in behalf of Alka-Seltzer. Producer: American Broadcasting Co. Agency: Wade Advertising Agency. Miles also presented adaptation of a *Satevepost* "Earthworm Tractor" story for 1-A-Day Vitamins.

Missouri-Pacific Lines, 13th and Olive, St. Louis, Mo. (See WNBT: *Stations*.)

John Morrell & Co., Hayne St. and Iowa Ave., Ottumwa, Iowa. Maker of Red Heart dog food. (See Henri, Hurst & McDonald under *Agencies*.)

Nash-Kelvinator Corp., 14250 Plymouth Rd., Detroit, Mich. In January 1945 the Kelvinator Division sponsored a show on WABD which featured prominent cartoonists. (See Geyer, Cornell & Newell under *Agencies*.)

National Distillers Products Corp., 120 Broadway, New York. On behalf of Duff-Gordon wines, Sam Medoff produced a musical program over WABD in January 1945.

National Peanut Council, Inc., 812 C & S National Bank Building, Atlanta 3, Ga. (See J. Walter Thompson under *Agencies*.)

Nehi Corp., 10th & 9th Ave., Columbus, Ga. Maker of Royal Crown Cola. (See Batten, Barton, Durstine & Osborn under *Agencies* and WRGB under *Stations*.)

New York Dress Institute, 1450 Broadway, New York 18. Sponsored a program over WABD in January 1943 showing how a dress manufacturing company functions. Producer: Glorianne Lehr.

No Mend Hosiery, Inc., 133 W. Berkley, Philadelphia 44, Pa. (See Al Paul Lefton under *Agencies*.)

Pal Blade Co., 595 Madison Ave., New York. Edwin Kraus, sales manager, is in charge of television activity. Has sponsored one program over WABD in behalf of Pal Hollow-Ground razor blades. Company is exploring television with a view to adding the medium to its regular advertising program. (See Al Paul Lefton under *Agencies*.)

Pan-American Airways System, 135 E. 42nd St., New York 17. Since March 1945, Pan-American has sponsored a weekly film travelog with studio commentary over WNBT. Advertising for Pan-American is also on film. Agency: J. Walter Thompson.

Park & Tilford, 485 Fifth Ave., New York 17. Maker of Park & Tilford candy and Tintex dyes. Has sponsored six programs on WABD including "Television Follies of 1944", a 2-hour musical variety show. Tintex first presented a program in December 1943, and has since sponsored 25 television shows: drama, comedy, documentary, variety, etc. Agency: Charles M. Storm.

Pond's Extract Co., 60 Hudson St., New York 13. Maker of Pond's Cosmetics. (See WRGB under *Stations*.)

Press-On, Inc., 16 W. 61st St., New York 23. Maker of Press-On mending tape. In 1943 the company sponsored the first commercial series to be presented on WABD. (See Reiss Advertising under *Agencies* and Television Workshop under *Producers*.)

The Procter & Gamble Co., 6th & Main, Cincinnati, Ohio. Maker of Duz and Ivory Soap. Gail Smith heads television activities. Procter & Gamble was one of the first advertisers on WNBT, sponsoring a baseball telecast in 1940. (See Compton Advertising under *Agencies* and WRGB under *Stations*.)

Proctor Electric Co., 3rd & Hunting Park Ave., Philadelphia, Pa. (See Newell-Emmett under *Agencies*.)

Ben Pulitzer Creations, Inc., 1270 Broadway, New York. Maker of Ben Pulitzer ties. To promote its neckwear, the company sponsored 13 30-minute programs over WABD. Agency: Reiss Advertising. Producer: Television Workshop. During 1945, Pulitzer presented a series of variety shows, "At Ease", directed at servicemen. Producer: Bob Loewi over WABD.

Quaker Lace Co., 330 Fifth Ave., New York 11. Hosiery. (See Cecil & Presbrey under *Agencies*.)

Radio Corporation of America, 30 Rockefeller Plaza, New York. RCA-Victor Division sponsors a 15-minute weekly film program, "The World in Your Home", over WNBT. (See J. Walter Thompson under *Agencies*.)

Reader's Digest Association, Inc., Pleasantville, N. Y. Publisher of *The Reader's Digest*. (See Batten, Barton, Durstine & Osborn under *Agencies*.)

Remington Arms Co., Bridgeport, Conn. (See Batten, Barton, Durstine & Osborn under *Agencies* and WRGB under *Stations*.)

Rival Packing Co., 4500 S. Tripp Ave., Chicago 32, Ill. Maker of Rival dog food. (See Al Paul Lefton under *Agencies*.)

Ronson Art Metal Works, Inc., Aronson Square, Newark, N. J. Alfred R. Nathan, advertising manager, is head of television. Promoting Ronson lighters, "You're the Light of My Life" was produced over WNBT, September 29, 1939. The show was the first commercial musical television program in the U. S. "America's Merchant", over WABD, September 10, 1944, was a dramatic offering. Ronson commercial was integrated into the show. Company will continue to experiment with the medium. Agency: Cecil & Presbrey.

Helena Rubinstein, Inc., 715 Fifth Ave., New York 23. (See H. B. Humphrey under *Agencies*.)

Saks Fifth Avenue, 611 Fifth Ave., New York 22. Department store. In November 1943, over WABD, Glorianne Lehr produced two programs for Saks, displaying the store's Christmas merchandise.

Schutter Candy Co., 4730 W. Augusta Blvd., Chicago 51, Ill. Maker of Bit O' Honey and Old Nick Candy Bar. Schutter introduced Frank Fay to television on January 7, 1945 over WABD. A middle commercial was used in the variety program, with Mr. Fay participating. Agency: Westheimer & Co. Producer: Bud Gamble.

Shell Oil Co., Inc., 50 W. 50th St., New York. (See J. Walter Thompson under *Agencies*.)

Alexander Smith & Sons Carpet Co., Saw Mill River Rd., Yonkers, N. Y. Karl Knipe of Anderson, Davis & Platte, Inc., directs television activity for the company. In September 1944, Smith started a bi-weekly travelog program, "The Magic Carpet", over WABD. The show combines live talent with actual travel scenes on film. Smith has also advertised over WRGB. Company plans to continue its experiments. Producer: Bud Gamble.

Socony-Vacuum Oil Co., Inc., 26 Broadway, New York 4. Distributor of Mobiloil. In cooperation with Procter & Gamble, Socony-Vacuum sponsored a program seen first over WRGB, then over WABD. (See Compton Advertising under *Agencies.*)

The Spool Cotton Co., 745 Fifth Ave., New York. Winners of a sewing contest sponsored by Spool Cotton appeared on WABD in June 1944. Agency: Tom Fizdale.

Standard Oil Co. of New Jersey, 26 Broadway, New York 4. Distributor of Esso Extra and Esso Motor Oil. R. M. Gray, manager of advertising and sales promotion department, heads television activities. In 1939, company sponsored a 15-minute weekly news program on WNBT, produced by McCann-Erickson agency. "Your Esso Reporter" combined live talent and film, was on the air for ten weeks. It was the first commercial series prepared exclusively for television. In June 1945, Esso Marketeers sponsored films of General Eisenhower's welcome in Washington and New York, and of other important events. These films were presented over WNBT and relayed to WPTZ and WRGB. Esso also sponsored films of New York's Navy Day ceremonies in October 1945. An increased use of television advertising is contemplated. Agency: Marschalk & Pratt.

Arpad Stern, 689 Fifth Ave., New York. Arpad Stern accessories have been featured on fashion shows produced by Young & Rubicam and by Glorianne Lehr over WABD.

Street & Smith Publications, Inc., 122 E. 42nd St., New York. Frances Hughes, special projects editor, and Geri Trotta, copy editor, are collaborators in charge of television. In December 1943, Glorianne Lehr produced a program over WABD based on *Mademoiselle* fashion hints. In March 1944, *Mademoiselle* presented "What's New", also over WABD, as an experiment in dramatizing editorial and advertising copy. The magazine gave a series of monthly programs over WCBW, beginning in November 1944. Titled "Women in Wartime", these dramatizations were planned as a public service to help direct womanpower into the channels where needs were urgent and to show young women how to lead useful and happy lives in wartime. New shows are planned for WCBW presentation.

Sun Oil Co., 1608 Walnut, Philadelphia, Pa. (See WNBT under *Stations.*)

Swift & Co., Union Stock Yards, Chicago, Ill. Sponsored a program in connection with the Seventh War Loan. (See American Broadcasting Co. under *Producers* and J. Walter Thompson under *Agencies.*)

Felix Tausend & Sons, 114 Franklin St., New York. Maker of Cel-O-Sheen table cloths. (See Norman D. Waters under *Agencies.*)

Textron, Inc., 350 Fifth Ave., New York 1. Fabrics. (See J. Walter Thompson under *Agencies.*)

United States Rubber Co., 1230 Sixth Ave., New York 20. Charles J. Durban, assistant director of advertising, is in charge of television operation. John Hewlett is television producer. In 1941, the company presented one program. On May 6, 1945, it began a weekly series over WABD which continued into the autumn. These 30-minute programs, titled "Magazine of the Air", combined film with live talent to promote the idea of "serving through science". Keds, a U.S. Rubber product, recently sponsored Lou Little, Columbia University football coach, as the "Television Quarterback" in a weekly talk over WNBT. Agency: Campbell-Ewald, Inc.

The U. S. Time Corp., 31 Cherry Ave., Waterbury 91, Conn. Maker of Ingersoll watches. Sponsored time signals over WRGB. (See Compton Advertising under *Agencies.*)

Waitt & Bond, Inc., 310 Sherman Ave., Newark, N. J. Maker of Blackstone cigars. (See Batten, Barton, Durstine & Osborn under *Agencies* and WRGB under *Stations.*)

Waltham Watch Co., Crescent St., Waltham, Mass. Presented time signals over WABD on V-E Day program. (See American Broadcasting Co. under *Producers*, Waltham recently started a series of spot film commercials on WNBT. Agency: N. W. Ayer & Son.

Weinreich Bros. Co., 383 Fifth Ave., New York. Maker of Marvella pearls. (See Abbott Kimball under *Agencies.*)

Wildroot Co., Inc., 1490 Jefferson Ave., Buffalo 8, N. Y. Maker of Wildroot hair oil. (See Batten, Barton, Durstine & Osborn under *Agencies and* WRGB under *Stations.*)

ADVERTISING AGENCIES

Anderson, Davis & Platte, Inc., 50 Rockefeller Plaza, New York. CO 5-4868. Karl Knipe, assistant to the president, heads television activities. Agency started in television on September 13, 1944, over WABD. For Alexander Smith & Sons Carpet Co., agency has presented a score of 30-minute bi-weekly travelog programs titled "The Magic Carpet," which combine live talent with travel film. Producer: Bud Gamble. Agency plans further experiments with present show as well as new shows for other clients. Plans a series of daily noon hour shows for John Wanamaker at WABD.

Anfenger Advertising Agency, 1706 Olive St., St. Louis, Mo. CH 6380. (See Dan B. Miner Co., under *Agencies.*)

Atherton & Currier, Inc., 420 Lexington Ave., New York. MO 4-8795. Joseph Molnar, radio director, heads television. Agency believes television feasible and plans to enter the field with spot advertising for its clients.

N. W. Ayer & Son, Inc., West Washington Square, Philadelphia 6, Pa. Television is handled at New York office: 30 Rockefeller Plaza. CI 6-0200. Don McClure, director of television. Agency commenced television activity in September 1940 by presenting the first commercially sponsored football telecast, in cooperation with its client, Atlantic Refining Co. and with Philco Corp. Game was picked up from Franklin Field, University of Pennsylvania, Philadelphia. Presented first night football telecast, September 1941, Temple University *vs.* University of Kansas. Also first sponsored network football game, September 1944, over WPTZ (Philadelphia), WNBT (New York), and WRGB (Schenectady). Game was University of Pennsylvania *vs.* Duke. In behalf of Atlantic, Ayer used commercials (both live talent and film) varying from 45 seconds to 5 minutes, depending on where employed during game. Ayer has telecast about 40 programs. Presented time breaks for Waltham Watch Co., on V-E Day show at WABD in cooperation with American Broadcasting Co. Agency plans to try everything. Believes rules can't be made; that each product presents new problems.

Baldwin, Bowers & Strachan, Inc., 370 Delaware Ave., Buffalo 2, N. Y. Washington 6854. Everett L. Bowers, vice-president, heads television activity. Jack F. Higgins, radio director, is television producer. Agency presented a 15-minute program over WABD April 17, 1945, for Maritime Milling Co., in behalf of Hunt Club dog feed. Plans to continue testing possibilities of the medium.

Ted Bates, Inc., 630 Fifth Ave., New York. CI 6-9700. William Stuhler, radio director, and Jay Clark, radio executive, handle television. Agency is interested in this new medium and is studying its possibilities.

Batten, Barton, Durstine & Osborn, Inc., 383 Madison Ave., New York. EL 5-5800. Frederick A. Long is in charge of television activities. Chet Kulesza is technical supervisor of art and production, television department. BBD&O, early in 1943, began experimentation with many types of programs and commercials. Presented live talent and film programs on WRGB, WNBT and WABD. Agency's television clients include: General Electric Co., B. F. Goodrich Rubber Co., E. I. du Pont de Nemours & Co., Easy Washer Co., Remington Arms Co., Hamilton Watch, William Carter Co., Wildroot Co., Liberty Mutual Life Insurance Co., *Reader's Digest*, Waitt & Bond, Inc., and Nehi Corp. BBD&O expects to continue intensive study of the medium as an advertising tool of the future and, whenever logical, to apply its findings for the benefit of its clients.

Benton & Bowles, 444 Madison Ave., New York. WI 2-0400. Herb J. Leder, director of television. Agency presented a program for General Foods on WABD in October 1944. Plans to experiment in various phases of production.

Bermingham, Castleman and Pierce, Inc., 136 E. 38th St., New York. LE 2-7550. Agency plans to enter field but has no definite schedule.

The Biow Co., Inc., 9 Rockefeller Plaza, New York. CI 6-9300. Harry Spears directs television activities. Agency handles Bulova time signals, first presented on NBC in 1941. Plans to continue in television, possibly producing 5, 15 or 30-minute programs for Bulova and later for other sponsors.

Blaine-Thompson Co., 234 W. 44th St., New York. BR 9-2480. Marlo Lewis, vice-president, is in charge of television. Plans to keep abreast of developments and to do experimental work with clients.

Buchanan & Co., Inc., 1501 Broadway, New York 18, N. Y. ME 3-3380. Martin B. Jones, radio and television director. Writers: Ralph Rockafellow, Robert Smock. Agency handles advertising of Allen B. DuMont Laboratories, Inc.; has produced many WABD sustaining shows. Also programs in behalf of Adam Hat Stores, Inc.; Alden's Chicago Mail Order Co.; and Carter Products Inc., for Arrid. Plans a Spring 1946 series to sell DuMont Telesets over WABD.

Campbell-Ewald, Inc., 10 Rockefeller Plaza, New York. CI 7-6383. Richard Hackenger is in charge of television activity. (See U. S. Rubber Co. under *Advertisers.*)

Cecil & Presbrey, Inc., 247 Park Ave., New York. WI 2-8200. Dell Crosby is director of radio, television and public relations. Television activity commenced in 1943. Skeleton organization built. On Feb. 27, 1944, began weekly series (12 half hour programs) for Boots Aircraft Nut Corp. Transported members of the Mutual-aired radio show, "Wide Horizons," from the radio studio to Station WABD where the show was televised with necessary adaptations. In September 1944 produced "America's Merchant," a program built around a "Universal Store-Keeper," who extolled merits of different products. Agency has produced about 40 programs in all. Has presented shows for Ronson Art Metal Works, Inc., Quaker Lace Hosiery, Nestle's (Lamont, Corliss & Co.), Omega Oil (Block Drug Co.), and Air Transport Association.

Agency feels it has fine and comprehensive backlog of information on television lighting, scenic effects, colors, use of miniatures, mechanical aspects, make-up, properties, dialogue, costumes and wardrobe research. Plans continued experimentation.

Compton Advertising, Inc., 630 5th Ave., New York. CI 6-2800. Wyllis Cooper, producer of television and motion pictures for the agency, heads television. James N. Manilla is associate producer of television and motion pictures. Activity began in 1940: telecast Brooklyn Dodgers baseball game, with Red Barber, for Ivory Soap. In July 1941 presented "Truth or Consequences" with Ralph Edwards for Procter & Gamble when WNBT opened commercially. On February 11, 1944, produced a show on WRGB for Duz and Ivory Soap (both Procter & Gamble) and Mobiloil (Socony-Vacuum). Program comprised an elaborate, costly puppet show for Duz; Yvette, the songstress, for Ivory Soap; and Stan MacGovern, the cartoonist, for Mobiloil. On February 16 the show was presented on WABD. Compton also presented two one-minute time signals for Ingersoll Watches, U. S. Time Corp.

Compton advocates filmed television. Plans to refrain from live television production pending further experiments with motion pictures.

Dancer-Fitzgerald-Sample, 247 Park Ave., New York. WI 2-4200. Agency definitely interested in field as an advertising medium; believes its clients will be active participants. Radio departments of branch offices are doing individual research and checking; information will be pooled later. Carl Stanton, radio account executive in New York, will handle any activities planned in the near future.

D'Arcy Advertising Co., 515 Madison Ave., New York. PL 8-2600. Paul Lewis, director of radio, supervises television work. Agency is surveying the field in a general way but does not anticipate any programming before autumn of 1946.

Donahue & Coe, Inc., 1270 6th Ave., New York. CO 5-4252. A. Carl Rigrod, director of motion-picture-radio division, heads television. Agency is waiting for the right moment to enter the field, keeping motion picture accounts especially in mind.

Erwin, Wasey & Co., Inc., 420 Lexington Ave., New York. MO 4-8700. C. H. Cottington, director of radio, heads television. Agency is standing by for the present.

William Esty & Co., 100 E. 42nd St., New York. CA 5-1900. Thos. D. Luckenbill, vice-president and radio director, heads television activities. Kendall Foster, radio producer and director, handles television production and direction. Agency is doing a weekly half-hour show for Super Suds on Station WABD for Colgate-Palmolive-Peet Co. Titled "Here's How," the program is directed at homemakers and gives them humorous skits and helpful hints for improved housekeeping. Other plans not ready for publication.

Federal Advertising Agency, Inc., 444 Madison Ave., New York. EL 5-6400. John S. Davidson, vice-president and radio director, heads television activities. Agency is preparing and discussing experimental scripts and ideas.

Foote, Cone & Belding, 247 Park Ave., New York. WI 2-6600. Hubbell Robinson, vice-president, directs radio and television. Agency's plans are now at the blueprint stage with shows of all types under consideration for clients.

Albert Frank-Guenther Law, Inc., 131 Cedar St., New York. CO 7-5060. Russell Clevenger, director of radio and television. Agency is interested in programs with select audience appeal for use in marketing of quality products.

Fuller & Smith & Ross, Inc., 71 Vanderbilt Ave., New York. MU 6-5600. Lee Williams, dirctor of radio, heads television in New York. Reed Drummond, motion picture director, is in charge in Cleveland. Agency has done two experimental shows for clients, filming most of the material. Plans to continue experimentation.

Geyer, Cornell & Newell, Inc., 745 5th Ave., New York. WI 2-5400. Don S. Shaw, radio director, heads television activity. A. J. Ghisalbert is in charge of television production. Agency presented "Knox Magic Hat Shop," 20-minute live fashion show featuring Knox Hats for Hat Corp. of America, over WABD, Oct. 10, 1944. On Jan. 23, 1945, presented "Fun in the Kitchen," a 20-minute, live comedy program, also on WABD, for Kelvinator division, Nash-Kelvinator Corp. Show was tied in with the Society of Amateur Chefs. A series of similar Kelvinator shows is in the planning stage. Also new shows for Calvert Distillers Corp., Knox Hats and Lentheric.

Gotham Adv. Co., 2 W. 46th St., New York. LO 5-2616. Arthur A. Kron, director of radio, heads television. Agency is studying field, particularly the presentation of fashion merchandise. Expects to begin television activities in the near future.

Grant Advertising, Inc., 1313 Gulf States Bldg., Dallas, Texas. RIverside 8121. Branch offices: New York—30 Rockefeller Plaza. CI 5-4485. Chicago—919 N. Michigan Ave. SUPerior 9052. R. E. Ellis, account executive for Mars, Inc., maker of candy bars, plans an adaptation of the radio show "Curtain Time" to be presented at WRGB in cooperation with the American Broadcasting Co.

Grey Advertising Agency, Inc., 166 W. 32nd St., New York. CH 4-3900. Earl G. Thomas is director of radio and television. Agency publishes bulletin, "Television Grey Matter," which discusses developments and attitudes in the field. Not ready to announce specific plans but has production ideas and commercial treatment for 17 clients in preparation.

Lawrence C. Gumbinner Advertising Agency, 9 E. 41st St., New York. MU 2-5680. Paul Gumbinner directs television. Agency is studying the field, watching developments.

Lester Harrison Associates, Inc., 341 Madison Ave., New York. MU 3-1267. Charles Harrison heads up radio and television activities. Agency presented a "Cavalcade of Corsets" in March 1945 over WABD for the Diana Corset Co., using properties loaned by the Brooklyn Museum. Producer: Television Workshop. Future plans awaiting greater development of the medium.

Henri, Hurst & McDonald, Inc., 520 N. Michigan Ave., Chicago. SUP 3000. David W. Dole, associate radio director, in charge of television. Initial activity was production of a three-and-one-half-minute film and disc, national spot, cartoon commercial on behalf of Red Heart Dog Food, over WBKB. This spot, result of belief in agencies' responsibilities in commercial field versus stations' problems in program field, was designed to relieve harassed studio managers' problems by supplying a projection-and-sound-room-only spot for use in a program schedule, between live shows. Production of spot was gauged economically to pay off on estimate of commercial postwar operation in minimum of ten markets. Produced "Look at the News" in June 1945 over WBKB, for Acme Newspictures. Used stage-like presentation operated by a puppet, Johnny Acme. Pictures featured the life of General Hodges. Current news was also featured.

Agency feels that commercial television is close, and is considering the medium in its planning for advertisers.

Charles W. Hoyt Co., 551 5th Ave., New York. MU 2-0850. W. P. Smith, director of radio, will handle television activities. Agency is awaiting further development before entering the field.

H. B. Humphrey Co., 420 Lexington Ave., New York. MU 5-0993. H. B. Humphrey, Jr., vice-president, is in charge of television activity. Presented half-hour production, May 23, 1944, for Helena Rubinstein, WABD.

Duane Jones Co., 570 Lexington Ave., New York. PL 3-4848. Walter Ware, in charge of television. Agency is studying production problems and working up several commercial experiments. These productions will be handled as an agency assignment, with clients brought in as proficiency is achieved.

Kaplan, Siesel & Bruck, 424 Madison Ave., New York. PL 8-1254. (See Westheimer & Co. under *Agencies.*)

The Joseph Katz Co., 444 Madison Ave., New York. WI 2-2740. Allen J. DeCastro is vice-president in charge of radio and television. The agency is experimenting but has no programs planned at present.

Keelor & Stites Co., 3001 Carew Tower, Cincinnati. PA 1310-11-12. Sam Malcolm Levy, vice-president, is radio and television director. Agency presented a 30-minute, live talent and film program for Fashion Frocks, Inc., in September 1944 over WABD. Producer: RKO Television Corp.

Kenyon & Eckhardt, Inc., 247 Park Ave., New York. PL 3-0700. William B. Lewis, vice-president and radio director, heads television activity. On March 1, 1944, agency presented 15-minute variety program in behalf of Richard Hudnut for the Du Barry Salon, at WABD. Agency plans experimental work in live and film television shows.

Abbott Kimball Co., Inc., 250 Park Ave., New York. PL 3-9600. Cecil H. Hackett, vice-president and head of radio department, is in charge of television activity, assisted by Miss Miriam Traeger and Miss Martha Pencilla. Early in 1944 agency produced six programs for Dobbs Hats, *Harper's Bazaar* and a number of products of other clients, including Queen Make dresses and Marvella pearls. The half-hour programs on WABD combined style shows and variety entertainment. On March 11, 1945, agency presented a half-hour fashion show for Gimbel Bros., Inc., over WNBT-WRGB network. The show featured Adelaide Hawley. Plans to continue experimental work from time to time.

Arthur Kudner, Inc., 630 5th Ave., New York. CI 6-3200. Myron P. Kirk, radio director, handles television. Agency is studying and working with the field. Plans not ready for announcement.

Al Paul Lefton Co., Inc., 521 5th Ave., New York. VA 6-4340. S. Carl Mark, radio director, in charge of television. Agency started in television March 1943. Produced one-act, 30-minute, live talent dramas for Rival Dog Food and No Mend Hosiery at WABD. Rival commercial employed a live dog accepting Rival and rejecting other unnamed brands. No Mend commercial used Powers models to display five different No Mend stockings. On Dec. 20, 1944, presented a 30-minute dramatic telecast for Loft Candy. Dramatized commercial featured children. On May 1, 1945, presented "The History of Shaving, or The Care and Feeding of Whiskers," for Pal Blade Co., Pal Hollow-Ground Razor Blades, over WABD. Program, one long commercial in substance, portrayed shaving through the ages from a comic point of view.

Future activity of agency depends on availability of personnel and unusual program ideas.

Marschalk & Pratt Co., 535 5th Ave., New York. VA 6-2022. John R. Allen heads television activities. Produced television's first specially prepared, commercially sponsored series of programs: "Your Esso Reporter," for Standard Oil Co. of New Jersey, promoting Esso Extra and Esso Motor Oil on WNBT. Live talent and film were combined in 10-minute news programs. In 1945, for Esso Marketeers over WNBT, presented the Eisenhower receptions, V-J Day celebrations, Charles de Gaulle and Gen. Wainwright arrivals. Also a 30-minute film, "Oil for Tomorrow," over WABD. Plans a regularly scheduled series of news telecasts.

J. M. Mathes, Inc., 122 E. 42nd St., New York. LE 2-7450. William H. Vilas, director of motion pictures, heads television. Agency is primarily interested in filmed programs, is doing experimental work, and plans to enter television actively when a mass audience is available. Has presented filmed spots for Spur, a Canada Dry product, over WABD.

Maxon, Inc., 570 Lexington Ave., New York. EL 5-2930. Ed Wilhelm, radio executive, heads television activity. On Sept. 8, 1944, commenced a series of boxing bouts in behalf of Gillette Safety Razor Co., Boston, over WNBT. Bouts are presented twice a week during boxing season from Madison Square Garden and St. Nicholas Arena. Agency is also working with General Electric Co. on various programs.

The Gillette series has been renewed for another year and agency plans to continue in this field.

McCann-Erickson, Inc., 50 Rockefeller Plaza, New York. CI 5-7000. Lloyd Coulter, vice-president in charge of radio, heads television. Before the war, agency produced programs for Standard Oil Co. of New Jersey and one other client. Recently, under the direction of George Pal, of Paramount Pictures, this agency has produced a technicolor film for television, sponsored by Gruen Watch Co. Plans to hold off active work until conditions in the field improve.

McJunkin Advertising Co., 228 N. LaSalle St., Chicago. STAte 5060. Leroy Kling, vice-president, arranged for Chef Boy-Ar-Dee Quality Foods, Inc., to sponsor four of the American Broadcasting Co., audience participation series titled "Ladies Be Seated." These were presented May 13, 20 and 27, and June 3, 1945, over WRGB, and were intensively merchandised in a large promotion booklet capitalizing on the televising of the product. Future plans indefinite.

Dan B. Miner Co., Chamber of Commerce Bldg., Los Angeles. Richmond 3101. Roy Dempsey is television producer. Presented half-hour dramatic program, May 14, 1945, for Johansen Bros. Shoe Co. (St. Louis), in behalf of Anfenger Advertising Agency (St. Louis) over W6XAO (Don Lee), Hollywood. Program combined film with live talent. Shoe commercial was integrated into a love story.

Moser & Cotins New York City Corp., 420 Lexington Ave., New York. MU 3-9138. John A. Drake, director of radio, in charge of television. No immediate plans.

Newell-Emmett Co., 40 E. 34th St., New York. AS 4-4900. Edward Franklin is in charge of television activities. Ransom P. Dunnell is television producer. Started television activity in 1943 with idea of integrating commercial with dramatic script. Produced the following live shows on WABD: one-hour variety for Kirkman & Son; one-half hour dramatic for Proctor Electric Co.; 45-minute musical for Liggett & Myers, combining live talent with film.

Plans to continue on experimental basis.

Paris & Peart, 370 Lexington Ave., New York. CA 5-9840. A. C. De Pierro, media director, handles television. Agency does not plan to enter television actively until it becomes a mass medium influential in the sale of packaged foods.

Pedlar & Ryan & Lusk, Inc., 250 Park Ave., New York. PL 5-1500. E. G. Sisson, director of radio, heads television. Though agency has not been active to date, it plans to begin television operations early in 1946. At present, television studies are being made in connection with radio clients.

Pettingell & Fenton, Inc., 247 Park Ave., New York. EL 5-2685. Charles B. Strauss, radio executive, in charge of television. No immediate plans.

Picard Advertising Co., 250 W. 57th St., New York. CO 5-4121. R. B. Tucker, radio director, will supervise television work. Agency has been associated with television technically for many years and has an electronic engineer on its staff. No programming plans at the moment.

Reiss Advertising, 221 W. 57th St., New York. CO 5-7733. Miss Gladys Kamer, radio and television director. On Aug. 2, 1943, began a series of 21 telecasts over WABD in behalf of Press-On, Inc., mending tape. Emphasized product demonstration. Used a puppet to enliven commercials. Press-On's series, "Hobby Hall of Fame," comprised 30-minute programs. Reiss also handled series of 13 30-minute programs, "Interesting People," for Ben Pulitzer Creations, Inc., neckwear. Shows produced by Television Workshop.

Rickard & Co., 330 W. 42nd St., New York. BR 9-1251. H. H. Sharman, director of media, will handle television. As this agency specializes in industrial accounts, it has no immediate television plans but is watching the medium's potentialities for public relations work.

Ruthrauff & Ryan, Inc., 405 Lexington Ave., New York. MU 6-6400. Leland F. Cooley, supervisor of daytime radio, is director of television. Ted Huston directs. Agency produced first program for Lever Brothers Co., Nov. 15, 1943. The weekly, half-hour program, "Wednesdays At Nine," over WABD has continued ever since. Three Lever products are promoted, one each week; Rinso, Spry and Lifebuoy Soap. Program uses live talent for the most part, but also employs film. Is experimenting with drama, comedy, music, variety, fashion and audience participation. Fran Harris, handling television at the agency's Chicago office produced a show for Acrobat Shoe Co. at WBKB in October, 1945.

St. Georges & Keyes, Inc., 250 Park Ave., New York. PL 3-6920. Victor Van Der Linde, television director. Has three clients interested in television. Work has started on three 15-minute shows, later to be expanded to a series, along industrial educational lines. Agency has completed a 15-minute commercial film and is experimenting with six 1-minute and six ½-minute commercial films. A half-hour live show, first of a series, is also in preparation.

Schwimmer & Scott Advertising Agency, 75 East Wacker Drive, Chicago 1, Ill. DEA 1815. Fred Vossee, account executive for Esquire, Inc., publisher of *Esquire* and *Coronet*, arranged with American Broadcasting Co., for the filming of the annual *"Esquire* All-American Boys Baseball Game" for young boys, East *vs.* West. This film was televised over WABD, WRGB and WPTZ on August 30 and 31, and September 3. Agency's future television plans not ready for announcement.

Alfred J. Silberstein-Bert Goldsmith, Inc., 9 E. 40th St., New York. MU 3-6232. Bert Goldsmith, vice-president, is director of television. In 1940, agency produced animated cartoon weather forecasts for Botany Worsted Mills. They were initially presented on WNBT, later at WABD, and currently are aired over WNBT.

Small & Seiffer, Inc., 24 W. 40th St., New York. WI 7-8764. Agency has presented a series of commercial shows for Arrid; plans to continue them in January. No member officially in charge of television.

Charles M. Storm Co., Inc., 50 E. 42nd St., New York. MU 6-2820. Raymond E. Nelson, vice-president, is head of television. Started television activity on Jan. 5, 1944, over WABD. Is experimenting with all types of television programming, including dramatic, variety, musical, fashion, educational, demonstration and spot news presentations. Programs, varying from 30 minutes to two hours, have been presented for Tintex (25 times), Park & Tilford (3 times), Alfred Dunhill of London, Casual Clothes, Inc., *Click, Official Detective Story Magazine. Real Story Magazine,* and Fawcett Publications (*Mechanix Illustrated*). Produced programs for the U. S. Army, Red Cross and Fat Salvage campaigns. Presented a three-hour, spot news show on presidential election night. On Sept. 28, 1944, presented "The Boys from Boise," an original two-hour musical comedy for *Esquire*. Believes key to television program success is showmanship. Agency keeps file of audience responses, photographs and log book for future reference and guidance.

J. Walter Thompson Co., Inc., 420 Lexington Ave., New York. MU 3-2000 Robert M. Gillham, vice-president in charge of television and films. Norman Rosen, television director. Agency produced a 10-minute live dramatic program over WRGB for Libbey Glass Division, Owens-Illinois Glass Co., in behalf of stemware. Also produced a 15-minute, live, dance music program over WABD and WRGB, for the National Peanut Council. Presented a 1-hr. demonstration of blood plasma manufacture in Sept. 1943 at WRGB in collaboration with the Red Cross and Reichel Laboratories, Philadelphia. Promoted fabrics for Textron, Inc., in a 20-minute live program over WRGB; in addition, "What's New?" for Shell Oil Co.; a dramatic program for Buxton, Inc.; and a show for the Association of American Playing Card Manufacturers, over the same station. While Don McNeill and his "Breakfast Club" radio program were in New York on a Bond tour, an audience participation-entertainment program for Swift & Co. was televised, based on format of the "Breakfast Club," over WABD. On March 26, 1945, agency inaugurated a weekly film-travelog series for Pan-American World Airways System over WNBT.

Tracy, Kent & Co., 515 Madison Avenue., New York. EL 5-4404. Beth Crotty, radio and television director. Agency's radio department is engaged in television research and expects to have many types of television shows ready for its clients in the near future.

Wade Advertising Agency, 208 W. Washington St., Chicago 6, Ill. State 7369. W. A. Wade, account executive for Miles Laboratories, Inc., maker of Alka-Seltzer and 1-A-Day Vitamins, handled "Quiz Kids Show," an adaptation of the radio show of the same name, presented March 6 at WABD. Producer: American Broadcasting Co.

Warwick & Legler, 230 Park Avenue, New York 17, N. Y. MU 6-8585. Tevis Huhn, radio director, handled television show for George W. Luft Co., maker of Tangee Cosmetics. Filmed the Miss America beauty pageant at Atlantic City in cooperation with the American Broadcasting Co. and televised it over WABD, WRGB and WPTZ, September 11, 12 and 14, 1945, together with personal appearances of the winner, Miss Bess Myerson.

Norman D. Waters & Associates, Inc., 1140 Broadway, New York. CA 5-7430. Norman D. Waters, president, heads television activities. Adrienne Sickel, fashion director, assists. Agency has staged experimental television programs since 1941. Has produced fashion shows, ballets, operettas, dramas, educational and variety programs at WABD. Agency has presented shows in behalf of Daly Bros. Shoe Co., for Air-O-Magic shoes for men; Industrial Undergarment Corp., for Stardust slips, blouses and underwear; Luxuray Corp., for Dove Skin Knit Undies; Felix Tausend & Sons, for Cel-o-sheen table cloths; Black, Starr & Gorham; Herbert Mfg. Co., fabrics; Augusta Knitting Corp., men's underwear; and Huffman Hosiery Mills for Flatternit stockings. Shows produced by the Television Workshop.

Plans to continue television experimentation and increase activity as development of the medium warrants.

William H. Weintraub & Co., 30 Rockefeller Plaza, New York 20. CI 7-4282. Theo. Gannon, director of radio productions, is in charge of television. Agency is interested in television but has no immediate plans.

Westheimer & Co., 315 N. 7th, St. Louis 1. GA 4080. W. H. Mullgardt heads television activities. Agency started in television in August 1944, over WABD, New York, with programs for International Shoe Co., in behalf of Winthrop Shoes, for men; Queen Quality Shoes, for women; and Red Goose shoes, for children. Agency develops ideas for, and approaches to television commercials, leaving production of story material in hands of a television producer. In conjunction with Kaplan, Siesel & Bruck, New York, presented Frank Fay in a variety program, January 1945, on WABD, in behalf of Bit O' Honey and Old Nick Candy Bars, for Schutter Candy Co. Bud Gamble produced some of the shows. Agency plans to continue with television experimentation.

Young & Rubicam, Inc., 285 Madison Ave., New York. AS 4-8400. William E. Forbes is manager of television department. Agency produced a series of 12 half-hour programs for Sanforized division (Cluett, Peabody & Co., Inc.) every other week on WABD. Titled "Fashions, Coming and Becoming," the program employed a fashion news format to promote the Sanforizing process.

Agency plans to continue experimental television with interested clients.

PRODUCERS

Advance Television Pictures Service, Inc., 729 Seventh Ave., New York. BR 9-5600. Chas. A. Alicoate, president; F. E. Miles, secretary-treasurer. Production of film programs, stock film library, cutting rooms, private projection theatres, and film distribution service for television stations.

Doug Allan, 56 W. 45th St., New York. MU 2-0178. Producer of "Thrills and Chills with Doug Allan" over WABD. Now in its fifth year, this program has invariably held top ratings since it first started on WNBT in August, 1941. Doug Allan interviews explorers and adventurers and together, via motion pictures, they take the audience on visits to far places. These interviews have provided the material for several books: "Lightning Strikes Once," "Gamblers with Fate" and "One Step to Eternity."

American Broadcasting Co., Inc., 33 West 42nd St., New York. WI 7-1737. Paul B. Mowrey, manager of television. Harvey Marlowe, consultant producer. On Feb. 25, 1945, ABC began its television operations at WRGB with an adaptation of the radio show, "Ladies Be Seated" and scored the highest audience rating of any show ever staged at Schenectady. Presented this show four times for Chef Boy-Ar-Dee Quality Foods, Inc. in cooperation with McJunkin Advertising Co. Presented Don McNeill's "Breakfast Club" at WABD for Swift & Co., in cooperation with J. Walter Thompson Co. Produced "Letter to Your Service Man" for John David, Inc. Presented "Quiz Kids" for Miles Laboratories in cooperation with Wade Advertising Agency. Presented a special memorial program at WRGB on the death of President Roosevelt. Set up a film unit for coverage of special events and presented a V-E Day program at WABD; produced time breaks on V-E Day for Waltham Watch Co., in cooperation with N. W. Ayer & Son; covered the "*Esquire* All-American Boys Baseball Game" for Schwimmer & Scott; covered the Miss America Pageant in Atlantic City for Tangee cosmetics in cooperation with Warwick & Legler. Airs most special events over three stations — WPTZ, WABD and WRGB. Presented John Reed King's "Record Shop" for 13 weeks at WRGB. ABC plans to continue working closely with agencies and clients in order to develop a practical system of television economics. Shares production costs with sponsors in cooperative programs.

Associated-Radio-Television Producers, 11 West 42nd St., New York. LO 5-3710. Jay E. Kashuk, president; Lew Kashuk, vice-president and secretary; Robert Jay Fox, treasurer. Radio and television productions. Syndicated and custom-built transcriptions of spot announcements, singing commercials, also live and transcribed programs. Production of television films.

D. Eleanor Balz, 132 E. 36th St., New York 16. MU 4-9014. Produced and directed shows for WRGB in 1943-44. Was production supervisor and motion picture film manager at WABD in 1944-45.

Basch Radio Productions, 17 East 45th St., New York. MU 2-8877. Charles J. Basch, Jr., sales manager. Jay Strong, television director. Ideas, scripts, talent and production on live and transcribed programs; films and recordings.

Cinetronics Corp., 106-8 West End Ave., New York. WA 9-4747. Joseph Seiden, president. Maurice Dichter, vice-president. Harold H. Seiden, treasurer. Motion picture film producers for television, specializing in commercial documentaries. Has presented films over WRGB and WABD, and produced films in cooperation with the International Motion Picture Co. and the American News Studio.

Cine-Television Studios, 25 Vanderbilt Ave., New York 17. MU 5-2874. Fred Fiddler, president. Nathan Levins, chairman of the board. Facilities for live talent television rehearsals (3800 sq. ft. studio). Equipment includes dark room, projection apparatus and animation devices. Specializing in producing 16 mm. telefilm for television and creating visual symbols for television trade marks.

Colonial Film Productions, 11520-2 Washington Boulevard, Culver City, Calif. Associated with Pan-A-Pictures. Headed by Charles B. Brown and Colin McDonald. Organized late in 1945 to produce, book and distribute motion pictures for television, minute movies. Jack McCoskey is live action producer.

Ted Collins Corporation, 1819 Broadway, New York. CI 7-0094. Ted Collins, president and producer. Sam Schiff, talent and production. Program building and producing.

Patrick Michael Cunning Productions, 6530 Sunset Blvd., Hollywood, Calif. Hillside 5915. Patrick M. Cunning in charge of production. Marcia Drake, assistant to producer. San Francisco office: Mark Hopkins Hotel. Armand Piaggi, executive in charge. Georgia O'Davoren, assistant on production. Producers of radio and television programs, transcriptions and television motion pictures.

Jimmy Daley, 1650 Broadway, Suite 405, New York. CI 7-6883. Program ideas, casting, producing, booking. Has produced many sustaining shows for WRGB.

Bud Gamble, 129 East 58th St., New York. PL 3-3836. Television program consultant, Farnsworth Television & Radio Corp. Currently producing independently and with Loewi-Gamble Television Productions. In cooperation with Anderson, Davis & Platte, Inc., he has produced 20 half-hour programs, comprising film and live talent, for Alexander Smith Carpet Co., over WABD. Has produced WABD programs for International Shoe Company's Red Goose shoes, Queen Quality shoes and Winthrop shoes in cooperation with Westheimer & Co., St. Louis. Also WABD shows for Schutter Candy Co., and Ben Pulitzer Co. With Bob Loewi, produced "Laughtime" for WCBW.

Thomas H. Hutchinson, 16 Ervilla Drive, Larchmont, N. Y., started his television activities in 1936. He has served as television program manager for NBC, television director for Ruthrauff & Ryan, and production manager for RKO Television. Mr. Hutchinson plans to set up an independent agency for television production, direction and counsel.

Eleanor Lambert, Publicity, 598 Madison Ave., New York. PL 5-8580. Has handled shows at WABD for Everfast Fabrics, Gotham Hosiery, Coty, Esther Dorothy Furs and New York Dress Institute. Is interested in developing a technique for fashion presentations.

Don Lee Productions, 5515 Melrose Ave., Los Angeles, Calif. Hollywood 8111. Clifford C. McDonald, recording supervisor. Program production and recording.

Glorianne Lehr, Great Neck, L. I. Commenced television production in September 1943. Has produced 40 programs. Includes among her clients: I. J. Fox, Everfast Fabrics, Inc., New York Dress Institute and Gotham Hosiery. Presented eight half-hour programs over WABD in cooperation with Abbott Kimball Co., Inc. for this agency's accounts. Has produced programs in cooperation with Kenyon & Eckhardt, Inc. for Hudnut and DuBarry Success School. Advertisers promoting merchandise (on a participating basis) in her programs include: Georg Jensen, Inc., Lilly Dache, Arpad Stern's accessories, Saks Fifth Avenue, Lanz Fifth Avenue, Lord & Taylor, Revlon, Ogilvie Sisters, Oshkosh luggage, I. Miller shoes, Alice Maynard sweaters, Alfred Dunhill-Mary Dunhill, John-Frederics hats and accessories, International Dress Co., Coty Salon, *Click*, *Collier's*, *Mademoiselle*, *Vogue* and *Harper's Bazaar*. Miss Lehr acts as commentator or narrator in many of her shows.

Bob Loewi, 515 Madison Ave. (WABD), New York. PL 3-9800. Produces independently and with Loewi-Gamble Productions. Handles "The 'Ike' on Sports" and other sustaining programs for WABD. Is currently producing a series titled "At Ease" for Ben Pulitzer Creations over WABD; also "Laughtime" over WCBW.

George Lowther, Roundhill Road, Scarsdale, N. Y. Scarsdale 3649. Independent radio and television writer-director-producer. Writes and directs Guy Lombardo radio show and Tom Mix radio show. Wrote and produced "Cathedral," "Submarine," "The Store Window" and other television originals for WABD in 1945. Produced special versions of "Dickens' 'Christmas Carol'" for WABD on Christmas Eve in 1943 and 1944.

Harvey Marlowe is currently consultant producer for American Broadcasting Co., 33 West 42nd Street, New York. Has produced television programs since 1943, independently and for WOR at WABD. Has been associated with the following American Broadcasting Co. programs over WRGB and WABD: "Don McNeill's Breakfast Club," "Quiz Kids," "On Stage Everybody," "Woman of Tomorrow," "Kiernan's News Corner," "Letter to Your Serviceman," and special V-E Day and V-J Day shows.

William B. McGrath, 501 Madison Ave., New York. PL 3-3300. Heads up a package-show production group of producers, writers, directors and actors. As television director of WNEW, he has created and produced a half dozen shows at WABD.

William Morris Agency, Inc., 1270 6th Ave., New York. CI 7-2160. Executive-in-charge-of-radio: William B. Murray. In charge of television: Miss Selma Lee. Branch Offices: *Chicago*—203 N. Wabash Ave. Wallace Jordan, executive-in-charge. State 3632. *Beverly Hills, Calif.*—202 N. Canon Drive. George Gruskin, executive-in-charge. Crestview 1-6161. *Cleveland* — Keith Bldg. Pat Lombard, executive - in - charge. Main 1525. Production of package shows and talent for radio; suggestions and talent for package television shows. Primary interest is representation of attractions.

Motion Picture Networks, 25 Vanderbilt Ave., New York. MU 5-2874. Films for telecasts. (See Cine-Television Studios.)

Music Corporation of America, 745 Fifth Ave., New York. WI 2-8900. Vice-presidents: David A. Werblin, A. Bart McHugh, Charles Miller. Harold Hackett, vice-president and radio director. Roger Carlin, head of television department. Branch Offices: *Chicago*—430 N. Michigan Ave. Maury Lipsey, manager. Delaware 1100. *Beverly Hills, Calif.*—MCA Bldg., J. C. Stein, president. Taft Schreiber, vice-president. Bradshaw 2-3211. *Cleveland* — Union Commerce Bldg. DeArv G. Barton, manager. Cherry 6010. Production, package shows and talent for radio and television.

National Concert & Artists Corp., 711 Fifth Ave., New York. PL 3-0820. Alfred H. Morton, president. O. O. Bottorff, Marks Levine and Daniel S. Tuthill, vice-presidents. Thomas Reilly, secretary-treasurer. Branch Offices: *Chicago* — Merchandise Mart. Sam Harrington, manager. Superior 4042. *Los Angeles* — Sunset at Doheny. Helen Ainsworth, manager. Crestview 1-7121. *San Francisco* — 111 Sutter St. Alexander Haas, executive-in-charge. Program production, talent, management.

Ray-Tele, Inc., 604 Fifth Avenue, New York. BR 9-5365. Allen Kaye Martin, president. Package shows, electrical transcriptions, and talent.

Richman-Sandford Productions, 10 East 43rd St., New York. MU 2-2044. Bill Richman and Ed Sandford, owners. Doris Colby, personnel director. Howard T. Longfellow, research director. Ed Sandford, supervisor and director. Bill Richman, supervising writer. Hal Levey, music director. Radio and television program production.

RKO Television Corp., 1270 Sixth Ave., New York, is a subsidiary of Radio-Keith-Orpheum Corp. CO 5-6500. Frederic Ullman, Jr., president of Pathe

News, Inc., is president. Ralph B. Austrian is executive vice-president. RKO Television was formed in June 1944 to provide a program-building service for television entertainment sponsors. Produced a fashion show for Fashion Frocks, Inc., of Cincinnati, over WABD for Keelor & Stites Advertising Co. in Sept. 1944. Produced a movie short, expressly for television, "Talk Fast, Mister," for Liberty Mutual Insurance Co., in cooperation with Batten, Barton, Durstine & Osborn, Inc., which was shown on WABD on Dec. 11, 1944, and later on the NBC-GE television network. Started a weekly series of five-minute programs in behalf of R. H. Macy & Co. on Jan. 3, 1945; a shopping service called "Tele-Shopping with Martha Manning." (Has concluded 24 weeks of this program.) Covered the 1944 Republican and Democratic conventions in Chicago by film, which was flown to New York for showing on WNBT. Made a three-reel picture for each convention covering political history of each party, which was telecast in conjunction with its respective convention pictures. Filmed V-E Day activities in New York for American Broadcasting Co., with showings the same night over WABD. Also covered the San Francisco Conference by film for WNBT. Plans to open a large modern motion picture studio in Manhattan to film television programs for sponsors and agencies.

Ross Federal Service, Inc., 18 E. 48th St., New York. PL 3-6500. Harry A. Ross, chairman of the board. Earl Hammonds, president. D. A. Ross, general manager. W. E. McKee, in charge of television. Thirty-one branches throughout country. Television film exchange and distributing service.

Henry Souvaine, Inc., 30 Rockefeller Plaza, New York. CI 7-5666. Russell E. Dill, general manager. Executives and producers: Henry Souvaine, Max Chopnick, Archibald U. Braunfeld, Geraldine Souvaine, Harry W. Hoff, Jr., Frank Phares, Harold V. Milligan. Live and transcribed package shows for radio and television. Scripts, production, and public relations consultants.

Telecast Productions, Inc., 101 Fifth Ave., New York 3. AL 4-4300. Myron Zobel, president. E. A. Freeman, secretary. William S. Greene, Jr., treasurer. Package shows for radio and television.

Televised Sports, Inc., 271 Madison Ave., New York 16. MU 5-7880. Don Spencer, president. Represents colleges and universities in negotiations for the sale of television and film rights to sports events.

Television Associates, Inc., 190 N. State St., Chicago, Ill. Franklin 5025. Charles L. Collette, president. Chester C. Woolridge, vice-president. E. C. Upton, secretary-treasurer. Service organization to the television industry, particularly in the promotion of Bill Eddy television gadgets and tools.

Television Enterprises, Inc., 9130 Sunset Blvd., Hollywood 46, Calif. Crestview 6-6241. John W. Swallow, president. Commercial advertising films for television and theatres.

Television Film Industries Corp., 340 Third Ave., New York. LE 2-6780-1-2-3. George H. (King) Cole, president. Complete film service for television stations and sponsors.

Television Motion Pictures Co., 630 Ninth Avenue, New York. CI 6-6417. Affiliate of Hollywood Pictures Corp. Jack Goldberg, president. D. E. Roberts, production manager. Ed Hurley, publicity. Has produced twenty 3-minute films for television. Stars include Lena Horne; Ammons and Johnson, piano duet; Ted Williams and Leo Reisman.

Television Trade Marks, Inc. Corporation consists of Kent-Johnson (Allan Kent and Ginger Johnson, the singing commercial team). 34 W. 53rd St., New York, and Bond-Charteris Enterprises, 314 N. Robertson Blvd., Hollywood. Leslie Charteris, author of "The Saint" stories, and Anson Bond put their film studio and facilities to work on Army education films and Signal Corps documentaries during the war, and have since concentrated on art education shorts and religious features. Kent-Johnson handles creative end of television commercial shorts—music, lyrics and gimmicks. Bond-Charteris handles the production end of films. Program for Gruen Watch Co., produced in cooperation with McCann-Erickson, will be broadcast at WCBW. Most films will be of 1-minute duration, using hand-carved puppet animation, each individual short averaging $10,000 per minute. Planning development of station call letter designs and network identification film shorts.

Television Workshop, 11 West 42nd St., New York. LO 5-1683. Irwin A. Shane, executive director. Commenced television production in April 1942, on WNBT. Starting October 27, 1943, produced "The Hobby Hall of Fame," 13-week series for Press-On Mending Tape, through Reiss Advertising Agency, on WABD. In January 1944, produced a second 13-week series, "Interesting People," featuring interesting and famous personalities, for Ben Pulitzer Ties. A third series, for 13 weeks, sponsored by Durez Plastics, in April 1944, was titled "Designs for Tomorrow," and featured leading industrial designers. Since August 11, 1944, the Workshop has produced two programs per month for WRGB. These shows included dramas, comedies, light opera and mystery plays. Has presented programs for Gimbel Brothers, Philadelphia; McCreery's, New York; and B. Gertz, Jamaica, L. I. Produced ten programs for ten different clients of Norman D. Waters & Associates. The Television Workshop, through its affiliate, Television Publications, publishes *Televiser* and *Tele-Viewer.*

Lee Wallace Teleshows, 56 East 53rd St., New York. EL 5-6794. Executive producer: Lee Wallace. Directors: Bob Emery and Ernest D. Glucksman. Formed 1945 to produce package shows for television—musicals, consumer quiz, sports, headline dramas, 1-minute time and weather announcements. Nationally represented by Wm. Morris agency.

West Coast Sound Studios, Inc., 510 W. 57th St., New York. CI 7-2062. Telemovies.

WNEW, 501 Madison Ave., New York, is owned by Greater New York Broadcasting Corp. PL 3-3300. William B. McGrath is television director. WNEW presented half-hour public service television programs over WABD every third Sunday for several months. Station has adapted radio shows for television to find out what principles are involved in video presentations; is training its own staff of writers, production men, directors and engineers.

WOR, Mutual Broadcasting System, 1440 Broadway, New York. PE 6-8600. Bob Emery heads television activities. Kay Emery (Mrs. Emery) assists in production. WOR commenced television experiments in July 1943 with a weekly hour on WABD and continued until the summer of 1945. Has experimented with all types of television production, including musicals, minstrels, drama, variety, audience participation and educational programs. Recently formed a permanent stock company of stage performers for regular presentation of plays. Company has extensive plans for operating its own television stations and studios.

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STATION ACTIVITIES

WABD, 515 Madison Ave., New York 22. PL 3-9800. Owned and operated by Allen B. DuMont Laboratories, Inc. Commercially licensed; also retains experimental license W2XWV. Allen B. DuMont, president; Leonard F. Cramer, executive vice president; Samuel H. Cuff, general manager; Robert F. Jamieson, assistant manager; Milton J. Alexander, advertising manager; Philip Fuhrmann, sales manager; Louis A. Sposa, program service manager; Salvatore Patremio, chief engineer.

WABD (formerly W2XWV) has been on the air almost every week since June 25, 1942. It was the first station to invite advertising agencies and advertisers to share its facilities and produce experimental programs for the purpose of developing programming and commercial techniques in the new medium. The first commercial shows were presented on May 5, 1943 in behalf of Adam Hat Stores and Butterick Patterns.

Advertising agencies and advertisers who have presented shows at DuMont's station include: Charles M. Storm for Tintex, Hillman Publications and Park & Tilford; Reiss Advertising for Press-On, Inc.; Cecil & Presbrey for Boots Aircraft Nut Corp.; Ruthrauff & Ryan for Lever Bros.' Rinso, Spry, and Lifebuoy Soap; Al Paul Lefton for Rival dog food, Loft Candy Corp. and Pal Blade Co.; Kenyon & Eckhardt for various lines of fashions and cosmetics; Compton Advertising for Duz, Ivory soap and Mobiloil; Benton & Bowles for Post-Tens cereal; Newell-Emmett Co. for Chesterfield cigarettes and Proctor Electric Co.; Abbott Kimball for several fashion and cosmetic lines; J. Walter Thompson Co. for National Peanut Council; Alfred J. Silberstein-Bert Goldsmith for Botany Worsted Co.; Anderson, Davis & Platte for Alexander Smith & Sons Carpet Co.; Buchanan & Co. for Chicago Mail Order Co., Adam Hats and sustaining shows for DuMont; Young & Rubicam for Sanforized; Campbell-Ewald Co. for U. S. Rubber Co.; American Institute of Food & Home Products for various food brokers; Marschalk & Pratt for Esso Marketeers. In addition, the American Television Society, WOR, WNEW, Television Workshop, RKO Television and American Broadcasting Co., have made extensive use of WABD facilities.

DuMont's future plans include active cooperation with advertising agencies and their clients. Transformation of the great John Wanamaker Auditorium and adjoining space into a "television showplace" will be completed about February 1. This expansion provides WABD with an additional 4-camera television studio, 50′ x 60′ with a 50′ ceiling and viewing balcony accommodating 700 guests; a 3-camera studio, 34′ x 35′, and a 2-camera studio, 20′ x 38′. Programs will be interchanged with DuMont's Washington, D. C. station early in 1946, thereby setting up a first leg of DuMont's proposed network.

WABD's most successful shows, as indicated by audience return cards, have been audience participation shows (John Reed King—"Thanks for Looking"), adventure shows (Doug Allan—"Thrills & Chills") and newscasts (Sam Cuff—"Face of the War").

WBKB, 190 North State St., Chicago. Randolph 5300. Owned and operated by Balaban & Katz Corp. Commercially licensed. Capt. William C. Eddy, who commanded "Radio Chicago", huge Navy radio and radar school, has returned as television director. Warren Jones is program director; A. H. Brolly, chief engineer; Herbert T. Lyon, publicity director.

First on the air in 1940 under Capt. Eddy's direction, WBKB during the war turned most of its facilities over to the Navy's radar training program; presented many shows promoting Navy radar recruiting and war bond sales.

WBKB handles sponsored programs directly. Commonwealth Edison presents a weekly quiz show, "Telequizicalls," and earlier sponsored "Cooking by the Dial," and an every-other-week comedy drama, "Welcome to the Walkers." Marshall Field & Co. sponsors a weekly variety show, "Wednesday Matinee." Admiral Radio presents "Young Chicago," a program for discovering and displaying high-school talent with a future in television. Elgin National Watch Co. offers a 3-minute time signal. The Fair, Carson, Pirie, Scott & Co. and others are also clients.

The station will continue testing new ideas in news presentation, drama, variety, etc., in anticipation of large-scale television. Sponsors are invited to experiment under the station's guidance.

WCBW, 15 Vanderbilt Ave., New York, owned and operated by Columbia Broadcasting System, Inc. MU 6-6340. Commercially licensed. Transmitter in tower of Chrysler Bldg. Lawrence W. Loman is vice-president in charge of television; Worthington Miner, manager of television; Dr. Peter C. Goldmark, director, department of research and development; Ben Feiner, Jr., assistant director, television programs; George Moskovics, commercial manager.

Columbia first went on the air with a regular television schedule from July 1931 to February 1933, using a scanning method called the "flying spot." On Sept. 3, 1940, Columbia demonstrated the first 3-color process (developed by Dr. Goldmark) for television transmission within a 6 megacycle band. On July 1, 1941, WCBW began black-and-white telecasts on a 15-hour weekly schedule and tested many basic program formats: news, quiz shows, variety, open-forums, sports (with a studio audience), ballet. At the FCC's suggestion live operations were reduced to four hours a week from June 1 to Nov. 27, 1942. After a wartime suspension, live program transmission was resumed on May 5, 1944 and has continued on a 4-hour-a-week schedule since. WCBW has received awards for excellence in presenting the news, "The Missus Goes A-Shoppin'" and "Opinions on Trial."

Since July 16, 1945, CBS has invited commercial sponsors and agencies to participate in experiments with television program production. Benrus and Bulova watches sponsor spot commercials; Encyclopedia Britannica Films cooperates with WCBW on an educational series, and Lever Bros. presents a group of programs.

Columbia lists the following programs in order of favorable public acceptance: 1—The news; 2—"The Missus Goes A-Shoppin'" (audience participation); 3—"At Home" (informal variety program); 4—"There Ought to Be a Law" (open forum discussion). Columbia believes many of its single shows, particularly dramatic programs, have been effective, but finds it difficult to substantiate audience acceptance unless a series following a regular format is presented.

WNBT, 30 Rockefeller Plaza, New York. CI 7-8300. Owned and operated by the National Broadcasting Company. Commercially licensed. Transmitter is located in tower of Empire State Building. John F. Royal, vice-president of NBC in charge of television; Noran F. Kersta, manager of the television department; O. B. Hanson, vice-president and chief engineer; John T. Williams, business manager; Reynold R. Kraft, sales manager.

Experimental station W2XBS (WNBT's predecessor), "The Nation's Pioneer Television Station," was licensed on July 19, 1928. NBC tested electronic television at the Empire State tower in 1934 and installed its television studios at Radio City in 1935. A broadcast of the opening ceremonies of the New York World's Fair, April 30, 1939 launched its public service program schedule. WNBT call letters went on the air along with commercial programs on July 1, 1941. The station now telecasts regularly six days a week with a weekly schedule of 17 hours. NBC has pioneered in coverage of special events and sports, presents boxing from Madison Square Garden on Mondays and Fridays; baseball from the Yankee Stadium or Polo Grounds once a week during the spring and summer; college and professional football, basketball and hockey during the fall and winter. Recently, by film and direct pickup, WNBT has covered the homecoming of generals and admirals, V-E and V-J day celebrations and other important current events. During 1942-43 more than 140,000 New York City air raid wardens received their basic training via WNBT.

Before the war, more than 130 advertisers used NBC facilities to experiment with television. These included: Abraham & Straus, Bloomingdale's, Aetna Life Affiliated Companies, L. Bamberger & Co., Botany Worsted

Mills, Gold Mark Hosiery Co., Hat Styles Council, Inc., Frank H. Lee Co., Lever Bros. Co., Missouri Pacific Lines, Procter & Gamble Co., and Sun Oil Co. Present advertisers include: Botany Mills, Bulova Watch Co., Elgin Watch Co., Esso Marketeers, Firestone Tire & Rubber Co., Gillette Safety Razor Co., Pan-American Airways, RCA Victor, U. S. Rubber Co., and Waltham Watch.

NBC plans to expand its coverage of spot news, special events, and sports as well as studio programming.

WPTZ, Tioga and "C" Sts., Philadelphia. Neb. 5100. Owned and operated by Philco Radio & Television Corp. Commercially licensed. Ernest B. Loveman is vice-president, Television Broadcasting Division; F. J. Bingley, chief television engineer; Paul Knight, program manager; Clarence Thoman, director of special events; W. W. Merkle, operations manager, and Rolland V. Tooke, commercial manager.

WPTZ, on the air since 1932, has presented more than 9,000 hours of programs to date. Republican National Convention was televised in 1940. For the last five years, all University of Pennsylvania football games have been televised from Franklin Field (in cooperation with Atlantic Refining Co. and its agency, N. W. Ayer & Son, Inc.). Wrestling, boxing, ice hockey, tennis, the Ice-Capades and Ice Follies, have been presented from the Philadelphia Arena. The Philadelphia Mummers' Parade is another outside pickup. Studio shows have included educational and public service programs. On May 25, 1944, the first line-of-sight television relay station between New York and Philadelphia was put into regular operation. On April 17, 1945, the first television program ever broadcast from Washington, D. C., was transmitted to the television audience in Philadelphia via a new multiple relay television network, developed by Philco.

Philco plans construction of a television broadcasting station in Washington; further development of a Washington-to-Philadelphia multiple link relay system to provide two-way service; acquisition of downtown television studios in Philadelphia, and construction of additional remote pickup equipment to provide better facilities.

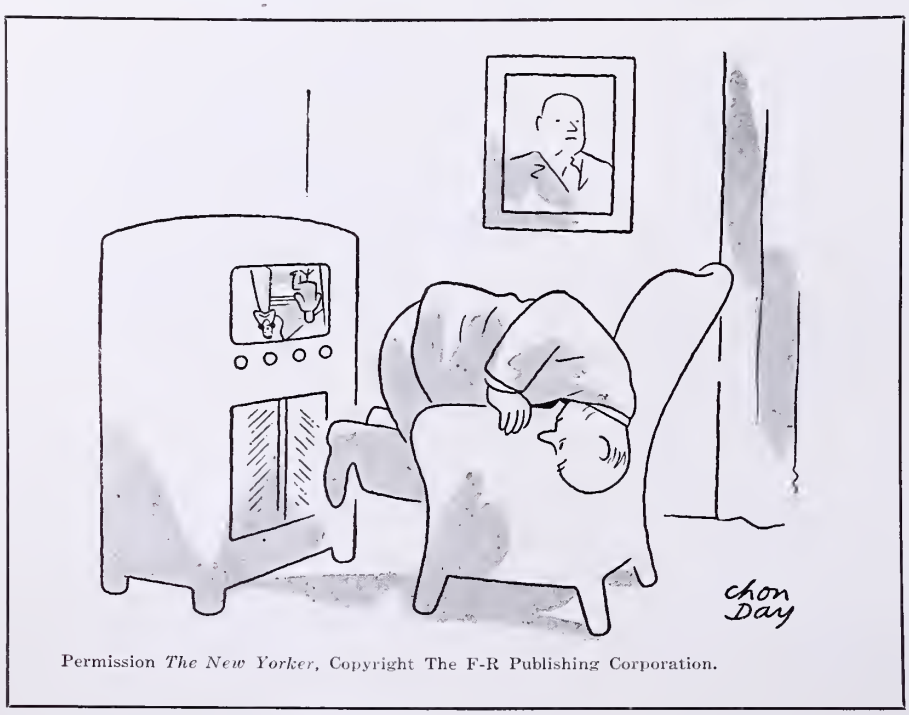
Since 1938 Philco has conducted extensive research in television programming techniques. As a result of audience surveys it reports that on-the-spot remote pickups of sporting and news events, audience participation studio shows, variety television vaudeville shows, one-act plays, educational and informative telecasts and children's programs are popular with its television audiences.

WRGB, 60 Washington Ave., Schenectady, N. Y. Schenectady 4-2211. Owned and operated by General Electric Co. Commercially licensed. FCC has authorized relay station, W2XGE, studio to transmitter link in Schenectady, and relay station W2XI, at Berne, a relay link connecting the station with New York. R. S. Peare is vice-president and manager of broadcasting; B. J. Rowan, assistant manager; W. J. Purcell, chief engineer, and G. E. Markham, program manager.

WRGB has telecast more than 900 different programs in its five years of regular schedules. War bond and Red Cross drives have made extensive use of its facilities. Editions of the Albany *Times-Union* and New York *Herald Tribune* have been adapted to television along with material from national magazines such as *American*, *Look* and *Yank*. Boxing and wrestling matches, billiard demonstrations, calisthenics, tumbling exhibitions and ping-pong contests are presented. Through relay facilities, forming the first television network, WRGB presents programs from WNBT in New York every week.

Advertisers who have presented programs on WRGB include: Royal Crown Cola, Vimms, Goodrich Rubber, Hamilton Watch, Blackstone Cigars, Wildroot Hair Oil, Remington Arms, Easy Washing Machine, GE Mazda Lamp, GE Electronics, Carter's Underwear, E. I. DuPont de Nemours & Co., Alexander Smith Carpet Co., Gimbel Bros., Chef Boy-Ar-Dee Spaghetti, Can Manufacturers Institute, *Vogue*, Pond's Cosmetics, American Association of Playing Card Manufacturers, Libbey - Owens Glass, Duz, Ivory Soap and Mobiloil. The station presented programs for U. S. Time Corp., *McCall's Patterns*, Elizabeth Arden and *Look*.

Audience rating of live talent programs over WRGB place the different types in the following order: 1—sports, 2—quiz programs, 3—light opera, 4—variety shows, 5—puppet shows, 6—full-length plays, 7—personalities, 8—monologues, 9—news. WRGB will continue its experimental programming, will try all types of programs in an effort to find more answers to the many questions of production technique.



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W2XJT, 148-18 Jamaica Ave., Jamaica, N. Y. JA 6-7362. Operated by Jamaica Radio Television Company, independently owned by William B. Still. FCC has approved application for experimental license. Station will start operation in the near future on Channel 13 (210-216 mc. under the new allocations). Its facilities, largely designed and built by Mr. Still, will eventually include a completely equipped studio for live broadcasts, motion picture film equipment, a control room, a 600-watt (peak) video and 150-watt audio transmitter, and a specially constructed steel tower 213 feet high.

A volunteer program staff, under the supervision of Lenore Berse, program manager, and Miriam Tulin, production manager, expects to produce 1 hour of live programs a week and 3 hours of film. Present plans also call for broadcasting 8 to 10 hours per day of music over the audio channel. Mr. Still will head all engineering experimentation which includes development of a new electronic film scanning system, simplification of present broadcasting equipment, and use of ultra-high frequencies.

W6XAO, 3800 Mt. Lee Drive, Hollywood, Calif. Owned and operated by Don Lee Broadcasting System. Hollywood 8255. Experimental license, W6XAO, and commercial, KTSL. Lewis Allen Weiss, vice-president and general manager, heads television. Harry R. Lubcke is director of television.

W6XAO began operation Dec. 23, 1931. Program log includes almost every type of presentation. Station has specialized in special events and spot news coverage, using its remote unit to pick up such events as aquatic shows, fights, football and baseball games, circuses, parades and Hollywood Bowl celebrations. Programming during the war was limited to three hours of studio presentations on alternate Mondays and usually was tied in with the war effort. W6XAO rates drama and variety shows high in audience acceptance, along with remote pickups of sports and other

special events. It found that War Department documentary films were well received. The station will continue to vary its programs as much as possible in order to experiment with new devices and develop production techniques.

W6XYZ, 5451 Marathon, Los Angeles. Hollywood 2411. Owned and operated by Television Productions Inc., subsidiary of Paramount Pictures, Inc. Paul Raibourn is president; Klaus Landsberg is chief television engineer.

W6XYZ is experimenting with every type of live television program and is currently producing six programs per week. A comedy serial, "Embarrassing Situations," was very favorably received. Stills selected from Paramount News, wrestling and "Tele-comics" are regular program features at present.

W6XYZ rates programs, according to audience acceptance, as follows: (1) comedy serial, (2) variety show (vaudeville entertainment), (3) illustrated news analysis, (4) wrestling, fencing and boxing (studio exhibition).

Further technical and programming experimentation is planned, particularly greater utilization of motion picture techniques and of facilities made available by the parent company.

W8XCT, Cincinnati. Cherry 1822. Experimental construction permit expired April 28, 1944. Application for extension to complete has been made. Owned by the Crosley Corp., which was acquired by Aviation Corp. in 1945. Richard W. Hubbell, broadcasting production manager for Crosley, is the company's television program head. Justin R. Duncan is chief television engineer. The station is not yet active in television broadcasting as the transmitter was being erected when the war caused postponement of activity.

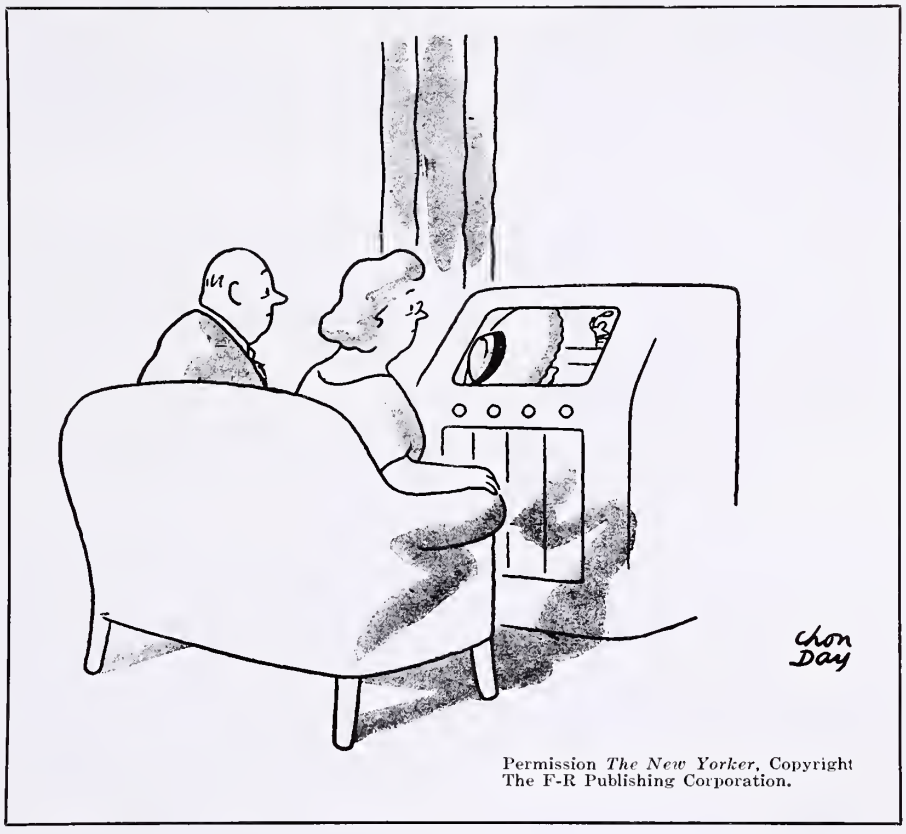
W9XAL, Kansas City, Mo. Owned by Midland Broadcasting Company — KMBC. Harrison 5852. Arthur B. Church, president, heads television; Robin D. Compton, technical director. Conducted first experimental operation in television between 1932 and 1937 in association with the First National Television Schools and presented a variety of programs from the laboratory studios. Experimental work continued after 1937 with studio demonstrations and outside demonstrations at social gatherings. These were not broadcast. Television laboratory and studio were maintained for experimental work in connection with schools of Midland Radio and Television, Inc. until Jan. 1, 1945. KMBC technical staff took over the direction of the laboratories when the Midland Schools were sold to G. L. Taylor, formerly vice president of the Midland Broadcasting Company and president of Midland Schools.

At present, application has been made to the FCC for three frequencies in the television spectrum so that the best one for broadcasting in the Kansas City area may be determined experimentally.

W9XZV, 6001 Dickens Ave., Chicago. Owned by Zenith Radio Corp. Berkshire 7500. E. F. McDonald, Jr., is president; Hugh Robertson, executive vice president; J. E. Brown, assistant vice president and chief engineer; and E. F. Classen, Jr., program director.

W9XZV began operations with equipment tests for ten days in February, 1939; presented its first broadcast in March. A regular schedule—two hours per night, three nights a week, a half-hour at noon, five days a week—continued until January, 1942. Shortly after the outbreak of war, the schedule was reduced to the use of motion picture film for two hours, one night a week. Studio pickups were still used for announcements, War Bond posters, etc. W9XZV currently operates with this set-up.

The war interrupted development of a commercial station for which a construction permit and call letters, WTZR, had been issued. Zenith was recently issued a construction permit for an experimental station, W9XZC, in the ultra-high frequency range, and plans experimental work in development of high definition, color television.



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TELEVISION ORGANIZATIONS

American Television Society, Inc., 271 Madison Ave., (Room 1705), New York 16. MU 5-7880. President, George T. Shupert, Paramount Pictures; vice president, David Hale Halpern, Owen & Chappell; treasurer, Don McClure, N. W. Ayer & Son, Inc.; and secretary, Alice Pentlarge, WQXR.

The Society is composed of members from educational, cultural, industrial, advertising and other fields. It is dedicated to the advancement of television. Meetings are held at the Barbizon-Plaza, 58th St. and Avenue of the Americas, New York, on the second Thursday of every month, starting at 8 P.M. Panel discussion luncheons are held several times monthly, usually at the Hotel Sheraton, Lexington Ave., at 37th St., New York. The Society publishes the "ATS News" monthly, to keep its members informed on television activities.

Television Broadcasters Association, Inc., 500 Fifth Ave., New York 18. LA 4-4788. J. R. Poppele, Bamberger Broadcasting Service, is president; F. J. Bingley, Philco Radio & Television Corp., is vice president; Will Baltin, secretary-treasurer; and O. B. Hanson, National Broadcasting Co., assistant secretary-treasurer. Association is organized to develop and promote the television industry.

Television Press Club of New York, Chairman of board of governors, Stanley Kempner, *Retailing Home Furnishings*, Fairchild Publication, Inc.; vice chairman, Lewis Winner, *Communications;* secretary, Betty Forsling, *Newsweek;* treasurer, Clifford E. Denton, New York *Daily News.* The Press Club, a non-profit, unsponsored, informal group, is limited to the professional television press and writers covering television for newspapers, magazines, books, business press, films and radio. Holds monthly luncheon meetings.

Television Producers Association, 1425 Broadway, New York 18. LO 5-4530. President, Bob Emery, WOR; vice president, William Wallace, WABD; secretary, Bob Anthony, WHN; treasurer, C. N. Van Auken, Biow Co., Inc.

CAREERS IN TELEVISION

© Bachrach

Every businessman, every professional man, every worker would do well to explore every angle through which his future may be related to this new medium.

By DAN D. HALPIN

Radio Corporation of America
Past President, American Television Society

THE NATION'S immediate employment problem is one of finding and creating jobs not only for returned fighting men, but also for many millions of others who need gainful employment. The American Legion program calls for the employment of 3,000,000 more people than are engaged in productive occupations today.

Altogether too much emphasis has been placed on the capacity of industry alone to provide jobs. We must bear in mind that only about 25 per cent of peacetime workers are employed by industry. The rest are employed in other business occupations. Consequently, 23,000,000 of the 55,000,000 jobs sought by the Legion in its campaign to solve the postwar employment problem, must be in the sales, service, and distribution fields, according to Edward N. Scheiberling, National Commander of the American Legion.

If their commendable objective of "7,000,000 *new* jobs in service and distribution, and a million self-employment places" is to be realized, it will "necessitate *intensive selling and development* of markets for the goods we can produce."

Television can make no specific guarantee of providing millions of jobs or even hundreds of thousands of jobs after the war. But this much is certain: It will provide many opportunities for new careers in the radio manufacturing, distribution, and broadcasting fields, and in such related industries as glass, plastics, metals, wood-working, transportation, building, machine tool and advertising.

In order for us to determine the relative size of the market for television home receivers at specified price levels, a survey was made in eleven representative cities of a cross-section of the public according to age, income and sex. The question was asked, "Would you or your family consider buying a radio and television receiver if the price were $400?" To this, 10.3 per cent said "Yes." To those who said "No" we said, "Would you pay $300?" The cumulative total reached 19.9 per cent. At $250, the cumulative total became 34.3 per cent and finally, when the price was put at $200, the cumulative total of people who said they would buy a television receiver was 61.3 per cent. The conclusion is obvious. When the radio industry produces a good television receiver in the $200 price range, a high percentage of United States homes will buy television receivers as soon as service is available.

The first television markets will be metropolitan New York, Philadelphia, Albany-Schenectady, Chicago and Los Angeles, where television stations are now operating—and serving a market of 7,254,588 wired homes.

Networks Ready in Five Years

Applications on file with the Federal Communications Commission, as of October, 1945, would serve an additional 7,704,066 wired homes in 35 cities. Therefore, stations active and proposed would serve 14,958,654 wired homes, or 51.7 per cent of the 28,915,000 wired homes of the United States. In addition, the Federal Communications Commission, according to Commissioner E. K. Jett, expects an additional 150 applications for tele stations during 1946.

LOOKING through banks of overhead lights at a musical production in the WNBT studio.

In approximately five years, coaxial cable and radio relay networks should link up television transmitters located in 157 key cities of the United States. Television program service would then be available to a primary market of 72,159,000 people, 17,252,000 wired homes and 61.5 per cent of the purchasing power of the United States. Shortly thereafter television should be available to an additional 10,000,000 people through secondary television network developments.

By the end of the fifth full television production year, it is the judgment of qualified people that the anual radio-television retail billing will be at the rate of $1,442,000,000 annually. The attainment of this figure, it is believed, will make possible approximately 300,000 new jobs in the radio industry by the beginning of the sixth year after television goes ahead.

These estimates are used in making our plans for personnel, facilities and financial investments in building, machinery and development work. They are the result of detailed commercial research and analysis.

This annual rate figure of $1,442,000,000 worth of retail sales for the combined television and radio industry is based on the assumption that the industry can expand its television production facilities to build, in the fifth full production year, television sets at a rate of 5,000,000 to retail for an average price of $200, and that these sets will be purchased by an eager public. This would actually be the sixth year of civilian production, for it will take about one year to organize the television production facilities to go forward on the scale outlined.

It is interesting to note that the results of the television market surveys made for us in August and December 1943 have since been corroborated by the many surveys made by organizations not associated with the radio or television industry. For example, 32.4 per cent of *Newsweek* readers plan to buy television sets, making television the second choice after automobiles.

At the Franklin Square Savings Bank, Hempstead, Long Island, 22 per cent of its Postwar Purchase Club ac-

(*Continued on page* 118)

ADVANCES IN LARGE SCREEN TELEVISION

Progress along two lines — on direct-view and projection types of home receivers — promises television audiences steadily improving quality of visual reception.

By D. F. SCHMIT

Director of Engineering, RCA Victor Division, Radio Corporation of America

IMAGES obtained on most prewar television receivers were about 7½ by 9 inches. Because the size of the image determines the approximate number of persons who can satisfactorily view the screen of a receiver, a need was felt for receivers providing larger images, particularly for use in commerce, industry, and educational institutions. Theatre television, of course, demands an even larger screen.

Two methods of providing larger images presented themselves. One was to build a receiver employing a larger cathode-ray tube; the other, to find a means of optically enlarging the image appearing on the face of the tube.

Develop Projection Television

Believing that many people will still prefer the direct-viewing type of set, especially for home use, we are developing a cathode-ray tube which will provide an image somewhat larger than those available before the war. Recognizing, however, that the size of a direct-viewing screen is limited by the size of cathode-ray tube it is practicable to manufacture, place in a cabinet and operate, we have also developed a reflective optical system for projection of television images from the face of the tube onto larger screens.

This system has been used successfully to project television images onto a built-in home receiver screen 21⅓ by 16 inches—about the size of a full page of a newspaper, or five times the area of images obtained on a 12-inch prewar direct-viewing tube. And larger images can be projected by similar systems designed for use with screens remote from the receiver, such as would be used in schools, meeting rooms, and theaters.

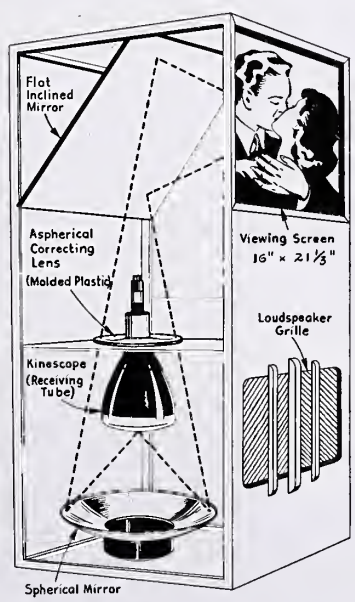
Home console models providing projection-type television, FM (frequency modulation), and standard broadcast receiving facilities will cost initially about $450. Models equipped with direct-viewing picture tubes will be generally lower in price, and RCA-Victor will offer at least one table model priced at approximately $195.

An obvious means of obtaining large images — to magnify them by placing a lens in front of the tube — has little practical value. The field is sharply limited from which images can be viewed.

The two basic problems of projection television are: (1) providing a cathode-ray tube capable of producing very bright pictures with the necessary resolution, and (2) providing an optical system that will project to the screen the largest possible percentage of the light generated by the tube. These problems were vigorously attacked, and very satisfactory progress was made.

Intensive work on electron guns, luminescent materials, glass envelopes, and other components resulted in the development of cathode-ray tubes designed to operate at a rated voltage of 27,000 volts—nearly four times the voltage used in prewar direct-viewing tubes—and capable of producing much brighter images. These tubes, also made substantially smaller and lighter, tend to compensate for the size and weight of the optical system, and may mean lower tube replacement costs.

The problem of developing an efficient optical system at first appeared to be very formidable, due largely to the nature of the light source. For practical purposes, the luminescent screen of a cathode-ray tube radiates light as a perfect diffusing surface. In projecting light from such a source onto a viewing screen, a conventional F:2 movie projection lens is capable of collecting, at most, only 6.25 percent of the light emitted by the tube. An optical system was sought which should be able to focus large fields—up to 50 degrees —with an efficiency of 20 to 40 percent.



INGENIOUS: Broken lines indicate the path of light beams in the Schmit optical system.

Plastic Lens Cuts Cost

The answer was found in a reflective optical system consisting of a spherical front surface mirror and a weak aspherical correcting lens, the latter located at the center of curvature of the mirror. A handicap of this system, for use in a home receiver, was the high cost of the aspherical lens. This has been overcome by the development of machines for making aspherical molds and RCA's development of a process for molding aspherical lenses from plastics.

The spherical mirror may be visualized as a shallow bowl, with its reflective coating on the concave surface. The lens, molded of clear methyl methacrylate resin, is flat on one side, with the opposite surface rising slightly at the center and at the edges, but depressed in the intermediate area. Its function is to correct the spherical aberration of the mirror and bring the image to a sharp focus on the screen.

The system is mounted with the picture end of the cathode-ray tube protruding through an opening in the center of the lens and facing the center of the mirror. Images appearing on the face of the tube are picked up by the mirror and reflected though the lens to the viewing screen. For home receivers and other systems employing built-in screens, images are projected onto the back of the screen.

The great light-gathering power of this type of optical system makes it possible to transfer to the viewing screen about six times as much light as could be delivered by a conventional F:2 lens, without loss of image quality.

Other RCA developments contributing to the quality of large-screen television reception include improvements in built-in viewing screens, and an automatic frequency control system which virtually eliminates picture distortion resulting from automobile ignition and other noise impulses.

TELEVISION VOCABULARY

Amplitude Modulation (AM)—A system of modulation in which the envelope of the transmitted wave contains a component similar to the wave form of the signal to be transmitted.

Animation—A series of drawings presented in rapid succession to give the illusion of motion. More particularly in television, any moving devices used on graphic material such as maps or charts.

Antenna—A conductive structure used for radiating or receiving radio frequency (RF) waves. The overhead horizontal portion was formerly called an aerial.

Aspect Ratio—The numerical ratio of frame width to frame height, as transmitted.

Audio—An adjective commonly used in connection with transmission and reception of sound. (Latin: "I hear.")

Band—As used in radio, the range of frequencies within fixed upper and lower limits, to be used for a definite purpose as allocated by the FCC. For example, the standard broadcast band lies between 500 kc and 1600 kc.

Bond-width—That portion of the radio spectrum necessary to the transmission of information either aural or visual. For example, 10 kc band-width is required for the broadcast band as opposed to 6 Mc band-width required for present television band. Future television contemplates a 16 Mc band-width.

Blanking—That portion of a television video signal employed to blank out the cathode-ray beam as it flies back from right to left (as viewed from front) and from bottom to top of picture.

Bloom—A condition of excess brightness in the cathode-ray tube that tends to obscure picture detail.

Break—A temporary suspension of a program or program schedule, usually for station identification.

Bretzicon—A device, invented by Rudy Bretz of CBS, for making animation on graphic material without stop motion. Used mostly for news presentations or documentary programs involving maps and charts.

Brightness control—Control employed on a television receiver to regulate the over-all brightness of the picture.

Camera tube—An electron tube employed in television to translate a scene into the electrical impulses that correspond to the light rays reflected from the scene. The iconoscope, orthicon, and image dissector are types of camera tubes.

Carbon arc—The brightest source of illumination available for television studio lighting. Light is produced by means of burning carbon.

Corrier—The high frequency radio wave generated by a transmitter that may be modulated to carry audio or video information, i.e., voice, music and pictures.

Carrier frequency—The frequency of the unmodulated carrier wave.

Cothode—The part (electrode) in an electron tube that gives off electrons. Some tubes employ cathodes that emit electrons when heated, others (phototubes) utilize cathodes that emit electrons when exposed to light.

Cathode-ray tube—An electron tube in which the stream of electrons from the cathode is formed into a pencil-like beam and directed by means of either a magnetic or an electro-static field at a fluorescent target (screen) located at the end of the tube. The fluorescent screen glows wherever the beam strikes it.

Catwalk—An overhead structure in television studios which gives a technician footway to adjust banks of lights or other ceiling equipment.

Centering—See Framing.

Close-up—A shot taken at close range to include the head and shoulders, or head only of a subject.

Coaxiol coble—A special type of cable that is capable of carrying an unusually wide band of frequencies with extremely small losses. Such a cable in its simplest form consists of a hollow metallic conductor with a wire confined along the center of the hollow tube.

Controst—The ratio between the black and white portions of a picture. Pictures with high contrast have deep blacks and brilliant whites. Low contrast pictures have an over-all gray appearance.

Contrast control—Control employed on a television receiver to regulate the video signal strength.

Crane—The swinging arm of a camera dolly which gives the camera flexibility of motion.

Cut—An abrupt transition from one image to another, done instantaneously by pressing a button which puts one camera on the air and cuts out the other. Also known as switching.

Decibel—The unit usually used for measuring the volume of sounds; also used to indicate gain or relative level of power or voltage.

Definition—The power of a lens to give a distinct image, or the distinctness of the image as seen on a television screen.

Deflection—The movement of the cathode beam in a cathode-ray tube by electro-static or magnetic fields.

Deflection yoke—The magnetic device used to direct the cathode beam in a cathode-ray tube when magnetic deflection is employed. The deflection yoke consists of coils mounted externally about the neck of the cathode-ray tube.

Depth-of-field—The distance between the closest point to the lens and the farthest point from it at which an object will appear in focus without adjustment of the camera. Not to be confused with depth-of-focus.

Depth-of-focus—The distance between the closest point behind the lens and the farthest point behind it at which an object in front of the lens will appear in focus.

Dipole ontenna—An antenna that is electrically balanced and fed at its electrical center. Commonly consists of two conductors, usually of equal length and extending in the same straight line. Lead or feeder wires are connected at or near the inner ends. For short waves the physical dimensions are such that the antenna may consist of self-supporting metal rods or tubes.

Direct-view screen—The screen-face of a cathode-ray tube. It presents the primary television picture directly to the audience. Distinguished from the projection screen in which the image is passed through a series of mirrors and lenses before being viewed.

Dissector tube—A special type of camera employed in the Farnsworth system of television.

Dissolve—The simultaneous fading out of one picture and fading in of another. Used for bridging a gap in time or space without breaking the continuity of action.

Dolly—A movable stand on which a television camera or other equipment may be mounted to permit easy mobility and flexibility.

Dollying—A camera technique in which the shot is taken as the camera moves toward or away from its subject.

Doughnut—The large circular portion of a transmitting antenna; the part from which audio waves are broadcast as distinguished from the crossbar or turnstile part from which video waves are broadcast.

Electric eye—Popular expression used for a phototube or a photo-electric device.

Electromognetic focussing—System in which magnetic fields parallel to the motion of the electrons are used to confine them to a narrow beam.

Electron—The unit of negative electrical charge. This is the unit of electricity that is released by the cathode in an electron tube.

Electron gun—That part of a cathode-ray tube in which the electrons are emitted, formed into a beam and deflected.

Electron beom—A focussed stream of electrons such as is employed in a cathode-ray tube.

Electron tube—A device usually consisting of an evacuated glass or metal container and containing a cathode, an anode and frequently more electrodes for controlling the volume and direction of flow of electrons (an electric current) through the vacuum or contained gas.

Electrostotic focussing—System in which electrical fields are employed to confine the flow of electrons to a narrow beam.

Fade-out—A camera technique in which a scene gradually gives place to complete darkness.

Foding—Variations in radio signal intensities usually caused by atmospheric changes taking place in the path of the transmission.

Fidelity—In radio and television, the faithfulness with which a system reproduces sound or picture signals.

Field—One set of scanning lines making up a part of the final picture. According to present standards there are two fields to each frame, each field consisting of 262½ lines. These are interlaced to form 30 complete frames per second.

Film clip—A sequence of material recorded on film that is inserted into a "live talent" studio production. Used to present scenes or action not obtainable in the studio.

Filter—In radio usage a selective circuit that is designed to separate signals according to frequency. A filter passes only a certain desired range of frequencies and excludes any undesired frequencies that may be present.

Floor monager—The supervisor of the technical crew and trouble-shooter who remains on the floor of the studio during rehearsals and telecasts.

Fluorescent—Possessing the property of giving off light when activated by another light source or by electronic energy.

Fluorescent lomp—A "cold" form of illumination which can distribute light evenly over a large area in a television studio. Light is produced by electricity passing through a tube coated on the inside with fluorescent material.

Fluorescent screen—The chemical coating on the inside of a cathode-ray tube that emits light or glows when bombarded by the electrons of the cathode beam.

Focus—In cathode-ray tubes this refers to the width and sharpness of the individual spots or lines on the fluorescent screen. Also refers to the optical adjustment of camera lenses.

Focussing control—Control employed on a television receiver or oscilloscope to bring out clear definition.

Frame—One complete picture. Thirty frames per second are shown on a television screen. (Twenty-four frames per second are used in motion pictures.)

Framing—The director's and cameraman's deliberate effort to compose a television picture artistically.

Framing control—Control knob or knobs on a television receiver employed to center the picture on the screen vertically or horizontally.

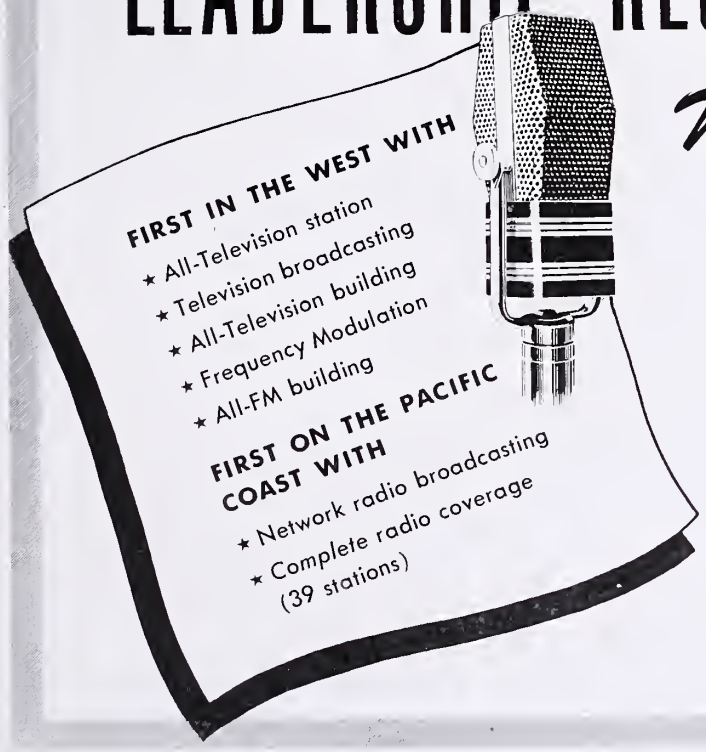
Frequency—The term applied to the repetition rate of a voltage, a current, a sound wave or any other periodic function.

Frequency modulation (FM)—A system of modulation of a radio signal in which the frequency of the carrier wave is varied in accordance with the signal to be transmitted while the amplitude of the carrier remains constant.

Ghost—In television an undesired secondary picture caused by the signal from the transmitter reaching the receiver by more than one path. Ghosts or ghost images are usually caused by the signal being reflected from objects such as tall buildings and other structures in the immediate vicinity of the receiver.

Headroom—The distance, on the television screen, between the top of the head of a person being televised and the edge of the picture.

LEADERSHIP REQUIRES VISION



Now —First in the West actually to buy a television site of the height considered most advantageous for both Television and Frequency Modulation Broadcasting. Don Lee's purchase of a site on the top of Mt. Wilson, home of the world-famous Mt. Wilson Observatory, will give KHJFM and W6XAO a transmitter height of 5,900 feet for Television and Frequency Modulation Broadcasting. No finer location could be obtained in all Southern California.

DON LEE BROADCASTING SYSTEM

Hold—A direction to a cameraman, instructing him to keep his camera where it is in readiness for the next shot.

Horizontal Centering control—Control employed in television to regulate the position of the picture with respect to the axis of the cathode-ray tube.

Horizontal hold control—Control employed in television receivers for adjusting the number of lines per second to correspond with the transmitter.

Iconoscope—An RCA type of television camera tube that employs a high speed electron beam. Currently used in studio cameras. (See Mosaic.)

Image dissector—See Dissector tube.

Incandescents—Hot bright lights, similar to those in most home fixtures, widely used in television studios.

Interlacing—A scanning process in which successively scanned lines are spaced an integral number of line-widths, and in which the adjacent lines are scanned during successive cycles of the field frequency scanning.

Ion spot—A discoloration occurring at the center of the screen-face of a cathode-ray tube caused by heavy negative ions striking it. Formerly quite troublesome. A number of systems are now in use to trap these negative ions and prevent the formation of the ion spot.

Kinescope—RCA designation for the cathode-ray tube employed in television receivers for translating electrical impulses into picture elements.

Klieg light—A type of powerful incandescent lamp used for spotlighting and modeling. It is usually mounted on a mobile base.

Lap dissolve—A slow dissolve between two pictures in which the two images remain superimposed on the screen for a few seconds.

Line—A single strip across a picture, containing highlights, shadow and half-tones. The path covered by the moving electron spot in a cathode-ray tube. Variations in the intensity of this spot create portions of the picture. Present U. S. systems employ 525 lines for a complete picture.

Linearity—The uniformity of distribution of a regular pattern on a television picture tube.

Line of sight—The unobstructed path between two points. Important in high frequency radio wave transmission.

Live talent—Any studio presentation in television or the people who appear in it. Distinguished from film programs.

Long shot—An establishing shot taken from a distance that is sufficient to include a complete view of the scene.

Lumen—Unit used for the measurement of light flux. One foot-candle is equal to one lumen per square foot of surface.

Luminescent—Possessing the property of producing light without the generation of heat.

Megacycle—When used as a unit of frequency, *Mc* stands for 1,000,000 cycles per second.

Mercury vapor lamp—A "cold" light, coming into wide use for overhead foundation illumination in television studios. Electric current vaporizes mercury in a water-cooled tube, thus producing light without much heat.

Microphone—A sensitive device used for converting sound waves into electrical impulses of varying current and transmitting them.

Microphone boom—A device, usually in the form of an adjustable crane, for suspending the microphone used in television above the area being televised.

Microwaves—Radio waves of extremely high frequencies, having wave-lengths of less than one meter, or greater than 300 megacycles.

Medium shot—A shot taken from middle distance, or from knee level to above the head of the subject.

Modulation—A process in which the character of the carrier wave may be varied in frequency, phase or amplitude in accordance with the information to be transmitted.

Monitor—Any receiver or speaker on the station circuit on which the quality of the program or rehearsal can be watched or heard.

Monitoring—The technique of controlling the transmission of the picture or sound used in radio, television and motion picture work.

Monoscope—A special cathode-ray tube that is designed to produce a single stationary picture pattern useful in testing or adjusting television equipment.

Montage—See Superimposure.

Mosaic—The photo-sensitive screen mounted in an Iconoscope. The picture is optically focussed upon the mosaic and then scanned by the electron beam from the electron gun. So named because of its similarity to that form of art in which many bits of tile are combined to form a picture.

Multipath transmission—A condition wherein the radio signal from a transmitter travels to the receiver by more than one route. Usually results in reflections and usually causes ghost images on receiver screen.

Negative ghosts—Ghost images in which the black and white areas are reversed.

Off-screen voice—The voice of a person not appearing in the television picture. Used for narration, announcements, etc.

Orthicon—A camera tube that utilizes a low-speed electron beam. Superior in sensitivity to the Iconoscope but inferior to it in resolution. Usually employed in field cameras for out-of-doors televising.

Oscillograph or Oscilloscope—An apparatus that produces a continuous curve to represent the values of a varying electrical quantity. Used as a test instrument to show the wave form of any varying voltage or current.

Panning—(From "panorama"). A horizontal sweep of the camera. A camera technique in which a large arc of the scene is shown by turning the camera without changing its position.

Pedestol—The DC level or reference line on the complete television waveform above which the video information is inserted.

Phase—The time relationship between maximum points of two recurrent electrical quantities such as voltage, current, etc. It is expressed in degrees of a circle.

Phase-shift—Any changes taking place in the phase relations of current or voltage.

Photoelectric cell—A light-sensitive cell capable of translating variations in the light falling upon it into corresponding variations in voltage, current or resistance.

Photoelectric emission—The phenomenon of electrons being emitted from certain materials when they are exposed to light.

Phasemajector—Allen B. DuMont Laboratories' designation for a tube used to generate television picture signals.

Pick-up—A program which is televised directly at a scene of action, such as an athletic event, a political convention, etc.

Picture element—The smallest section of any given scene as reproduced by the cathode-ray tube at any given instant.

Picture noise—Interference or undesired signals causing spots of light or other irregularities in the pattern of the received picture.

Polorization—In television, the position of the transmitting antenna, i.e. horizontal or vertical. It is desirable that the receiving antenna correspond to the polarization of the transmitting antenna. Horizontal polarization is now standard for transmission in the United States. Vertical polarization is standard in England.

Projection television—A system of enlarging television pictures by a combination of lenses and mirrors that enable the picture to be projected on a screen.

Radiotor—That portion of an antenna from which the radio waves are actually emitted.

Radio channel—A band of frequencies for radio communication in the radio frequency spectrum allocated to each station. By present television standards the channels are 6 megacycles wide.

Rodio frequency spectrum—All of the wave lengths or frequencies that may be used for the transmission by radio of energy or intelligence.

Reody—A direction to a cameraman, instructing him to line up his camera for the next shot.

Reflective optics—In television a system of mirrors and lenses used in projection receivers. The Schmit system employed by RCA uses reflective optics.

Reflector—Additional antenna elements used in an antenna system to prevent the pick-up of signals from one direction and to increase the pick-up from the opposite direction.

Relay station—A radio station that re-broadcasts television or other radio programs in order to increase the service area. Sometimes known as a repeater station.

Return troce—Lines formed on the cathode-ray tube screen as the cathode-ray beam moves back to its starting position. These are blanked out.

Scanning—The process of analyzing successively, according to a predetermined method, the light values of picture elements constituting the total picture area. The cathode-ray beam scans the mosaic in the iconoscope and the fluorescent screen in the kinescope.

Scanning line—A single continuous narrow strip containing high lights, shadows, and half tones which is established by the process of scanning.

Screen—That part of a monitor or receiving set on which the television picture appears.

Selectivity—The degree to which a radio receiver is capable of reproducing wanted signals from one station while rejecting all unwanted signals from other stations on adjacent channels.

Sensitivity—A measure of the ability of a radio or television receiver to reproduce weak signals with satisfactory volume or intensity.

Shading—Technique of adjusting the light distribution in the image produced by the television camera. One of the monitoring operations necessary when Iconoscope cameras are used.

Side bands—Those groups of frequencies higher and lower than the carrier that contain the intelligence being transmitted and produced by modulation.

Signol—Electrical inpulses corresponding to sound or picture information being transmitted.

Special effects—Graphic material introduced into a studio presentation, particularly animated titles, miniatures, mechanical gadgets, etc. Camera or lighting tricks used to create certain illusions.

Special events—Programs not regularly scheduled, particularly those "picked up" by mobile equipment units.

Spectrum—A band or range of frequencies. Usually used to designate the entire range of radio frequencies available for transmission.

Spot—The visible point of light formed by the cathode-ray beam as it strikes the fluorescent screen of the kinescope tube.

Stratovision—A proposed system of establishing network television by means of airplanes circling above certain points and carrying both relay and local broadcasting equipment.

Superimposure—A special effect in which the images from two or more cameras occupy the screen simultaneously. Also called montage.

Sweep—Uniform and repetitive action movement of an electron beam across the screen of a cathode-ray tube, either vertically, horizontally or both.

Switching—See Cut.

Synchronizotion—Maintaining of one operation in step with another. In television, the term often refers to keeping the scanning beam at the transmitter in step with the electron beam at the receiver. Also used with reference to the correct coordination of picture and sound; important when using recordings with pantomime action or graphic material with an off-screen speaker.

"T.D."—Abbreviation for technical director, the station staff member who assists the director in the control room.

Telecast—A television broadcast. Preferably called "a television broadcast," the usage employed by the Federal Communications Commission.

Telecine projector—A device used to televise motion picture film.

Telegenic—Having an attractive appearance when viewed on a television receiving set.

Television—Literally, seeing at a distance. The transmission and reception of changing visual images by means of radio waves traveling through space or over wires.

Teleset—DuMont trade-marked name for home television receivers.

Teletron—DuMont designation for a television receiving tube developed by the Allen B. DuMont Laboratories, Inc.

Test pottern—A drawing containing a group of lines and circles and other forms, transmitted for transmitter and receiver test purposes.

Transmitter—Generally the equipment used for generating and sending radio signals of any type.

Turnstile ontenno—One or more layers of crossed horizontal half-wave antennas appropriately excited and arranged on a mast. Used in high frequency systems including television where a symmetrical pattern of radiation is desired.

Tilting—A vertical sweep of a television camera.

Trucking—A camera technique in which the shot is taken as the camera moves parallel to its moving object.

Two-shot—A close-up or medium shot holding two persons, usually head and shoulders only, as the subject.

Ultro-high-frequency — As recently standardized, *uhf* is any frequency of 300 megacycles or higher. Waves in this portion of the spectrum are called microwaves.

Very-high-frequency—As recently standardized, *vhf* refers to frequencies between 30 and 300 megacycles.

Vestigiol sidebond tronsmission—A system of transmission in which one of the generated sidebands is attenuated at the transmitter and radiated only in part.

Verticol sweep—The downward movement of the scanning beam from top to bottom as a picture is televised.

Visuol transmitter—The radio equipment employed for transmitting the video or picture signal, as distinct from the sound transmitting equipment. The combination makes up a complete television transmitter.

Vertical centering—Control employed on a television receiver to regulate the position of the picture vertically on the screen.

Vertical hold control—Control employed in a television receiver to adjust the field rate of the scanning to that of the transmitter.

Video—That portion of the television signal that contains the picture information. Used as a prefix to the names of television parts or circuits that handle picture signals. (Latin: "I see.")

Viewing mirror—A mirror set at an angle in the lid of one type of television receiver. It reflects the image formed on the screen-face of a vertically-mounted picture tube so that the image can be viewed by persons seated in front of the set.

Yoke—A set of coils used around the neck of a cathode-ray tube to produce horizontal and vertical deflection of the electron beam. Used for electromagnetic deflection.

COLOR TELEVISION *(Continued from page 32)*

12 television channels which had been assigned to the prewar system. This would make nationwide coverage possible and at the same time give the viewer an opportunity to select from a larger number of programs.

Even prewar color television broadcasts showed clearly that the pleasing effect, the clarity, and the texture of the images impressed the viewers immensely. The pictures, in natural colors, appeared to have a great deal of depth, an effect also apparent in present day color movies.

Now Developing Receivers

Probably most people will be chiefly interested in the actual television receiving sets. I would like to make it clear that CBS is not a manufacturer of commercial radio equipment, but we are developing two types of color receivers in our laboratories for the benefit of the consumer and the set manufacturers. One set is a small floor model and produces a picture approximately the same size as a full page in *Time* magazine. The larger and more expensive model will furnish an image which is about 20 inches wide, or about the size of a full newspaper page.

It is estimated that color television receivers will be only slightly more expensive than black and white receivers.

Many have asked when this new system of television will be available for the public. Development work and construction have advanced sufficiently to permit field testing early in 1946. After successful completion of the tests manufacturers will be in a position to start production of the receiving sets for the home.

Thus, this most advanced television system, transmitting images in full colors and utilizing the progress made during the war in the field of electronics, will guard against receivers becoming obsolete for a long time to come. This is a prerequisite for the establishment of a nationwide television service.

AGENCIES SHOULD GUIDE SHOWS

(Continued from page 31)

erously by advertisers. It will not be used unless it produces results; unless it produces sales, per dollar invested, comparable to returns from other media. Television program costs will be high which means that top creative brains will be needed to make television pay off. Only advertising agencies are manned and geared to coordinate showmanship and salespower to achieve this goal. And this means that if the advertising agencies are hampered in making their logical contribution, and in providing the expansion drive, in just that measure will the growth of television be slowed down.

Vehicles for Sales Messages

Agencies developed the entertainment value of radio because they experimented until they learned how to create for their clients the best possible radio vehicles for successful sales messages. The same knowledge and incentive can and will spur the development of television. When television stations offer packaged shows that fully meet the requirements of a particular client, agencies will willingly buy them. But when such shows do not exist sponsors must count on agencies to create them. Of necessity, however, they will have to be produced over stations which maintain an "open door" policy.

Should station executives control the production of a show? Station executives invariably are inclined to be "show minded," not sales-minded. Because many compromises are necessary in the production of any show, an arbiter must always be present who is thoroughly familiar with both points of view. In radio, the advertising agency occupies this difficult post. The agency is also the driving power, the supercharger responsible for the maintenance of high quality entertainment and salespowered commercials.

The few television showmen who are attempting to throttle agency participation and guidance are making a serious mistake. The advertiser must have some one to watch his interests. Who is a more likely choice than the advertising agency which already directs and coordinates the sponsor's promotional activities in all other media?

It is at this point that the indispensability of the advertising agency should become most plain to the network which chooses to run everything itself. Advertising men are sales specialists. Often, through years of association, they are completely familiar with a client's objectives and problems, with his products' sales peculiarities and particular needs. As the agency is already guiding the client's promotional activity in various other media, it is in a position to coordinate selling through television with other sales and advertising efforts. Only advertising agency men who have spent years in learning how to present and merchandise the client's products, are fully sensitive to the effect on sales of spoken lines, songs, tones of voice, of characters, costumes and props. And, beyond all this, the agency's most important function is its balancing of the showman's enthusiasm for his art against the client's tendency toward overselling.

Let us recapitulate. Advertising agencies are better able to guide television programming development than network executives for the same reason that has made them the dominating influence in the development of every other promotional medium. They are trained to contribute sales direction. Their energies will not be scattered in over-all effort but will be concentrated on the needs of individual clients. Thus, progress will be made program by program.

Agencies are in the most advantageous position to sell television to advertisers and to supply the creative energy and driving power to make their recommendation work out successfully. Their organizations are already in existence and functioning. This fact saves the networks from a crushing staff overhead. It permits the networks to sell their time on a standardized basis.

Time Is Important

Television stations expect to operate at a loss for the first few years and no factor is more important in cutting down this period than the stimulation and sales guidance that advertising agencies are prepared to contribute. Without this aid, television is likely to resemble a street undergoing repairs rather than a magnificent super-highway to bigger markets and a better way of life.

A LAWYER LOOKS AT TELEVISION

(*Continued from page* 38)

The subject of large screen television projection in theatres offers a brand new field for the television lawyer and many new legal problems will be presented, especially in unfair competition, copyright and civil rights. Radio and motion picture lawyers are intimately aware of these questions of law and policy, and it will be necessary for the television lawyer to know the historical and legal background of legislation and litigation affecting these problems in the radio and motion picture industries.

Labor questions will be legion in television broadcasting. Every possible type of work involved has been or will soon be unionized and a television lawyer should keep in mind that his client must live with these unions, peacefully and happily, or else he is out of business.

Many books can be written and lectures given on the lawyer's job in television. He can play an important role in developing this medium so that it will exert its tremendous influence in the social and economic life of not only this country but of the world.

There will be international networks and hookups and interchange of programs and ideas throughout the world. Public treaties and private agreements will necessarily be involved, requiring a knowledge of international law and conflict of laws.

The television lawyer will be prospecting virgin legal territory in most instances and will be helping to make new law. This is a grave responsibility. He must be in the front ranks at all times, fighting for freedom of speech, religion and press, which include radio, motion pictures and television. He must not only be a good lawyer and versed in every field of the law, including many which the average lawyer never hears about or deals in, but he must also be a keen business man, a tactful and astute diplomat and a man who has some conception of the obligations of world citizenship.

Drawing by Herb Williams, courtesy *Ladies' Home Journal*.

"Remember the good old days when we only had to listen to the commercials?"

Potemkin are trained on a town. The guns fire on a palace; there is a tremendous explosion, gates are blown off the place, people run in terror down a great stairway. The picture was made, of course, many years after the actual Potemkin incident. And this is the way it was made:

A long shot of the ships was made in the harbour of Odessa, with well-recognizable features of the city. The shot of the guns being trained on the town was taken from old newsreel shots made years before. The steps down which the people ran were partly actual steps in Odessa and partly scenery in the Leningrad studios. The long shot of the palace was made from the harbour in Odessa. The guns firing came from another newsreel shot. The close shot of the gate before it was blown up was made on location in Moscow. The explosion was done in a Leningrad studio. Thus we have a completely comprehensible, exciting, emphatic, orderly story—created, *through the phenomenon of editing*, from wholly unrelated parts.

Limitations of Live Broadcasts

An ordinary "live" broadcast in a "live" studio requires too many things that can be welded together only through editing. It is obviously impossible to include anything but the most elementary editing in a "live" set: it follows as a corollary, that "live" broadcasting can never tell a story in the best possible manner.

In a "live" television broadcast, every person concerned with the show—the actors, the director, the technical men, the grips, camera men, juicers, prop men—everyone must know the script from start to finish, and know it perfectly. The director, following his script, must watch action in the studio as well as his video panels; the actors must know where to be every second and what to do; prop men, cablemen, cameramen, grips, jostle each other all over the place—and no word must be spoken that is not to be broadcast. The whole procedure is a nightmare come true.

Obviously this type of procedure is full of all sorts of holes. One single left-footed person can cause catastrophe. In a broadcast that I saw not so long ago, the director got a little excited, and cried, "Give me camera No. 3." Camera No. 3—as he should have seen from his No. 3 video screen, was idly standing there, aimed at a couple of grips wrestling with a large slab of scenery. The contribution of Camera No. 3 did not appreciably improve the dramatic effect of the performance.

Such mishaps are not only possible, but probable, in "live" television broadcasting. There is a mental fatigue factor on the part of the director, for example. He really has to be Superman to operate this thing and do no more than come out even. In front of him are video panels showing the field of each of the cameras; there is another one showing what is on the motion picture projector. (They must have motion pictures and slides even in "live" broadcasting.) And then, to top everything, there is a master video screen which shows what is actually going out over the air. A director needs a minimum of eight pairs of eyes merely to see what is going on. And his attempts at editing are controlled by what he can see. He can only cut to what he sees, and if he can't see what he wants, he can't edit at all. And, we must make clear, *editing* is the principal—the most important—ingredient of any motion picture!

New Aspect Needed

There are many excuses for this state of affairs. The most obvious is the fact that the people who are doing the television now are *radio* people with little or no experience with motion pictures. They are folk who look back on an experience in radio, unsullied by any serious contact with any of the other arts. One of the things most wrong about present-day "live" television is the radio thinking applied to it. While this medium *partakes* of radio, trying to operate it by radio methods is wrong: and radio people—that is, people who persist in approaching its production problems as they approach radio production problems—are doomed to failure.

Remember when sound came into silent pictures? The directors and producers who had worked over a long period of time and had themselves developed the science of cinematics were suddenly elbowed aside by a race of know-it-all sound technicians. Even the sainted DeMille was gently pushed aside along with the rest. "That can't be done!" was the order of the day. The noise-catchers put the cameras in big "iceboxes" with a glass in front and said, "You can't move the camera!"

At the time sound came in, the moving camera technique was at the height of its development. The tremendous impact that the use of the moving camera had brought to cinematics was instantly stultified. The average scene length went from 12½ seconds to nearly 2½ minutes. There was no camera movement. Actors sat or stood and looked at each other. And talked. And did very little moving. That was all that could be done.

New Technique: New Freedom

But at last the people who had *made* motion pictures decided that this was a very bad state of affairs indeed, and said to the sound men, "Why must we keep our cameras in those iceboxes?"

"Because they make noises that are picked up by our microphones," replied the sound people.

"But can't we take the cameras out and put something over them so they don't make noise?"

And to their astonishment, the sound technicians replied, "Sure, we never thought of that." So today the cameras used in Hollywood look almost exactly like the cameras we used before sound came in. They have the freedom they used to have. They have new freedoms, even. And the improvement in *sound* recording has been enormous. They are back on the straight road that nobody saw back in 1927, '28, and '29, because they tried all the roads before they discovered which was the right one.

Television Is Not Radio

What we need to do in television is to apply the same kind of reasoning. Radio people who remain "radio" can never solve these new problems. It takes a new type of *enlightened* radio people—open-minded thoughtful people. We must avoid all these side roads—all this doing it the hard way, and look for the one straight road that cuts straight through all the detours—the road on which television permanently will go ahead.

In the main, television thinking has been of the "gee-whiz" type; the fascinating jargon is easily learned. There has been little genuine, well-grounded research or experiment. And there has been practically no attempt to study the basic medium, motion pictures. But motion pictures per se, are not television fare. The television motion picture is very highly specialized. You can't jump into it merely by going to Hollywood and hiring a motion picture unit to make a picture for you to use on television. There is a whole great big wide world of experimentation that must be done.

Let Us Look at Costs

The principal objection to the use of motion pictures, according to the opposition, is cost.

People will tell you that Hollywood motion pictures cost $4000 a minute to make. They do—and more. But there is a simple answer to that — we do not need to make Hollywood movies. If we are going to do a dramatic show in radio, we don't build a theater. We don't buy backdrops, asbestos curtains, footlights. *We adapt our problem to the medium.* We short-cut.

We edit. We utilize the conventions of the medium, take advantage of its limitations. We use effects—and we end up with as perfect a version of our show as our individual competence permits.

The same short-cuts are available in motion pictures. And in addition, motion pictures provide the priceless ingredient—*editing.*

Now, it is perfectly easy to say, "Why hasn't that been done?" There is an equally simple answer. It is because a lot of inexperienced people have leaped into the saddle and galloped off in every direction.

It is just possible that one of those directions may be the right one; so far, however, there has been nothing to prove that. There is an understandable urge to play with this new toy, to go on the air and be glamorous—and broadcast all the mistakes that you are capable of. That is precisely what is happening. Every time these "live" people go on the air they set television back another ten years. That state of affairs

obtains pretty largely throughout the country.

News and special events invite a great deal of argument in television circles. The people who believe entirely in "live" production say that the most important factor in news and special events is "immediacy," that is, seeing it on your screen at the moment it happens. And further to bolster their argument, they have invented the word "instantaneity," which is a philological handspring of the first order. The best definition of this dreadful word is "alibi."

We go to newsreels and see events that happened several days ago, and we enjoy them because we get a satisfactory coverage of it—a coverage that is *edited* to bring out the important feature of what happened!

"Instantaneity" on Film!

There is no argument about this "immediacy" thing. It is, in general, a lot of nonsense. But if you want to admit "immediacy," "actuality," or "instantaneity," again we make the statement that it can be done better with film. Eleven years ago, at the Olympics in Berlin, Fernseh—A.G., the television subsidiary of the Reichsrundfunksgesellschaft, became involved in a problem of televising a part of the Olympics at a time when there wasn't sufficient light. The Jerries, who are pretty fast on their feet technically, got together and said to each other, "We will now do this with film, but we will also heed the warnings of people who say that we must do it at the same time it is happening."

And so they devised equipment that permitted them to make motion pictures of the Olympic games and to project those onto the television screen with a lag of approximately *three minutes*. That sounds incredible, but today high-speed processing of film is a matter of course. Everyone is familiar with the same-day newsreel presentation of football games, world series games, and so forth. These are done with a lag of from 3 to 6 hours. And nobody, incidentally, objects to *that* time lag—because the picture is *good!* Also, it is edited.

Let's Go to a Fire

You are sitting in your house and the fire trucks go roaring past. You say, "There is a fine fire somewhere. Let's get it on our television." So you go and turn on your television set and you find an announcer talking to you from the studio. Says he, "There is a terrific fire over at 630 Fifth Avenue, and in a couple of minutes we are going to bring you some shots of that fire. Our equipment is on the way over there." And after a radio buildup—possibly also radio announcer talking from the scene of the fire, we finally hear "And now we bring you the picture from the actual spot."

What we bring you is a *carefully edited* picture of that fire—but what you see actually happened *three minutes ago*. However, the fire is still going on. You know that because from your window you can see the smoke. You don't know whether the man who jumped out of the window jumped out at the actual moment you saw it on the screen or whether he took off minutes earlier. But that three minutes gives sufficient margin for a pretty fair job of editing by an experienced film cutter at the scene. Thus you avoid the type of thing which some of you may have seen in special event and news television broadcasts in which everybody runs in all directions through the smoke clouds and the whole story is completely mixed up, unintegrated, told in outrageous order with a wholly baffled announcer talking about something you can't see. We want to make it clear again—and you must bear with me if I repeat myself frequently—that editing is the most important part of a picture. If you can't edit your picture you haven't got a picture.

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Television Comes to Toonerville

Unsolved Problems Facing Us

One problem is the ratio of sound volume to picture size. One of the reasons that present-day television is sometimes alarming is that you see midget images and hear full-sized voices. Much experimentation must be done to make this make sense.

The problem of what photographers call "gamma" is important. Nobody has thought of that yet: most television producers haven't even heard of it. (Gamma is the relation of the contrast in the original with the contrast in the picture.) There is a great deal of investigation to be done in that direction.

Besides there is a tremendous job in the adaptation of motion picture techniques. Hollywood motion pictures don't do very well in television because they are not geared to television's requirements. There must be investigation into the psychology of short pictures—of various types of shots. The present-day people, for example, in "live" television utterly refuse to use long shots and thereby stultify their efforts, because a long shot is of the highest importance in establishing the inter-relation of characters, locations, etc.

One of the things that needs investigation is the elimination of ugly shots. The only way that you can keep from giving an animated cartoon of the tonsils in operation in a close-up of a singer is to pre-record. The singer sings a song into a mike without any camera and then stands up in front of the camera and smiles prettily, "mouthing" the song in synchronization with the playback of what she has just sung.

Pre-recording, amazingly enough, was discovered in the motion picture industry only comparatively recently. At that time, everybody had counted Jeanette MacDonald's teeth forty or fifty times every time she sang a song. And somebody said, "Why does she have to make faces?" They decided to do it a very simple way: a way, however, that took much costly experimentation before it was perfected—just as our acquisition of technique and experience will be time-consuming and costly.

Looker-Listener Habits

Another thing that must be investigated is the average length of television shots. They will probably vary from the accepted 12½ second average of theater motion pictures.

There must be a great deal of investigation into the mass psychology factor. Motion pictures—theater motion pictures—are looked at by a large number of people at the same time. Television pictures, on the other hand, will be looked at by only a few people. It is obvious that the factor of mass psychology must be carefully considered, and experimented with.

Much research remains to be done on color reproduction. Current methods used for color television are already obsolescent.

Investigation is indicated in the use of camera movement as against cuts. With "live" television, the camera has to move in for close-up, and the audience is constantly disturbed by a "busy" screen, full of people who dash off into the upper right hand corner, run away from you, or rush at you, increasing alarmingly in size. Camera movement is all right in its place, but it occupies too much of a place in "live" television. To get this motion picture quality in television an enormous amount of experimentation is necessary.

We can't just make movies in the conventional way. We must adapt accepted techniques and create new ones in step with the conventions of an art that is now half a century old.

Our eventual technique will come partially from research into writing problems. Writing for motion pictures is not as easy as it looks. Writing for a highly specialized type of motion picture is going to be harder. Scripts will have to be written so that they can be broken down to be shot virtually in sequence. This is contrary to general practice.

Who Will Develop Television Programs?

Television programs, if they are to meet exacting standards, are almost certain to be more expensive than radio programs. Yet unless television programs do meet the public's critical standards, I do not believe that television will develop into a mass advertising medium.

The initial expense of developing program techniques and of providing programs which will develop the medium

seems properly to be the responsibility of the networks and of others who will most directly profit from the growth of television.

Motion Picture Suppliers

The close parallel between the problems of television and the problems of the motion picture industry suggests that motion picture producers may become an important factor in supplying television programs. What better way to counteract competition than by becoming its supplier?

Also as in radio there will probably be independent program producers who may become important factors in the production of packaged television programs.

Constant knowledge of the developments in television engineering and programming, together with a continued measurement of growth in television set ownership and broadcasting station installations, will make it possible to project the medium's development with reasonable accuracy and prognosticate that period when television's development will be such that we should be ready with programs. This probably will not happen so rapidly that we will be unable to recognize it ahead of time.

Summary

1—Television can be a great advertising medium.
2—Its development hinges mainly on programming.
3—Good programs must be telecast from film.
4—Developing program techniques should not be the responsibility of the agency or the advertiser (but may have to be).
5—Today's job is to (a) keep informed, and (b) keep your powder dry until enough definite information is at hand to indicate what course you should take.

CAREERS IN TELEVISION (Continued from page 110)

counts indicated television as their No. 1 choice in postwar products, even though the price mentioned was $400. Automobiles polled 13 per cent and washers 12 per cent.

Today American industry spends only about $10,000,000 annually on sales or market research. Marketing experts believe the "Age of Electronics" in which we are now living may see this expenditure eventually approximate the estimated $500,000,000 spent annually on product research by industry.

Looking Ahead Ten Years

The development of automatic rebroadcasting transmitters will, we believe, make it possible within ten years to bring television to most of the areas outside of the 157 markets previously mentioned, to serve a total of 23,700,000 wired homes, or 80 per cent of the wired homes in the United States. This represents a population of about 100,000,000 people, or 82 per cent of the nation's buying power.

Even the best showrooms and displays have to contend with people in a hurry, crowded sidewalks and shopping areas, inclement weather, and even police regulations. The better the display, the greater the crowd, and the more pressing the command to keep moving. With television, products will be tastefully shown in the "little theater" of the home—the living room—during the leisure hours not only of the family's purchasing agent, Mother, but of Father and the children as well. Television has no problems of traffic crowds, bad weather or police edicts.

There will be many new opportunities for alert merchandisers in the selling of home television receivers. These will be far superior to prewar models in picture size, detail, brightness, and contrast. They will have greater stability in circuits, will be easy to operate so that even children can tune in both video and sound. They will have miniature tubes and other components which make possible more compact designing and styling.

A vastly improved product will be offered at prices substantially below prewar levels. For example, a unit with direct-viewing kinescope may sell for under $200. RCA's new, large screen receiver, incorporating both radio and television, will be priced at about $395.

On the engineering side, technicians are needed in all phases from research to field installations. Electronic "know how" gained through Army and Navy training will find practical application not only in television but in such fields as electronic power generation and electron optics.

Educators everywhere, conscious of the intense interest in television and electronics are planning courses similar to those already being held at Yale, Temple, New York University, City College of New York, Massachusetts Institute of Technology, and other educational institutions. Many men are receiving technical training at the RCA Institute in New York.

We all know what an effective advertising and sales medium radio has proved to be. Just as recordings are the "transcription" of radio, so film will in many cases serve as the "transcription" of television. At every turn new jobs are created.

Your Stake in Television?

Every businessman, every professional man, every worker would do well to explore every possible angle through which his future may be related to this new medium. There is much to be done, ranging from the design of telegenic packaging for television to the telesales demonstrations of 1001 products in the homes of this great market. There is a whole new industry and a whole new technique of its tele-selling to be developed. It follows that those individuals who are equipped to serve best will reap the greatest benefits as television comes into its own.

TELEVISION AUDIENCE RESEARCH (Continued from page 45)

television. They speak of it as "window shopping at home," and think of it as a time-saving device that may some day alter their buying habits. They also recognize that, as an advertising medium, television will do more than combine the advantages of space and radio advertising. It will add a further element of motion—or demonstration—to its appeal.

Recognizing these facts, viewers quickly reject television commercials that fail to take advantage of the special opportunities offered by the new medium. Commercials that show a motionless product, for example, while an off-camera announcer reads from a script, are not wanted. One of the functions of TARI, now and in the future, is to improve the efficiency of video advertising; to test commercials before they are broadcast, as well as to check on their effectiveness after broadcast. Another future job will be to study the comparative values of color advertising and black-and-white advertising.

Because more concentration is needed to follow television than radio, and because the new medium will have to compete with household duties as well as other forms of entertainment, some portion of the program schedule should probably be allotted to material that will require little if any eye attention. This will be particularly true of daytime programs. A very noticeable "guilt feeling" has been evinced by our respondents when they consider the time-consuming factor of television. Some "excuse" for looking, such as household or shopping help, may lessen this objection appreciably.

The new television audience will almost surely compare what it sees with radio and movies. This is because it is natural to compare something new with something known; not because there is any desire to have television imitate either of the older media. In fact, the opposite is true. Programs that lean heavily on radio or Hollywood techniques have been least popular throughout the course of our studies. People want something new in television; something they can get from no other source. How well television satisfies this desire will, in a large sense, determine the speed and extent of its public acceptance.

TELEVISION PROGRESS

1800—Alessandro Volta, led by the experiments of Galvani, invented the voltaic pile, forerunner of all electric batteries.

1816—Baron Jons Berzelius discovered the element selenium. The conductivity of this metal is affected by exposure to light.

1819—Hans Oersted discovered the principle of electro-magnetic induction.

1820—Andre Ampere measured the relationship between electricity and magnetism. He developed the ampere, a practical unit of current strength.

1827—George Ohm gave his name to Ohm's law—a standard measurement of resistance to electrical current flow.

1831—Michael Faraday announced the laws of electro-magnetic induction and developed the first generator.

1839—First successful methods of photography were invented by Fox Talbot in England and Nicephore de Niepce and Louis Daguerre in France.

1840—John Draper at New York University pioneered in making portraits by photography.

1847—Bakewell invented the "copying telegraph," employing an elementary scanning device.

1862—Abbe Caselli transmitted the first electric picture, Amiens to Paris.

1873—James Maxwell declared light to be a form of electro-magetic wave. . . . The electric motor was developed in Vienna. . . . Light-sensitive properties of selenium were discovered by a telegraph operator named May. This discovery indicated that light values can be converted into equivalent electrical values.

1875—G. R. Carey designed the first television system, imitating the human eye.

1878—Sir William Crookes observed electric discharges in a vacuum, thus discovering the cathode-rays now known as electron beams.

1880—Leblanc developed the principle of scanning—a method of viewing successively individual picture elements. A scanning device divides a picture into lines and each line into tiny sections.

1884—Paul Nipkow invented a mechanical television scanning disc.

1886—Heinrich Hertz, by experiment, confirmed Maxwell's theories concerning electricity. He found the speeds of light and electricity identical, and proved that radio waves are electro-magnetic.

1888—Photo-electric cells were built and demonstrated.

1889—Thomas Edison filmed the first movie.

1890—C. Francis Jenkins of Washington began a search for new appliances needed for the success of the Nipkow scanning disk.

1895—Guglielmo Marconi sent and received his first wireless signals across his father's estate in Italy.

1897—Sir Joseph Thompson demonstrated the true character of the electron as the smallest particle of the electrical structure of the atom.

1898—Karl F. Braun discovered that electrons can be controlled by magnetism and their path traced on a fluorescent screen.

1905—Albert Einstein announced the theory of photo-electric effects, thus defining the way in which a television camera would turn a picture into electricity.

1907—Boris Rosing patented a television system, using a receiver resembling the modern receiving set, based on the Braun cathode-ray tube.

1908—A. A. Campbell-Swinton developed the theory of a cathode-ray tube camera.

1909—Hans Knudson sent the first drawing by radio.

1920—Commercial radio stations were licensed. . . . Radio station KDKA inaugurated a regular broadcast schedule.

1922—WEAF broadcast the first commercial program. . . . John B. Johnson produced the first low-voltage, gas focused, sealed off cathode-ray tube.

1923—Vladimir Zworykin filed patent application on the first form of electronic television camera tube, the Iconoscope, now in general use.

1924—Captain Richard Ranger sent the first facsimile picture from London to New York.

1926—C. F. Jenkins, in Washington, D.C., demonstrated apparatus which showed shadowgraphs of far-off moving objects . . . J. L. Baird, in England, demonstrated television transmission of half-tone pictures . . . Baird also developed infrared ray television . . . National Broadcasting Co. organized the first radio network . . . Warner Bros. gave the first "vitaphone" demonstration . . . Dr. E. F. W. Alexanderson, in St. Louis, demonstrated an advance in television by showing his multiple light-brush system and new projector.

1927—J. L. Baird demonstrated his mechanical scanning disc television system at Glasgow . . . Wire-television was demonstrated between Washington and New York . . . Radio-television was demonstrated between Whippany, N. J., and New York by Bell Telephone Laboratories . . . Congress established the Federal Radio Commission.

1928—Baird sent the first trans-Atlantic television picture and demonstrated the first crude systems of color and stereoscopic television . . . Bell Telephone Laboratories televised outdoor scenes without the use of artificial illumination . . . At Albany, General Electric televised the first "remote" pick-up: Governor Smith's inauguration . . . Farnsworth developed the "image dissector" tube.

1929—Vladimir Zworykin announced the invention of a non-mechanical receiver using a special cathode-ray tube called the Kinescope . . . Television in color was demonstrated by Bell Telephone Laboratories over wires from one end of a room to the other; a picture about the size of a postage stamp was transmitted.

1930—NBC television station W2XBS atop the Amsterdam Theatre, New York, opened for tests . . . At RKO Proctor's 58th St. Theatre, RCA demonstrated television on a 6-foot screen . . . Two-way wire television, on which speakers at the end of a 3-mile line saw each other as they conversed, was demonstrated by Bell Telephone Laboratories.

1931—Fifteen companies had telecast schedules in U.S. . . . Bell Telephone laboratories, to clarify television, introduced caesium photo-electric cells that "see red" . . . English Derby at Epsom Downs was televised for the first time by Baird's system . . . Television on a 10-foot screen was shown at the Broadway Theatre, New York, with 1700 attending the opening performance; a wire link was used between Theatre Guild Playhouse and the televiser . . . Dr. Alexanderson sent television across his laboratory in Schenectady on a beam of light instead of a wire or radio wave.

1932—C. Francis Jenkins described a new television principle resulting in images estimated to be 3600 times brighter than those heretofore developed. The image appeared on a sensitized emulsion of an "animated lantern slide" . . . Field tests of 240-line all-electronic television were made by RCA at Camden, N. J., with signals relayed by radio from New York through Mt. Arney, N. J., for the first time.

1935—Edwin Armstrong announced the principle of FM . . . British Postmaster General's Committee recommended that BBC be responsible for television in England.

1936—BBC formally opened Alexandra Palace television station, transmitting a 405-line picture. Telecasts occurred daily except Sundays . . . AT&T tested coaxial cable and proved it successful . . . Don Lee and Philco gave public demonstrations of cathode-ray tube television systems.

1937—Television, with a 441-line picture, was demonstrated by Philco in a 3-mile test across Philadelphia . . . Coronation procession of King George VI was telecast over 7500 square miles to an audience estimated at 50,000 . . . Vladimir Zworykin demonstrated electron projection "gun" at IRE Convention . . . R. R. Law projected television pictures on an 8 x 10 foot screen . . . Bell Telephone Laboratories transmitted movies over coaxial cable between

New York and Philadelphia. Pictures were of 240-line texture . . . Mobile television van of NBC appeared on the streets of New York.

1938—BBC began televising demonstrations of anti-aircraft defense, fire prevention, etc. . . . Television images from London, on ultra short waves, were picked up on Long Island, badly distorted.

1939—Plays were telecast in London directly from the theatre stages with marked success . . . NBC televised the opening of N.Y. World's Fair . . . The first baseball and football games and the first prizefight were telecast . . . RCA introduced an improved radio camera, the Orthicon, for greater clarity and depth in outdoor pictures . . . A telecast from New York was picked up in a plane 20,000 feet above Washington, D.C. Outbreak of war stopped all European television.

1940—In the first "television network" broadcast, FCC members at Schenectady saw pictures telecast from NBC, New York, received directly and then rebroadcast through an automatic relay across the upstate capital district . . . RCA Manufacturing Co. at Camden, N. J., demonstrated color television to the FCC . . . Philco, at Philadelphia, demonstrated television pictures of 605 lines on horizontally polarized waves, 24 frames per picture and reception on loop antenna inside the set . . . FCC authorized "limited commercial" operation, later suspended it . . . An airplane carrying a portable television transmitter telecast New York panorama . . . NBC telecast Philadelphia Republican convention to New York via coaxial cable, linking cameras with a transmitter atop the Empire State building. This telecast was picked up in Tulsa, Oklahoma, about 1800 miles away, establishing a new overland record for ultrashort waves . . . NBC also telecast Chicago Democratic convention from films rushed to New York by plane . . . CBS demonstrated color television . . . DuMont studios took mobile transmitters on Army field manoeuvers . . . Lee de Forest was at work on a pilotless "television torpedo plane."

1941—RCA demonstrated to FCC: home television receiver with 13½ x 18 inch translucent screen; television on theatre screen of 15 x 20 feet; scenes relayed by radio from Camp Upton; facsimile multiplexed with frequency modulation sound broadcast . . . NBC put color television pictures on the air for the first time . . . FCC authorized commercial television . . . RCA large-screen television demonstration for Motion Picture distributors and press at New Yorker Theatre featured world's middleweight championship bout at Madison Square Garden . . . First advertising rate card for television was issued by NBC; commercial operation of television began on a minimum schedule of 15 hours a week . . . American Television Society was organized . . . FCC raised the standard television picture from 441 to 525 lines . . . CBS presented the first television newscast; CBS television also went on the air to cover Pearl Harbor news.

1942—NBC telecast a course in air-raid instruction, placing receiving sets in police stations . . . CBS telecast a course in Red Cross instruction and sold war bonds by television . . . Conversion to war work stopped most television activities in the U.S.

1943—Western Defense Area telecast regular course in Civilian Defense training over W6XYZ, Paramount station in Hollywood . . . Scophony was granted two basic patents for large-screen television . . . NBC installed television receivers in Army hospitals and began weekly telecasts of prize-fights from Madison Square Garden . . . Alexanderson patented a three-color television process . . . Palmer Craig, at the University of Florida, announced a new system of broadcasting television over standard radio channels . . . Radio Technical Planning Board was organized.

1944—Television Broadcasters Association, Inc., was formed by broadcasters and manufacturers, and held its first annual conference . . . First television network, linking NBC, New York, GE, Schenectady and Philco, Philadelphia, went into regular operation . . . Television stations in several cities gave special election night programs. Radio Executives Club sponsored a television seminar covering all phases of the industry . . . Telecine film was first used.

1945—Canada set up a Radio Technical Planning Board . . . RCA demonstrated a 22-inch projection screen for use in home receivers. DuMont demonstrated a 20-inch direct-view screen, also for home television reception . . . FCC announced FM and frequency allocations for peacetime expansion (alternative plan No. 3) . . . Washington was linked to Philadelphia over a new multiple-relay television network developed by Philco . . . Viewtone developed a midget television set, to retail for $100 . . . DuMont started first television installation in a department store by converting John Wanamaker auditorium, New York, to a new television broadcasting station . . . BBC resumed telecasts several months after V-E Day. All New York stations gave special V-E Day presentations; NBC stayed on the air 14 consecutive hours . . . NBC covered V-E Day, V-J Day, Navy Day and many other important occasions with pick-up programs and special film . . . DuMont instituted "Thanks for Looking", the first participation program to involve the home audience . . . Bill Still completed station W2XJT, using equipment which he designed and built himself . . . "Stratovision" was proposed—it is a system of relaying television by equipment installed in airplanes . . . Balaban & Katz, in cooperation with the Chicago Board of Education, started a series of educational telecasts to schools . . . RCA image orthicon provided a new black-and-white television camera 100 times more sensitive than the best in use in 1940. RCA also demonstrated transmission of color.

France

1932—Television Baird-Nathan Co. started experimental telecasts.
1935—A television station, with transmitter on the Eiffel Tower, was opened.
1937—French Postal authorities demonstrated television at Paris Exposition.
1938—A cable for television transmission was laid from Paris to Bordeaux.

Germany

1929—The Fernseh Co. was formed. Fernseh used mechanical scanning methods.
1936—High-definition program service began in Berlin.
1937—A television cable was laid from Berlin to Nuremberg for television - telephone service and propaganda purposes.
1938—Television-telephone service was opened to the public.
1939—Nazis took equipment to Argentina and demonstrated television.

Holland

1935—Philips Co. built the first iconoscope in Europe and began experimental transmission.
1938—Philips Co. constructed a portable transmitter and demonstrated television through Holland and other countries.

Japan

1925—Television experiments began, using a mechanical scanning system.
1936—Government appropriated large amounts for television research.
1937—Nissan Television Kaisan was formed to operate patents of British E.M.I.
1939—Japan Broadcasting Corp. put the first experimental television program on the air.

Russia

1934—Television experiments began, using a mechanical scanning system.
1937—Rusia bought RCA television equipment for a Moscow television centre.
1939—Experimental telecasts continued until the outbreak of war.

Sweden

1930—Baird Co. demonstrated television in a Stockholm movie theatre.
1935—Svenska Radio A.B. erected a television transmitter in Stockholm. There were daily telecasts during the Christmas shopping season.

In all the above countries, and in England (see main chronology), all television operations ceased with the outbreak of war in 1939.

Many of the facts reported above are reprinted by permission, from "The History of Television" by Orrin E. Dunlap, Jr. and from "4000 Years of Television" by Richard W. Hubbell.

Cover by LARRY TISDALE

The cover of our 1946 American Television Directory was painted by Larry Tisdale who has won honors in many poster competitions. He exhibited at the Prix de Rome in New York, 1939, and at the Pennsylvania Academy, Philadelphia, in 1938. His talents won him a Tiffany Foundation Scholarship in 1937 for study in Long Island; also the Eliot O'Hara Water Color Scholarship in 1938 for study in Maine. Mr. Tisdale graduated from Yale University in 1939, having served as an editor of the *Yale Record* and art editor of *College Years Magazine*. He was with Lennen & Mitchell, Inc., when he entered the armed services. He aided in the preparation of numerous educational manuals and the "GI Roundtable Series" (which included a booklet on television), while attached to the Army Medical Center, Washington, D. C., the Adjutant General School, Fort Washington, Md., and as a staff sergeant in the Information and Education Division, New York.

OPPORTUNITIES IN TELEVISION

The staff of a television station will include script writers, costume designers, stage set designers and builders, lighting experts, camera men, sound effects men, microphone boom operators, camera dolly operators, stage and technical directors, picture and sound control operators, maintenance technicians, and transmitter operators. Many of these professions are new and require basic fundamental knowledge and training in the actual operation of a television studio.

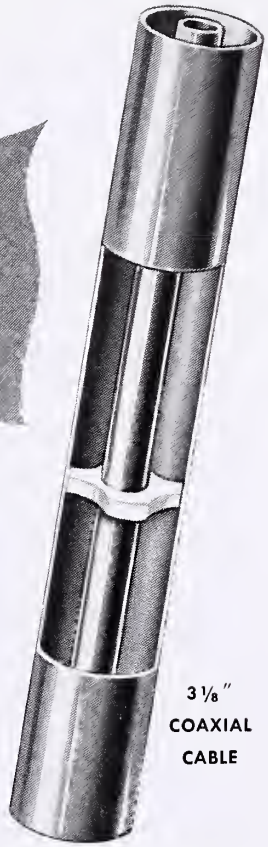
A television studio includes all equipment which is now a regular part of a broadcasting studio to provide the sound which accompanies the picture. In addition, the television studio includes much more apparatus to take the pictures and to allow them to be broadcast. The maintenance of this apparatus affords a great opportunity for the technically-trained man with a knowledge of the basic principles of electrical enginering, electronics and radar. As more television stations are built, the demand for trained personnel in each of these branches will increase. —JAMES D. MCLEAN, General Electric Company.

For FM and TV

NEW ANDREW COAXIAL CABLE WITH

51.5 OHMS IMPEDANCE!

Meets New RMA Standards



3⅛" COAXIAL CABLE

A new coaxial cable, especially designed for FM and TV use, is now a reality at the Andrew Co. Scheduled for February delivery to the first orders received, these new cables, in 4 sizes, introduce the following important engineering features:

1. Characteristic impedance of 51.5 ohms. (The regular Andrew cables for AM applications have a nominal impedance of 70 ohms.)

2. Engineered to meet fully the rigid new RMA standards. (Andrew is particularly familiar with these standards through participation in meetings of the RMA standardizing committees.)

3. Insulators are spaced 12 inches apart in the 3 large size cables, and 6 inches in the ⅞-inch cable.

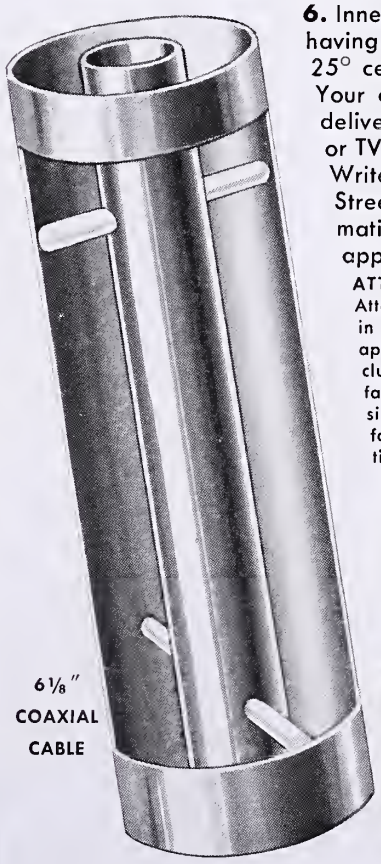
4. Improved low loss insulation material is used, having a dielectric constant of 6.0 and a maximum loss factor of .004 at 100 mc.

5. Close tolerances have been established on conductor and insulator dimensions, in order to maintain a constant characteristic impedance.

6. Inner and outer conductors are made of copper having a minimum conductivity of 95% IACS at 25° centigrade.

Your order now is the best assurance of early delivery on this new coaxial cable for your FM or TV installation.

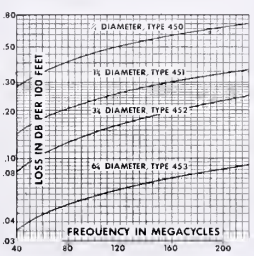
Write or wire the Andrew Co., 363 East 75th Street, Chicago 19, Illinois, for complete information or engineering advice on your particular application.



6⅛" COAXIAL CABLE

ATTENUATION CURVE

Attenuation is calculated in acardance with RMA-appraved pracedure, including a 10% derating factar ta allaw far resistance af fittings and far deteriaratian with time.



• The new RMA appraved Andrew caaxial cable for FM and TV comes in 4 sizes, priced tentatively as fallaws: ⅞", 42c per ft.; 1⅝", 90c per ft.; 3⅛", $2.15 per ft.; 6⅛", $5.20 per ft. Andrew Ca. alsa manufactures a complete line af accessaries far caaxial cables.

ANDREW

ANDREW CO.

363 EAST 75th STREET

CHICAGO 19, ILLINOIS

TELEVISION PROBLEMS

Courtesy of *Tide* and Columbia Broadcasting System.

IS TELEVISION TOMORROW'S RADIO?

(*Continued from page* 13)

proach which merges sight and sound and which will require that the audience both *see and hear*, in order to get the full drift of the show; the second technique is one in which the visual portion is merely an adjunct to the sound—which will make it possible for a person to enjoy a television program without having to "view" it beyond an occasional glance—much as you might listen to a symphony with closed eyes and only from time to time look up at the orchestra.

Unless this second technique is developed, television is going to face a difficult situation, because the housewife cannot be expected to drop her pots and pans and stay glued to her set. If she can't work and listen, she will just have to not listen.

Cost of Network Television

Question: "Do you foresee rate battles?"

Answer: Wherever there are rates, there are battles. I don't know how, in a free competitive system, you can avoid it.

The Westinghouse suggestion of a network of stratospheric television transmitters is not only an example of the bold and imaginative engineering being lavished on the medium; it is also an example of the cost factor. This skyway transmission, you recall, envisions a series of transmitters, built into giant stratoliners which, while circling at a height of 30,000 feet over ground studios, pick up television signals and broadcast them to the homes in a wide area around these ground studios.

As I read the dispatches, I learn it will take a web of 14 plane-transmitters to achieve an 80 per cent coverage of the country; and it will cost $1000 an hour to operate each plane. So, we have television paying $14,000 an hour for station operations, and the programs still have to be piped—by coaxial cable or radio relay—from the originating point to one of the 14 ground control studios and relayed by microwave from one to another. Add to this the cost of time and talent—and you begin to get an idea of the extremely high cost of network television.

I suspect that it will be a long time before rates in television become sufficiently competitive to cause battles.

Inventions Upset Predictions

Let me, in closing, revert to the second paragraph of these remarks in which I disclaimed having any special pipeline into the future. The thoughts I have set down are common sense, if somewhat hard-headed, projections of the facts such as we have them today. If within the next two or three years an invention is unveiled which, in relation to television, even remotely approaches the devastating effect of an atom bomb—then all bets are off!

PTM—A NEW TRANSMISSION SYSTEM

(Continued from page 331)

part is contained in an even smaller cabinet. Through the use of the "cyclophon," the number of vacuum tubes required is very materially reduced.

Coaxial cables and parabolic reflectors 8 feet in diameter serve to beam the 1300 mc carrier. The performance of the system meets the strict requirements of high quality modern telephony.

These systems could also carry a number of telegraph channels in place of each of the telephone channels. The importance of such a system for long distance telephony is at once evident: no wires, little maintenance, little hazard of interruption by flood, hurricane or ice storm, and simplified operation even for direct dialing of long distance numbers across the continent.

The possibilities of PTM are not limited to telegraphy and telephony. In fact, high grade transmission of music has been successfully demonstrated and its application to broadcasting offers solutions to many pressing problems.

With the ever increasing demand for broadcasting facilities and the already congested situation in the present broadcast band, there is a trend toward utilization of high frequencies for radio broadcast purposes. Steps have been taken in the United States toward the establishment of an extensive system of broadcasting employing frequency modulation. In view of the number of license applications filed with the FCC, it seems that the channels made available in the new FM band 84-102 mc, will in the near future prove insufficient to meet the total demand, and it is expected that broadcasting will be shifted toward higher frequencies.

In any case, wide-band FM, a comparatively newer and superior type of modulation, has inherited the older concept of "simplex" broadcasting which does not permit full advantage of the possibilities of ultra-high frequency transmission for a number of stations.

A Common Transmitter

Most of the difficulties experienced in uhf transmission and, in particular, in densely populated areas, result from the "line of sight" requirements. To overcome these difficulties, the transmitting antenna must be located where it can be "seen" by the greatest number of receiving antennas. All transmitting stations serving a given area should be located at this optimum place. For space reasons only, this is not practical as a multitude of transmitters and antennas cannot be accommodated on top of the highest structure located centrally among the receivers. The use, for several programs, of a common transmitter and antenna is obviously attractive.

In a "multiplex" broadcasting system, several programs would be transmitted from the optimum location on a common carrier frequency. The various studios originating the programs could be located at convenient places and convey their programs to the transmitting point by wire line or other means.

Each of these programs would modulate the common RF carrier system in a manner similar to the multiplex telephone and all the stations and listeners would benefit from the optimum location. The cost of installation should be greatly reduced as would also be the cost of operation and maintenance.

Important advantages are also given to the broadcast listener; fixed tuned radio frequency receivers may be used since a common frequency is used for all stations; furthermore, the antenna problem is also simplified since the reflection from nearby buildings is virtually eliminated as all transmission originates from a single point—thus, a single efficient fixed directive antenna can be used for receiving all stations.

Other advantages such as simplicity of relaying inherent to the multiplex broadcasting contribute to make this system a particularly attractive one.

IT&T Laboratories have already demonstrated high quality transmission of music through PTM and are engaged in the construction of a UHF multi-channel broadcasting system.

In the television field, a common frequency for high definition or color televison as well as high quality sound is made possible by PTM. Since television transmitters require a wide frequency band to carry the picture channel, they may also be used to trasmit the sound channel in the form of very short pulses without any additional complication in the transmitting station itself. A series of pulses, generated according to the principles of the PTM system, is added to the normal synchronizing pulses in the control room. The equipment required to do this is simple and makes use of receiving tubes only, since it operates at very low power levels. The resulting signal is sent to the picture transmitter in the usual manner and radiated. At the receiver, the pulses for the sound channel are separated from the synchronizing pulses by a "width selector" circuit, for example, and fed to the sound demodulating and reproducing circuits. Actually, the complexity of the receiver is reduced since the pulse-separating circuits are simpler and use fewer components than the corresponding sound I-F amplifier and detector of the conventional system. The distortion, noise level, and frequency response are all satisfactory for high quality sound reproduction, because in the high frequency television spectrum the line scanning rate is sufficiently high to permit transmitting a very large number of these sound pulses per second. The pulses do not interfere with the picture signal because they are transmitted during the time the scanning beam is reduced to zero as it returns to the start of each line.

Because of the complete elimination of the sound transmitter and the fact that the receiver construction is simplified, it is anticipated that this will prove to be one of the most important applications of the PTM system. It is expected that actual field tests under normal operating conditions will be made in the early part of 1946.

PTM antenna installation at Nutley, N. J., in Federal's multiplex radio relay system.

SO THEY SAY:

"I had the novel experience of appearing in television before I did in motion pictures. I found television a great help when I made my first picture, 'Goodbye Mr. Chips.' The camera technique is much the same and teaches, most importantly, naturalness, restraint and poise. . . I discovered that, before either a television or movie camera, the worst fault a player can be guilty of is overacting. Fine acting before a motion picture or television camera isn't really acting at all. It is the art of being natural." —GREER GARSON

"I can now look forward to a long layoff in a new medium, television." —SOLLY VIOLINSKY

"Fortunately for screen actors there is no deep dark mystery about acting in television. Any competent actor who has performed before the motion picture camera is ready to perform before the television camera. Those of us who have participated in a number of television productions know that acting in television is just about the same as acting in motion pictures. It is acting, nothing more and nothing less."

—ROBERT SHAYNE

USES OF FILM IN TELEVISION (Continued from page 44)

And because animations are stylized, they lend themselves to fantasy and humor in the handling of difficult or controversial topics.

Films also permit the use of stop-motion and three-dimensional animation—for example, a pair of shoes that do a dance as if by magic, without strings.

All of Hollywood's miraculous tricks of the trade—rear-screen projection, miniatures, matte shots, slow motion and accelerated action, optical tricks and "wipes"—are either hard to do or impossible in live telecasts, but can be accomplished easily on film.

Camera Angles and Movement

Dramatic programs, in particular, benefit by the flexibility and scope which prefilming affords. It has often been said that a fundamental of television, as in the motion picture, is constant scene change and camera movement. Despite multiple cameras, and rapid changes of costume and scenery, it is a heartbreaking job to give a live telecast interesting camera angles and enough movement.

And it will be expensive, too, for it entails large crews and the tying up of stages for live show rehearsals. Hence, film may be the cheaper and easier way of preparing many programs.

Prefilmed television programs also have this advantage: they can be "dubbed" into foreign languages. That means potential world-wide telecoverage at reasonable program cost.

The motion picture industry itself may develop glorified trailers (prevues), containing real entertainment, to exploit its Hollywood feature pictures via television.

To what extent Hollywood's stake in theaters and real estate will cause its product to be withheld from television distribution, only the future will tell. Some years hence it may not be surprising to find television broadcasting chains organizing their own newsreel companies.

Local stations are going to be obliged to amass film libraries of stock shots dealing with local people and backgrounds. Much of this material may be silent footage intended for telecasting in conjunction with a live announcer's voice.

Many authorities feel that the improved fine grain emulsions and professional 16 mm. camera equipment, which have been a result of the war, will ultimately make 16 mm. film more practical and economical than 35 mm. film for television programming.

Certainly, 16 mm. film, which does not entail large or expensive studio investments, is one way of materially increasing the volume of film available to television without too great an initial outlay. Numerous radio programs today cost an average of from $300 to $600 per minute. That is not out of line with current 16 mm. film production costs. By-product revenue from some films may be realized in re-edited versions for the rapidly expanding school, adult education, and home movie projector markets.

A Public Relations Tool

Television will provide an unsurpassed public relations tool for industry. However, for guided tours of plants, the showing of manufacturing processes, products undergoing tests, benefits to workers and consumers, the motion picture camera will always prove more capable and flexible than the mobile television unit.

Yet enthusiasts favoring live talent video shows criticize use of films as entailing loss of "spontaneity." They ignore the fact that television itself, like the motion picture, lacks that personal magnetism of the living theater where spectator and actor are face to face.

Hollywood has been proving for 25 years that if a show is good, people don't mind that it is canned in advance. A motion picture negative of a sporting event can be developed on location in a mobile film processing unit and placed on the air with as little as a minute's delay. This would permit rapid editing and would vastly improve broadcast quality.

The spontaneity bugaboo was also disproved by the success of candid camera film interviews in a prewar California election campaign. Many "real life" scenes in documentary films such as "The City" show the motion picture camera capable of a high degree of "immediacy."

Documentaries Proved Popular

Documentary motion pictures, some of feature length, are very popular with television audiences. One telestation reported that "The Adventures of Chico," "The Wave," "The Edge of the World," "The City," and war films such as "Desert Victory," brought enthusiastic reactions from video audiences. The vast quantity of 16 mm. movies shot by amateurs all over the world is an untapped reservoir of television material.

Certainly the method and techniques which have proved so successful in documentary film production deserve close study by all individuals engaged in television programming. They should investigate the possibility of combining documentary film sequences with specially acted live studio scenes. Such a procedure will give to television from the outset a scope and mobility which mobile television cannot equal.

In producing motion pictures for television use, a new technique will have to be evolved to suit the limitations and capabilities of the television system. Among factors which must be kept in mind are: (1) Lighting, (2) Colors, (3) Close-ups, (4) Length of shot.

Preview on Small Screens

Films intended for television program use should be previewed in the company of only a few spectators and inspected on a screen no larger than that of the average television receiver. The small sized television screen, in contrast to the mammoth movie screen, demands more close shots and close-ups to tell a story clearly and quickly.

Film is not an inexpensive medium, and the budgets available for wartime programs have permitted little experimentation. As telecasting moves to a commercial basis, larger appropriations will permit film to prove its worth in program construction.

HOW WILL TELEVISION HANDLE NEWS? (Continued from page 19)

In the category of "hot news," there will be as much opportunity as ever between rival organizations to battle for a scoop. Getting to the scene will be highly competitive and costly. Ingenuity and keenness on the part of news staffs —the personal factor—will reap results. Besides special trucks for carrying equipment, special planes will also have to be kept available to rush equipment and crews. In certain cases, air views of a scene would also be transmitted. In fact, an *entire* news telecast might be made from the air, for example, a disaster at sea such as the burning of the Morro Castle off the New Jersey coast.

Little imagination is needed to foresee a television news organization of the future finding use for jeeps, ducks, weasels and much war equipment that can help in peace to "get there fastest with the mostest."

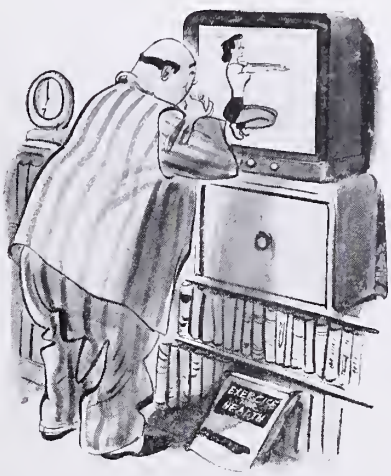
For that's how scoops are made.

The television news of tomorrow will be provided by a nationwide field pickup reporting system, coordinated by a studio editorial news staff of specialists, integrated into an interesting format by a blend of all the techniques inherited from its foster parents, radio and the newsreel. That system will be the pride of a well-informed nation. And that tomorrow is not now far distant.

The final promise of television is the further raising of its sights—the strengthening of its myopic weakness—until its vision reaches across the length and breadth of our world. When that time arrives, television will be the supreme unchallenged news reporting medium. It will bring the world to the world in a fashion that promises fulfillment of the hopes for international understanding, tolerance and peace.

Telsvictims — by d'alessio.

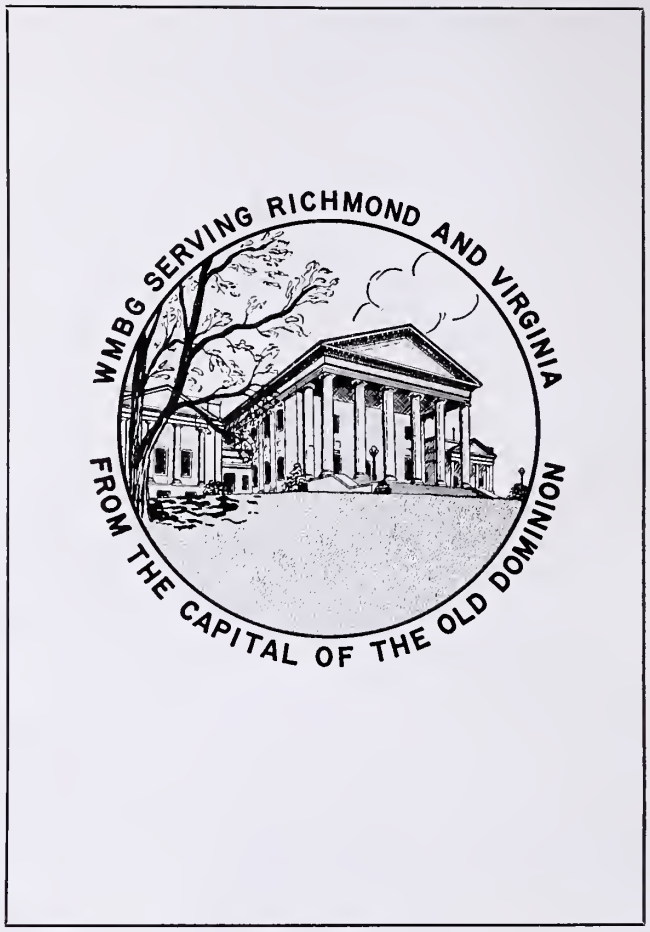
"Elmer! Quick! Russek's is abaut ta show its new line af silver faxes!"



"Wanamaker's? Will yau flash that twelve-dollar handbag again? I didn't notice if it had a zipper."

Gregory d'Alessio.

Courtesy, *The New York Times Magazine.*



WHY JACK BENNY DOESN'T LIKE TELEVISION

"THEN I got to thinking about Fred Allen. What must be going on in his mind? In spite of what everybody thinks about Allen, we must admit he is intelligent. He realizes what television will mean to him. He *knows* what he looks like. I tuned in on his program—accidentally — last Sunday, and it was pitiful . . . I never felt so embarrassed for anybody in my life. The only thing that saved Allen's program was the audience. They were so sorry for him, they laughed continuously all through the show. You can't fool the American public. The people know television is just around the corner, and it was just their way of saying 'So long, Fred. You did a great job.'

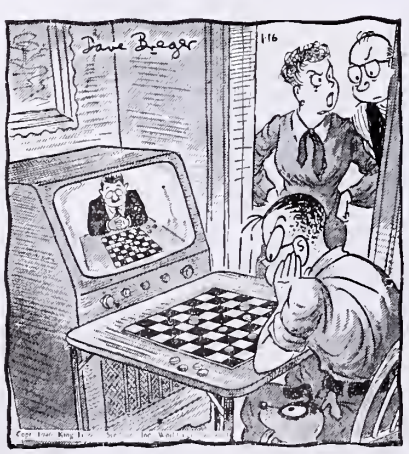
"Last night I went to bed, but I couldn't sleep. I kept tossing and turning. Every time I closed my eyes I saw poor little Eddie Cantor, Burns & Allen, Bob Hope, Fred Allen, and all those other comedians less fortunate than I. It was a never-ending parade. Fibber McGee & Molly, Edgar Bergen, Red Skelton, Jack Carson. Yes, and even The Great Gildersleeve. All of them potential victims of television.

"And as I lay there wide awake in bed, I knew what they were going through—sleepless nights, tossing and turning, wondering what the future held in store for them. The uncertainty —the agony of waiting! The feeling of complete helplessness as, moving ever closer, television crept to engulf them and relegate them to the past.

"It doesn't seem fair. Why doesn't science leave well enough alone? Radio is all right the way it is. Television can wait. *Another* 20 years won't make any difference. *I'm* willing to make the sacrifice. I'll relinquish my high place if it will help others less bestowed.

"Let's not forget the human equation. Let's remember that the backbone of civilization is charity and kindness. So I say, hold off television. Science be damned! Long live radio!"

— JACK BENNY, in *Variety*.



Drawing by Breger. © 1946, King Features Syndicate, Inc.

"Day and night! I just KNEW television would come to this!"

"Radio lives in a skyscraper. We haven't found all the keys to all the rooms yet and there is still some difference of opinion among the prospective tenants over the desirability of the upstairs floors versus the lower floors, but no landlord has a longer waiting list of applicants than the FCC." — PAUL A. PORTER, *Chairman*, Federal Communications Commission.

Drawing by Lichty. © 1946, Chicago Times, Inc. Courtesy Chicago Times Syndicate, Inc.

"Until we make television practical, stop inventing things to make it obsolete!"

TELEVISION IN THE RETAIL FIELD

(*Continued from page* 48)

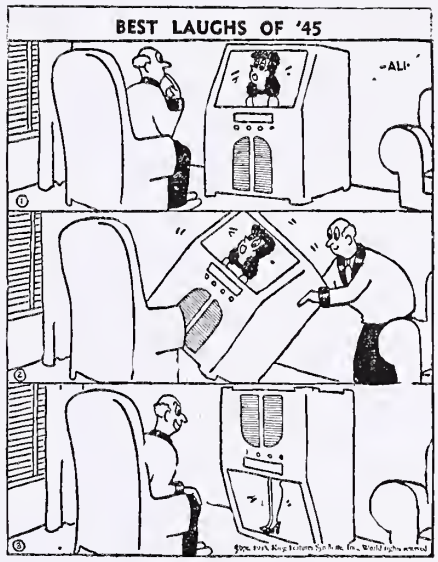
this kind of experimentation with the store's goods.

The interior use of television within the store will be extremely interesting. For the first time it will be possible to show samples of goods from one floor to another. Displays within the store will be very much influenced by this new resource. And some exterior windows may show actual goods and models from various parts of the store. Done without study and without experience it is likely to appear very confusing. For this reason I look for the major development in television for stores to come from display personnel rather than copy staffs.

The advent of television will create a bridge between the merchant and the customer. This prospect seems particularly inviting to me. As the big stores became larger they became more impersonal and naturally lost touch with the individual customer. Television will help bridge this gap. It will create, if not an individual association, a closer feeling between the actual store and its customers.

Television will neither supplant nor substitute for advertising media currently in use. All of radio's success as an advertising medium has never succeeded in making it a substitute for magazines or newspapers. Newspapers still represent the most economical form of direct advertising for department stores. And, television, I think, will not change a fundamental habit of wanting to sit and read quietly and leisurely. Keep your eye on facsimile reproduction, however, for that will be an important supplement. Newspaper use, of course, will eventually be coordinated with television to show merchandise in ads that is being displayed on the telescreen.

All of this, I believe, indicates that merchants will one day soon be obliged to reorient their thinking concerning communication with their customers. Those who approach television with the greatest curiosity, patience, research and intelligence will be foremost in its use. Others may be left behind. My advice to merchants is not to think of television as a matured art, sprung Minerva-like, full-armed from the head of Jove. Television will develop slowly, step by step.



Courtesy, New York *Journal-American*.

Reproduced by special permission of *The Saturday Evening Post*, © 1945 by the Curtis Publishing Co.

STRATOVISION (W. K. EBEL)

(*Continued from page* 28)

pilots, turbo-supercharges and supercharged cabins. Each plane would have a wing spread of 161 feet and weigh about 20 tons fully loaded.

They would be powered with two 1450-horsepower engines, cruise at less than 150 miles per hour, have a top speed of 266 miles per hour and be equipped with retractable landing gears. In addition to its nine transmitters and monitoring and relaying equipment, each plane would afford galley space and a lounge for the flight crew of three and six radio technicians. It would require only 25 minutes for a fully loaded plane to attain the six-mile broadcast altitude above its regular broadcast location.

Planes would operate at the 30,000-foot level for slightly under 11 hours on one fueling. Reserve endurance at that altitude would be provided for approximately two more hours so that maximum time aloft would be about 13 hours. Since operating schedules are planned on an 8-hour basis this means that each plane would have more than 50 per cent reserve endurance, thus insuring continuous program service. This reserve flying time would also anticipate bad weather contingencies, would permit planes to take off and land at distant bases, flying to and from broadcast locations in complete safety above the storm.

A Flying Pickup Unit

In addition to its four high-altitude planes, each broadcast location would have a smaller plane equipped to act as a flying remote pickup unit. This plane would be available to cover any special event or emergency within the location's 103,000 square mile area, relaying television and FM programs to the parent plane for local broadcast or for nationwide network presentation.

Courtesy, New York *Sun*.

STRATOVISION (C. E. NOBLES)

(*Continued from page* 30)

not include the cost of relay stations or coaxial cable required to deliver the program to ground stations.

Additional advantages claimed for Stratovision are that the time required to build television into a nationwide service would be greatly reduced; that the sale of television receivers would be greatly expedited; that many people in small urban and rural districts will have television who would never receive it otherwise because they live in districts which are too sparsely settled to support a station; that high-definition color television will be placed more quickly on an equal footing technically with present black-and-white low-definition television; and that many complicated antenna and "ghosting" problems are eliminated when a plane is in continuous motion and all programs come from one direction above the main part of the service area.

THE BELL SYSTEM'S PLANS (Continued from page 25)

success of those installations led to the large coaxial expansion program now under way, calling for the construction of nearly 7000 route-miles of cable within the next few years. Planned for inclusion in this network are four interconnected cable routes which will provide facilities suitable for the transmission of telephone calls or television programs to a large portion of the country.

1—Atlantic Seaboard Route. This cable will extend down the eastern seaboard from New York to Miami. Cables have been laid between New York and Washington and between Atlanta and Jacksonville. New York-Washington service is expected to be available experimentally in January, 1946. Cable now is in the process of being put in the ground between Washington and Charlotte, N. C. When the entire project is completed, it will provide the means for transmitting television programs to much of the eastern United States.

2—Southern Transcontinental Route. This route traverses the southern part of the country from Atlanta through Dallas and Los Angeles to San Francisco. Laying of the Atlanta-Meridian-Shreveport sections of the cable is under way. Work has begun on the Shreveport-Dallas link. When finished, this transcontinental cable will make possible the transmission of a television program for simultaneous broadcasting on both coasts as well as at intermediate points.

3—Midwestern Route. The cable on this route, when completed, will connect the eastern seaboard with the midwest via Pittsburgh, Cleveland and Chicago.

4—North-South Route. Running from Chicago to New Orleans via St. Louis and Memphis, this cable will intercept the southern transcontinental route at Jackson, Miss. Cable in the Terre Haute-St. Louis section is in the ground but is not yet equipped for operation.

These north-south and east-west coaxial cables are being engineered and constructed as rapidly as possible. It is anticipated that broad-band facilities will continue to be added in other parts of the country to meet the service requirements of the telephone companies. Such facilities will form a broad basis for the development of nationwide television networks.

Radio Relay

Microwave radio relay offers another promising method of transmitting television programs and telephone calls. In order to compare the quality of transmission and the dependability of this method with that of coaxial cables, the Bell System has under way the construction of an experimental radio relay link between New York and Boston. Behind such a project is research which was well advanced before the war as well as the experience gained by the Bell Telephone Laboratories in developing electronic devices used by the armed forces during the war.

The system will include seven relay stations between the New York and Boston terminals. Because microwaves travel in a straight line and only about as far as the horizon, the relay stations will be located about 30 miles apart on high ground to permit unobstructed transmittal of their radio beams.

Hilltop locations for the relay stations have been selected and surveyed. Roads are being built to the sites and preparations being made to start construction of power and telephone lines, buildings and antennas.

Eight channels in each of three parts of the radio spectrum—near 2000, 4000, and 12,000 megacycles—have been assigned for use during the experimental period.

Broadcasting Network Experience

From the beginning of radio broadcasting, the Bell System has provided the facilities used in operating nationwide networks, which include at the present time 135,000 miles of circuits. From this activity a world of experience in network operation has been gained. Bell engineers know that the standards of network maintenance must be high; that dependable arrangements must be developed for instantaneous and complicated switching to make possible the uninterrupted broadcast of successive programs often originating from points a continent apart; that monitoring of a network is required at many points; and that alternate routes are desirable to assure uninterrupted service in times of emergency. A network that is part of the nationwide telephone system automatically receives the attention of experienced telephone operating and maintenance personnel and the protection of alternate routes.

The Bell System's Intentions

With the background of network transmission experience gained in some 20 years of radio broadcasting, with a physical plant unequalled in dependability, scope and flexibility, with a continually expanding knowledge of electrical transmission problems, paced by continual research by the Bell Telephone Laboratories, and with an experienced personnel to assure capable operation, the Bell System plans to meet the local and intercity transmission demands of the television industry.

THE ECONOMICS OF TELEVISION (Continued from page 41)

which is approximately 42 per cent of the lower local rate.

Let us assume that 28 hours per week of network programming is added to a 49-hour independent schedule, putting our average station on the air 77 hours weekly. The majority of network programs are half-hour shows. The network rate will average $132 per half hour (10 per cent higher than the suggested local rate of $120 per half hour). On an annual basis therefore, these 2912 half-hours of network time will yield $144,144 of additional revenue.

What costs will be incurred in addition to those previously itemized? Only approximately $850 per year for power. The only station equipment employed during network operation is the transmitter and master control board—and the relay receiver if a relay network is involved. No additional personnel is required. Our budget already covers the salaries of 2 transmitter operators and 4 master control technicians.

Network revenue of $144,144—less power costs of approximately $850—indicates that $143,294 of extra profit will be realized—or a total net of $191,227.97 for single-studio, 2-crew station operation when 28 hours weekly of network time is added.

In most cases it may not prove practical to go on the air for as much as a full 77-hour week. Should an adjustment to a shorter week appear desirable, wisdom dictates the selection of shows on a long range basis. One owner may choose a certain network show which will contribute to a station's prestige, another may select a local advertiser who is certain to be a profitable, long-term client. Any adjustment in hours of local operation because of utilizing more network hours, will require an adjustment of the working time of operating personnel. This will decrease operating costs appreciably.

The economic data presented would indicate that only a very limited number of cities throughout the country can support independent full-service television stations. Still every section of the country and all of the people are entitled to as good a television service as possible. It is evident that a relatively few local full-service television stations could not provide an adequate television service on a nationwide scale. The only plausible economic answer to this problem is to construct television stations of extremely modest facilities for handling less elaborate programs of local origin but primarily designed for rebroadcasting programs originating in larger centers. Such a station could be constructed and operated at a fraction of the cost of the typical full-service station here described.

The Public is Waiting

Television is a logical, inevitable outgrowth of motion pictures, radio, printing, and all the means of communication that have gone before. Because an eager expectant public is waiting . . . because advertisers and agencies are already attempting to obtain options on choice evening hours at existing stations . . . television's nationwide expansion is certain to be swift.

BIBLIOGRAPHY

MAGAZINE ARTICLES

A PARTIAL LIST is presented here of outstanding articles on television that have appeared in the past few years. For convenience they are classified as General, Programming, Business, Film, Technical and Color.

GENERAL

"ABC of Television", R. E. Lee. *Science Digest:* October, 1944.

"Aetna Life Sponsoring Television Broadcast an Multiple Network", *Eastern Underwriters:* December, 1944.

"A Psychologist Views Television", L. N. Chalfin. *Televiser:* Winter, 1945.

"Architect and Television, The" M. J. Alexander. *Pencil Points:* August, 1945.

"Arming for Battle", Zenith. *Business Week:* January 6, 1945.

"A $13,000,000 'IF' ", *Fortune:* April, 1939.

"Audience Research Naw!", Dr. Norbert Muehlen. *Televiser:* Spring, 1945.

"Caldwell Wanted Audience Reactians to Videa", Patricia Murray. *Printers' Ink:* March 2, 1945.

"Cammissioner Jett Speaks Out", *Television:* February, 1945.

"Canfirmation of An Earlier Repart", *Business Week:* March 24, 1945.

"Copyright and Television", C. J. Woodworth. *Televiser:* Spring, 1945.

"Dactors May Diagnase by Televisian". *Science Digest:* November, 1945.

"Electranics", *Life:* Dec. 31, 1945.

"Front Row Center", Don McClure. *Advertising and Selling:* May, 1945.

"Future af Theatre Televisian", Dr. Alfred N. Goldsmith. *Television:* February, 1945.

"Infancy of Television, The", Robert Herring. *London Mercury*: Nov. 30, 1944.

"Is Televisian Ready?", A. B. DuMont. *Rotarian:* February, 1945.

"La Televisian en France", Pierre La-Roche. *La Science et La Vie:* September, 1938.

"New Careers in Televisian", *Televiser:* Fall, 1944.

"New Design and Planning Prablems", *Architectural Forum:* April, 1945.

"New Televisian Frants". *Theatre Arts Monthly:* December, 1945.

"Next Great Develapment Ready", *Life:* September 4, 1944.

"Outlaak far Televisian", N. Edwards. *Elementary School Journal:* June, 1944.

"Possible Sacial Effects of Televisian", David Sarnoff. *Annals of the American Academy:* January, 1941.

"Past-War Billian Dallar Industry", A. N. Farr. *Science News Letter:* July 22, 1944.

"Prablems and Prafits for Tele Retailers", Stanley Kempner. *Televiser:* Summer, 1945.

"Pramise af Televisian", R. Conly. *American Mercury:* July, 1944.

"Push a Buttan and Tour the World", J. B. Wood. *Nation's Business:* Sept., 1945.

"Radia Mauntains", *Business Week:* May 24, 1945.

"Ready far the Past-War Market", *Life:* September 4, 1944.

"Repart an Televisian", Maurice Zolotow. *Coronet:* April, 1945.

"Saga of William B. Still", *Television:* July-August, 1945.

"Sight and Saund Rooms". *House & Garden:* October, 1945.

"TBA Awards", *Science:* December 29, 1945.

"Televisian", Sgt. George Meyers. *Yank:* December 1, 1944.

"Television After the War", R. M. Hyatt. *Public Utilities Fortnightly:* December 21, 1944.

"Televisian and Changes in Hame Life", *Science Digest:* April, 1945.

"Television and Its Past-War Outlaak", M. N. Lansing. *Commercial and Financial Chronicle:* March 17, 1945.

"Televisian Baast", *Business Week:* July 7, 1945.

"Televisian Chaas Avaided", Will Baltin. *Televiser:* Fall, 1944.

"Television Cames af Age", A. Barth. *Nation:* July 29, 1944.

"Television Dream", *Business Week:* November 4, 1944.

"Televisian Girds for Battle", John Western. *Public Opinion Quarterly:* Oct., 1939.

"Televisian in Great Britain", A. L. Laden, *Radio News:* January, 1945.

"Televisian in 1960", W. Kaempffert. *Survey Graphic:* August, 1945.

"Televisian Laaks ta the Future", T. Lothman. *Forbes:* January 15, 1945.

"Televisian's Market", Dan D. Halpin. *Televiser:* Spring, 1945.

"Televisian Naw and Tomorraw", A. B. DuMont. *Journal of Marketing:* January, 1945.

"Televisian Race", *Business Week:* September 1, 1945.

"Televisian Ready far Swift Expansian", P. E. Carlson. *Business Week:* September 1, 1945.

"Televisian Research Undergraund in France", *Theatre Arts Monthly:* January, 1945.

"Television Sets: $2 Per Week", Lee De Forest. *Televiser:* Winter, 1945.

"Televisian's $64 Billian Questian", E. F. McDonald, Jr. *Retailing:* Dec. 25, 1944.

"Televisian ta Cement Hame-Ties", O. H. Caldwell. *Televiser:* Winter, 1945.

"Televisian: When Da We Get It?", *Monetary Times:* January, 1945.

"Television Year — 1939", *Business Week:* December 31, 1938.

"Trial by Television", *Business Week:* July 14, 1945.

"Trouble in Televisian", Alva Johnston. *Saturday Evening Post:* September 28, 1940.

"Views Coming Up", Harriet Van Horne. *Collier's:* October 13, 1945.

"What the British Learned Abaut Televisian", R. Manville. *Printers' Ink:* Dec. 8, 15, 22 and 29, 1944; Jan. 5 and 12, 1945.

"What the Public Expects af Televisian", L. O. Brown. *Commercial and Financial Chronicle:* June 7, 1945.

"What to Do Abaut Televisian Naw", John Southwell. *Advertising and Selling:* June, July, August, 1945.

"What ta Expect in Television — and When", Gordon H. Cole. *PM:* September 24, 1945.

"What's Delaying Televisian?", Owen P. White. *Collier's:* November 30, 1944.

"Where Does Televisian Belang?", Irving Fiske. *Harper's:* February, 1940.

"Wha Will Cantrol Televisian", Arthur Levey. *Television:* Spring, 1944.

"Will Televisian Depend on Advertising?", *Christian Century:* October 25, 1944.

"Wonderland af Sight and Saund", J. H. Heiney. *Nation's Business:* July, 1944.

PROGRAMMING

"Actars far Television", Edward Sobol. *Televiser:* Spring, 1945.

"Adapting Radia Pragrams far Television", *Television:* June, 1945.

"Advice to the Talented", Selma Lee. *Televiser:* Fall, 1944.

"Behind the Pragram", Bud Gamble. *Television:* April, 1945.

"Building a Program", Lee Cooley. *Television:* February, 1945.

"Cameras and Cameramen", Alan Louis Kleban. *Televiser:* Spring, 1945.

"Casting far Televisian", Florence Green. *Televiser:* Summer, 1945.

"Cost Factars in Televisian", *Televiser:* Spring, 1945.

"Dance an Televisian", George Leon. *Televiser:* Spring, 1945.

"Daytime Video Has a Future", N. D. Waters. *Televiser:* Fall, 1944.

"Display and Televisian", R. C. Kash. *Televiser:* Fall, 1944.

"Editing the News far Televisian", Everett R. Holles. *Television:* April, 1945.

"Errars of Televisian", Gilbert Seldes. *Atlantic:* May, 1937.

"Experience af a Braadway Directar in Televisian", Sanford Meisner. *Televiser:* Spring, 1945.

"Face in Camera One!" *Fortune:* May, 1939.

"First Baak Week Televisian Pragram", *Publisher's Weekly:* October 28, 1944.

"High Schaal Televisian Pragram", *Education for Victory:* May 21, 1945. (Chicago Public Schools publication.)

"How Will Television Audition Programs for the Sponsors?", G. H. Plagens. *Printers' Ink:* July 20, 1945.

"Ideal Camera for Television Programming", Richard Hubbell. *Theatre Arts Monthly:* July, 1945.

"Is a Hays Office Necessary for Television?", *Television:* Fall, 1944.

"Key to Success", Patricia Murray. *Televiser:* Spring, 1945.

"Light Opera on Television", Bob Stone. *Televiser:* Spring, 1945.

"Look or Listen", Gilbert Seldes. *Television:* January, 1945.

"Mademoiselle Tele Series at CBS", Marian Thomas. *Televiser:* Spring, 1945.

"Nature of Television Programs, The", Gilbert Seldes. *Annals of the American Academy:* January, 1941.

"Needed: Good Programming", James Lawrence Fly. *Televiser:* Fall, 1944.

"Possible Pickups in N. Y. and L. A. Areas", *Televiser:* Spring, 1945.

"Producer's View of Television", W. C. Miner. *Theatre Arts Monthly:* Oct., 1944.

"Programming for Television", Harrison B. Summers. *Quarterly Journal of Speech:* February, 1945.

"Programming — Basic Considerations", Lenox Lohr. *Televiser:* Winter, 1945.

"Puppets on Television", *Televiser:* Winter, 1945.

"Search of a New Art Form", Paul Knight. *Televiser:* Winter, 1945.

"Shooting on the Gridiron", Paul Knight and Clarence Thomas. *Television:* December, 1944.

"Sound in Television", Richard Hubbell. *Televiser:* Summer, 1945.

"Special Effects", Capt. W. C. Eddy. *Televiser:* Summer, 1945.

"Sports on Television", *Televiser:* Fall, 1944.

"Steps in Video Production", *Televiser:* Winter, 1945.

"Studies in Television", Oscar Katz and Ernest Dichter, *Tide*: Feb. 15; Mar. 1 and 15; Apr. 1 and 15; May 15; June 1 and 15; July 1, 1945.

"Teaching Television Programming at Yale", Edward Cole. *Television:* Fall, 1944.

"Telecasting the News", Dr. Henry Cassirer. *Televiser:* Winter, 1945.

"Televising Art", Ladislas Segy. *Televiser:* Spring, 1945.

"Televising the Baseball Game", Burke Crotty. *Television:* July-August, 1945.

"Television: A New Stage for Talent", Burton Rascoe. *Pageant:* Dec., 1944.

"Television: A Play", Philip Wagner. *Theatre Guild Magazine:* January, 1929.

"Television and Radio—WRGB", *Theatre Arts Monthly:* July, 1945.

"Television and the Museums", Gilbert Seldes. *Magazine of Art:* May, 1944.

"Television as Educational Force", W. C. Miner. *School and Society:* Aug. 19, 1944.

"Television Backgrounds", R. J. Wade. *Theatre Arts Monthly:* December, 1944 and November, 1945.

"Television's Bag of Tricks", G. Sonbergh. *Popular Science:* June, 1945.

"Television Cameraman, The", Walter Bluemel. *International Photographer:* March, 1945.

"Television Director, The", Thomas Lyne Riley. *Televiser:* Fall, 1944.

"Television Drama?", Marie Seton. *Theatre Arts Monthly:* December, 1938.

"Television Drama When?", Edgar Felix. *Theatre Guild Magazine:* November 6, 1929.

"Television for Merchandising", *Electrical World:* September 1, 1945.

"Television for Retailers", Irwin A. Shane. *Televiser:* Fall, 1944.

"Television for Theaters", Ben Kaufman. *Television:* Fall, 1944.

"Television's Independent Stations", Wm. B. McGrath. *Televiser:* Winter, 1945.

"Television in Education", *Institute for Education by Radio, 15th Yearbook:* 1944.

"Television Plus Showmanship", T. H. Hutchinson. *Television:* Spring, 1944.

"Television Production as Viewed by a Radio Broadcaster", W. C. Miner. *Journal of Society of Motion Picture Engineers:* August, 1944.

"Television Programming for Department Stores", Helen T. Rhodes. *Televiser:* Spring, 1945.

"Television Programs of Tomorrow", Lee De Forest. *Science Digest:* July, 1945.

"Television Program Syndication", Dr. Alfred N. Goldsmith. *Televiser:* Spring, 1945.

"Television's Public Services", Allen B. DuMont. *Televiser:* Winter, 1945.

"Television Reports Vote", *Radio Age:* January, 1945.

"Television Station Operation", Samuel H. Cuff. *Televiser:* Fall, 1944.

"Television's Untapped Talent and Program Resources", Irwin A. Shane. *Televiser:* Winter, 1945.

"Training of Studio Personnel", Louis A. Sposa. *Televiser:* Summer, 1945.

"29-30 or Bust!", Harvey Marlowe. *Televiser:* Summer, 1945.

"Video Bars Hefty Singers", *N. Y. Times Magazine:* August 19, 1945.

"Video Lighting Problems", Worthington Miner. *Television:* May, 1945.

"Video Sells Razor Blades", S. Carl Mark. *Televiser:* Summer, 1945.

"Visual Effects", Capt. W. C. Eddy. *Televiser:* Winter, Spring, 1945.

"What Makes Good Television Program Material", *Printers' Ink:* Mar. 30, 1945.

"Why Marionettes Are a Television Natural", Gorman Loss. *Printers' Ink:* February 16, 1945.

"Will There Be Cameramen Instructors in Television Production?", *American Cinematographer:* February, 1943.

"WOR Learns About Television Programming", Bob Emery. *Television:* April, 1945.

"World of Music", *Etude:* June, 1945.

"Writing for Television", Harvey Marlowe. *Televiser:* Fall, 1944.

BUSINESS

"An Advertising Photographer Looks at Television", Victor Keppler, *Printers' Ink*, Nov. 16, 1945.

"Backing for CBS", *Business Week:* November 4, 1944.

"B.B.D. & O. Looks at Television", Ted Long. *Television:* January, 1945.

"Box Office Job", *Business Week:* June 17, 1944.

"Putting the Sell Into Television", R. E. Nelson. *Advertising and Selling:* June, 1945.

"Small Station Operation: The Local Advertiser", *Television:* May, 1945.

"Television Controversy", *Business Week:* March 3, 1945.

"Television—Don't Treat It Like a Step-Child", K. Knipe. *Printers' Ink:* June 29, 1945.

"What a Year of Television Has Taught Lever Bros.", Patricia Murray. *Printers' Ink:* February 9, 1945.

"What Retailers Can Do About Post-War Television", David Arons. *Televiser:* Fall, 1944.

"Wired Theatre Television Makes Debut", Terry Ramseye. *Motion Picture Herald:* May, 1941.

FILM IN TELEVISION

"Challenge of Television, The", John Flory. *Educational Screen:* Sept., 1944.

"Cinematography in Television", Jack McCosky. *International Photographer:* November, 1944.

"Educational Films and Television", Henry Clay Gipson. *Television:* May, 1945

"Film in Television", W. C. Miner *Journal of the Society of Motion Pic ture Engineers:* August, 1944.

"Film to Cut Costs of Department Store Video Operation", John Flory. *Televiser:* Fall, 1944.

"Hollywood and Television", *Business Week:* March 24, 1945.

"Importance of 16-mm Film in Television, The", John Flory. *International Projectionist:* December, 1944.

"Making Motion Pictures for Television", Arch B. Heath. *Televiser:* Spring, 1945.

"One-Minute Film Commercials", R. S. Evans. *Television:* January, 1945.

"Place of Film in Television", George Shupert. *Television:* Spring, 1944.

"Rank Looks at Television", *Motion Picture Herald:* July 14, 1945.

"Television Production as Viewed by a Motion Picture Producer", Wyllis Cooper. *Journal of the Society of Motion Picture Engineers:* Aug. 1944.

TECHNICAL

"Airborne Television", C. E. Nobles, W. K. Ebel. *Automotive and Aviation Industries:* August 15, 1945.

"Antenna Bottleneck", *Television:* Fall, 1944.

"Antennas for Television Receivers", E. M. Noll. *Radio News:* May, 1945.

"As the FCC Sees It", James Lawrence Fly. *Television:* Spring, 1944.

"A System of Large-Screen Television Reception Based on Certain Electron Phenomena in Crystals", *Proceedings of the I. R. E.:* May, 1940.

"Battle of French Video", *Newsweek:* January 1, 1945.

"Better Television", *Scientific American:* June, 1945.

"Big Screen Television", Richard Ford. *Sight and Sound:* Autumn, 1939.

"British Television", *Television:* February, 1945.

"Building a Television Station", James D. McLean. *Television:* Spring, 1944.

"Camera Tube for Television", F. C. Brittin. *Popular Mechanics:* October, 1944.

"Case of Television", H. T. Stetson. *Scientific Monthly:* August, 1944.

"Cathode Follower", G. P. Hendricks. *Radio News:* February, 1945.

"Cleaning Television Channels", Dr. Alfred N. Goldsmith. *Television:* May, 1945.

"Coaxial and Radio Links", *Television:* December, 1944.

"Coaxial Cables and Television Transmission", H. S. Osborne. *Journal of the Society of Motion Picture Engineers:* June, 1945.

"Converting from Radio to Video Broadcasting", Dr. Alfred N. Goldsmith, *Televiser:* Summer, 1945.

"Designs of Television Receivers", A. D. Sobel. *Radio News:* March, 1945.

"Developments in Radio and Television", W. R. G. Baker, *Electrical Engineer:* April, 1945.

"Effect of the Space Charger on Sharpness of Television Cathode Ray Tubes", E. Schwartz. *Wireless Engineering:* January, 1945.

"Electron or Television Telescope", O. H. Caldwell. *Science Digest:* February, 1945.

"Electronic Effects", F. A. Wankel. *Television:* February, 1945.

"Electronics and Electron Tubes", E. D. McArthur. *General Electric Review:* March-December, 1943.

"Electrostatic Microscope, The", C. H. Bachman and Simon Ramo. *Journal of Applied Physics:* January-March, 1943.

"Engineering Aspects of Television Programming", V. M. Bradley. *Electronics:* March, 1945.

"Equipment", T. R. Kennedy, Jr. *Television:* September, 1945.

"Equipping Your Television Station", Herbert E. Taylor, Jr. *Televiser:* Fall, 1944.

"European News Review", A. L. Laden. *Radio News:* August, 1945.

"Excerpts from Report by FCC on New Allocations", *Journal of the Society of Motion Picture Engineers:* February, 1945.

"FCC'S Tough Job", *Business Week:* November 18, 1944.

"First Commercial Television Theatre in America", Leroy Chadbourne. *International Projectionist:* May, 1941.

"FM Versus Television", *Business Week:* March 10, 1945.

"From Shadows to Light", Dr. Alfred N. Goldsmith. *Televiser:* Winter, 1945.

"Future of Television", Hankey Committee. *Electrician:* March 16, 1945.

"Future of u.h.f.", A. L. Laden. *Radio News:* June, 1945.

"Future Problems of Radionics Industry", *Commercial and Financial Chronicle:* February, 1945.

"Getting Ghosts Out of Television", *Science Digest:* August, 1945.

"Image Contrast in Television", C. H. Bachman. *General Electric Review:* September, 1945.

"Image Formation in Cathode Ray Tubes", G. Liebrann. *Journal of the Institute of Radio Engineers:* June, 1945.

"Industrial Television and Process Control", *Scientific American:* July, 1944.

"Industrial Television Systems", James D. McLean. *Televiser:* Fall, 1944.

"Inside Story of the A. T. & T. Plan", *Power Plant Engineering:* June, 1945.

"Introduction to Television", E. M. Noll. *Radio News:* January-October, 1945.

"Large Screen Home Television", *Popular Mechanics:* June, 1945.

"Large Screen Television Receiver", *Science:* July 6, 1945.

"Linearity Circuits", A. C. Clarke. *Wireless World:* June, 1944.

"Linear Sweep Generators in Television Circuits", A. Tatz. *Radio News:* May, 1945.

"Locating a Station", *Television:* January, 1945.

"Megacycle Battle", *Business Week:* October 14, 1944.

"Microwaves for Television", G. B. Hoadley. *Scientific American:* March, 1945.

"Multiple-Dwelling Television", Dr. Alfred N. Goldsmith. *Television:* June, 1945.

"National Network for Television", *Science:* January 12, 1945.

"New Coast to Coast Television Network", *Radio News:* June, 1945.

"New Coaxial", *Business Week:* February 24, 1945.

"New Horizons in Radio", *Annals of the American Academy:* January, 1941.

"New Large Screen Television Receiver", *Radio News:* June, 1945.

"New Television Receiver and Brighter Image", *Science News Letter:* March 24, 1945.

"New Video Relay", *Business Week:* April 28, 1945.

"Objectives for Post-War Television", W. C. Miner. *Electronics:* December, 1943.

"Official Status of Television", *Radio News:* August, 1944.

"Optical System Enlarges Television Pictures", *Science News Letter:* October 14, 1944.

"Perfected Television Claimed by Radio Industry Executive", *Scientific American:* December, 1944.

"Picture Transmission and Television", Herbert E. Ives. *Modern Communication:* 1932.

"Planning Tomorrow's Electronic Highways", *General Electric Review:* June, 1944.

"Plans for Television and FM Broadcasting from Stratosphere Airplanes", *Public Utilities Fortnightly:* August 30, 1945.

"Post-War Television Now", Austin O. Huhn. *Radio Craft:* May, 1944.

"Projection Systems for Theatre Television", A. H. Rosenthal. *Electronics:* May, 1945.

"Projection Television—News As It Happens", *Science News Letter:* October 28, 1944.

"Propose 14 Stratovision Stations", *Printers' Ink:* August 17, 1945.

"Pulse Time Modulation", E. M. Delorsine and E. Labin. *Electrical Communication:* Vol. 22, No. 2, 1944.

"QST Looks at Television", Cyrus R. Read. *QST:* January, 1945.

"Radio Amateurs in the Television Picture", Lamb. *QST:* December, 1937.

"Radio Progress During 1943", *Proceedings of the I. R. E.:* March, 1944.

"Radio Progress During 1944", *Proceedings of the I. R. E.:* March, 1945.

"Radio Relay Systems Developed by RCA", C. W. Hansell. *Proceedings of the I. R. E.:* March, 1945.

"Radio Spectrum", R. N. Farr. *Science:* November 17, 1944.

"Reaching Six Miles Up", T. R. Kennedy. *Department Store Economist:* September, 1945.

"Recent Developments in Television", E. W. Engstrom. *Annals of the American Academy:* January, 1941.

"Reflective Optics in Projection Television", Maloff and Epstein. *Electronics:* December, 1944.

"Research Pays Dividends", S. G. Elbert. *Barrons:* July 2, 1945.

"Restorer Circuit Operation", E. Last. *Electronics:* September, 1945.

"Road Ahead for Television, The", I. J. Kaar. *International Projectionist:* January, 1939.

"Royal Denies Foreign Television Stories", *Printers' Ink:* December 15, 1944.

"Sight and Sound—Report of the British Television Committee", *Economist:* March 31, 1945.

"Skiatron, The—A New Scophany Development", *Electronics and Television and Short Wave World:* February, 1940.

"Status of Television", K. A. Chittick. *Journal of Engineering Education:* 1945.

"Stratovision", *Time:* August 20, 1945.

"Stratovision Relay", *Business Week:* August 11, 1945.

"Survey of the Problems of Post-War Television", B. J. Edwards. *Proceedings of the I. R. E.:* December, 1944.

"System for Television in Airplanes", *Steel:* August 27, 1945.

"TBA First Annual Meeting", *Electronics:* December, 1944.

"Technical Planning for Post-War Television", *Electronics:* August, 1944.

"Television", James J. Finn. *International Projectionist:* January, 1941.

"Television After V-Doy", R. M. Grant. *Popular Mechanics:* October, 1944.

"Television ond FM Bonds", *Business Week:* January 20, 1945.

"Television ond Sunken Ships", *Science Digest:* November, 1944.

"Television As I See It", Lee De Forest. *Radio News:* January, 1945.

"Television Broodcasts Unoffected by Plone Crosh", *Science News Letter:* July, 1945.

"Television Broodcosting from the Sky", *Science:* August 24, 1945.

"Television by Telephone", *Science Digest:* January, 1945.

"Television Comero, The", Richard Hubbell. *American Cinematographer:* June, 1945.

"Television Chonnels", E. M. Noll. *Radio News:* February, 1945.

"Television Controversy", E. F. McDonald, Jr. *Scientific American:* July, 1944.

"Television for Airwoy Control", T. M. Morse. *Radio News:* January, 1945.

"Television for Amoteurs", O. Read. *Radio News:* August, 1945.

"Television for Industry ond Home", W. Baltin. *Radio News:* January, 1945.

"Television in Deportment Store Merchondising", *Popular Mechanics:* May, 1945.

"Television Is Coming to the Smoller Cities", A. C. Lescarboura. *Radio News:* January, 1945.

"Television Industry Prepores for Post-Wor", J. H. Carmine. *Radio News:* January, 1945.

"Television Lens", *Business Week:* November 25, 1944.

"Televison Networks ond Ordinory Phone Wire", *Popular Science:* February, 1945.

"Television's Post-Wor Possibilities", P. Glanzer. *Radio News:* July, 1944.

"Television Projection System", *Popular Mechanics:* April, 1945.

"Television Receivers", E. M. Noll. *Radio News:* April-August, 1945.

"Television Receiver Design", M. S. Kiver. *Radio News:* January, 1945.

"Television Receiver Sound Chonnel", *Electrician:* January 5, 1945.

"Television Reloys", *Scientific American:* October, 1944.

"Television Shores Honors in Rodio Spectrum Assignments", *Business Week:* July 20, 1945.

"Television Stotion Design", *Television:* May, 1945.

"Television Stotion Design", *Electronics:* December, 1944.

"Television Success Story — Schmidt Comero", D. O. Woodbury. *Collier's:* December 2, 1944.

"Television Technicion", Willam Wallace. *Televiser:* Fall, 1944.

"Television Techniques ond Broin Woves", *Science News Letter:* October 21, 1944.

"Television: Then ond Now", Dr. Sigmund Spaeth. *Televiser:* Fall, 1944.

"Television Todoy—Electronic Devices", James Frank. *International Projectionist:* October, 1943.

"Television Tronsmitting Equipment", E. M. Noll. *Radio News:* October, 1944-March, 1945.

"Television: Whot About It?", Hull. *QST:* November, 1931.

"Television: When ond How?", R. N. Farr. *Science News Letter:* July 22, 1944.

"Troining Personnel", John F. Royal. *Television:* December, 1944.

"Tronscontinentol Network", *Science News Letter:* October 28, 1944.

"Tronsient Response", H. E. Kallmann. *Proceedings of the I. R. E.:* March, 1945.

"Tronsmission of Television by Stondord Telephone Wire", *Newsweek:* November 13, 1944.

"Triode Lineor Sow-Tooth-Current Oscillotor", *Proceedings of the I. R. E.:* March, 1945.

"Visual Sensitivities to Color Differences in Doylight", Mac Adam. *Journal of the Optical Society of America:* May, 1942.

"Whot About Post-Wor Television?", *Popular Science:* April, 1944.

"Whot's Ahead in Home Rodios", J. M. Guilfoyle. *Science Digest:* January, 1945.

"World ot Your Elbow", *Popular Mechanics:* December, 1944.

"Zenith ond High Frequency Tronsmitter", *Business Week:* January 6, 1945.

COLOR TELEVISION

"Color in Television", Lee de Forest. *Radio News:* February, 1941.

"Color in the Air", Peter C. Goldmark. *Television:* Fall, 1944.

"Color Television", R. W. Ehrlich. *Radio News:* July, 1945.

"Color Television", Peter C. Goldmark. *Journal of the Society of Motion Picture Engineers:* April, 1942.

"Color Television — Port I", Peter C. Goldmark, J. N. Dyer, E. R. Piore and J. M. Hollywood. *Proceedings of the I. R. E.:* April, 1942.

— Port II, *Ibid:* September, 1943.

"Color Television", L. C. Jesting. *Light and Lightning:* June, 1945.

"Color Television—Boird Television System Described", N. W. Maybank. *Wireless World:* August 17, 1939.

"Color Television Demonstroted by CBS Engineers", *Electronics:* October, 1940.

"Color Television with Electricol Color Filters", T. de Names. *Television and Short Wave World:* September, 1939.

"Colour Television", *Electrician:* March 30, 1945.

"Full Color Television Effective Selling Medium", *The Fashion Group Bulletin:* October, 1945.

"Looking Ahead to Color ond u.h.f. Television", P. C. Goldmark. *Proceedings of the I. R. E.:* March, 1945.

"Noturol Color in Television", James Stockley. *Science News Letter:* March 8, 1941.

"New Boird Color Television System", F. W. Marchant. *Television and Short Wave World:* September, 1939.

"Television ond the Artist", Emlen Etting. *Atlantic Monthly:* December, 1945.

"Television in Color", Julian Leggett. *Popular Mechanics:* April, 1941.

"Television in Color with 2-Sided Screen", *Popular Mechanics:* March, 1945.

"Television in Noturol Color", *Communications:* June, 1940.

"Thomoscolor Process Finonced; Moy Revolutionize Tint Costs", *The Hollywood Reporter:* Dec. 7, 1945, page 1.

"Whot About Color?", Lela Swift. *Televiser:* Fall, 1944.

BOOKS

Allan, Doug. How to Write for Television. New York: E. P. Dutton Co., Inc., March, 1946.

Amick, Charles. Fluorescent Lighting Manual. New York: McGraw-Hill Book Co., Inc., 1942.

Arnold, Frank A. Broadcast Advertising: The Fourth Dimension. Television Edition. New York: John Wiley & Sons, Inc., 1933.

Brainers, J. G. (Ed.) Ultra-High-Frequency Techniques, by Glenn Koehler, Herbert J. Reich and C. F. Woodruff, 5th Printing. New York: D. Van Nostrand, 1942.

Caldwell-Clements, Inc. Get Ready Now to Sell Television. New York: Caldwell-Clements, Inc., 1944. (A guide book for merchants.)

Cameron, James. Radio and Television. London: Cameron Publishing Co., 1932.

Cameron, James. Television for Beginners. London: Cameron Publishing Co., 1940.

Camm, F. J. Television Manual (Revised Edition.) Brooklyn: Chemical Publishing Co., 1943.

Camm, F. J. Television and Short Wave Handbook. Brooklyn Chemical Publishing Co., 1942.

Caverly, Don P. A Primer of Electronics. New York: McGraw-Hill Book Company, Inc., 1943.

Chappelle, Harry John Barton. Popular Television. London: Sir Isaac Pitman & Sons, Ltd., 1932.

Chappelle, Harry John Barton. Television for the Amateur Constructor. London: Sir Isaac Pitman & Sons, Ltd., 1934.

De Forest, Dr. Lee, Television Today and Tomorrow. New York: The Dial Press, 1942.

Dinsdale, A. First Principles of Television. London: 1932.

Dunlap, Orrin E., Jr. The Outlook for Television. New York: Harper & Bros., 1932.

Dunlap, Orrin E., Jr. The Future of Television. New York: Harper & Bros., 1942.

Dunlap, Orrin E., Jr. Radio's 100 Men of Science. New York: Harper & Bros., 1944.

DuPay, Judy. Television Showmanship. Schenectady: General Electric Co., 1945.

Eckhardt, George H. Electronic Television. Chicago: Goodheart-Wilcox Co., 1936.

Eddy, Capt. William C. Television: The Eyes of Tomorrow. New York: Prentice-Hall, 1945.

Felix, Edgar H. Television, Its Methods and Uses. New York: McGraw-Hill Book Company Inc., 1931.

Fink, Donald G. Engineering Electronics. New York: McGraw-Hill Book Company Inc., 1938.

Fink, Donald G. Principles of Television Engineering. New York: McGraw-Hill Book Co., Inc., 1940.

Fink, Donald G. (Ed.) Television Standards and Practise. Selected papers from the proceedings of the National Television System Committee and its panels. New York: McGraw-Hill Book Company, Inc., 1943.

Goldsmith, Alfred M. and A. C. Lescarboura. This Thing Called Broadcasting. New York: Henry Holt & Co., 1930.

Harding, C. F. The Purdue University Experimental Television System. Lafayette, 1939.

Hathaway, K. A. Television: A Practical Treatise. Chicago: American Technical Society, 1933.

Hatschek, Paul. Electron-Optics. (Translated by Arthur Palme.) Boston: American Photographic Publishing Co., 1944.

Hubbell, Richard F. 4000 Years of Television. New York: G. P. Putnam's Sons, 1942.

Hubbell, Richard F. Television Programming and Production. New York: Murray Hill Books, Inc., 1945.

Hutchinson, R. W. Television-up-to-Date. London: University Tutorial Press, 1937.

Hylander, C. J. and Robert Harding, Jr. An Introduction to Television. New York: Macmillan Co., 1941.

Kellock, H. Television. Washington: Editorial Research Reports, 1944.

Kerby, Philip. The Victory of Television. New York: Harper & Bros., 1939.

Lane, Henry Milton. The Boston Post Book on Television. Boston: *Boston Post*, 1928.

Lawrence, J. Off Mike. New York: Essential Books, 1944.

Lee, Robert E. Television: The Revolution. New York: Duell, Sloan & Pearce, 1944.

Legg, Stuart and Robert Fairthorne. Cinema and Television. London: Longmans Green & Co., 1939.

Lewis, E. J. G. Television (Dictionary). New York: Pitman Publishing Co., 1936.

Lohr, Lenox, R. Television Broadcasting. New York: McGraw-Hill Book Company, Inc., 1940.

Maloff, I. G. and D. W. Epstein. Electron Optics in Television. New York: McGraw-Hill Book Company, Inc., 1938.

Massachusetts Institute of Technology, Dept. of Electrical Engineering. Applied Electronics. New York: John Wiley & Sons, Inc., March, 1943.

Meyers, L. M. Electron Optics. London: Chapman & Hall, 1939.

Mills, J. Today and Tomorrow. New York: D. Van Nostrand, 1944.

Moore, Stephen (Ed.) New Fields for the Writer. New York: National Library Press, 1937.

Moseley, Sydney A. and H. J. B. Chappelle. Television Today and Tomorrow. London: Sir Isaac Pitman & Sons, Ltd., 1940.

Moseley, Sydney A. and H. McKay. Television: A Guide for the Amateur. London: Oxford University Press, 1936.

Pender, Harold and Knox McIlwain (Eds.) Electronic Communication and Electronics. New York: John Wiley and Sons, Inc., 1936.

IMPORTANT BROCHURES

Columbia Broadcasting System:

"Postwar Shortwave, FM, and Television." 1944. 28p. Statement of Paul W. Kesten before FCC on frequency allocations.

"Prewar *vs.* Postwar Television." 1944. 16p. Some questions and answers for advertisers and advertising agencies.

"A Statement of Some Television Facts." August, 1941. 8p. CBS policy.

"A Ten-League Stride Has Been Taken Toward Better Postwar Television." August, 1944. 6p. CBS proposal for higher television standards. Recommendations of Interdepartmental Radio Advisory Committee.

"Television." April, 1944. 16p. Opportunities and problems.

"Television Comes of Age." 1944. 12p. Reprint of article in *The Nation*, July 29, 1944, by Alan Barth.

Allen B. DuMont Laboratories, Inc.:

"Linking Department Store Merchandising with Local Television Operation." 1944. (Out of print.)

"Optical Notes for The Television Cameraman." Harry C. Milholland. 1945.

"Planning Your Television Station." 1945.

"The Economics of Television." 1945.

"Time, Tubes and Television." 1944.

Farnsworth Television and Radio Corporation:

"Bulletins No. 1-6." 1940 on.

"The Story of Electronic Television." 1944.

General Electric Company:

"Electronics." 1942.

"Instructors Manual—Industrial Electronics Course."

"Intra-Tel Systems—Television by Wire for Department Stores." 1945.

"Preview of The Future—Chef-Boy-Ar-Dee Television Programs." June, 1945.

"Radio Broadcasting Postwar." 1943.

"Television as A Career," James D. McLean. 1943.

"Television at WRGB." 1944.

"Television Broadcasting Postwar."

"Your Coming Radio and Television Receivers." 1945.

National Broadcasting Company:

"Frequencies for Television," Niles Trammel. Statement before FCC.

"Television Dollars and Sense." 1945.

"Television's First Year." Programming at NBC.

Radio Corporation of America:

"Address on Television at Television Broadcasters' First Annual Meeting," David Sarnoff. 12p. 1944.

"Advance of Television."

"A Television Broadcasting Studio."

"A Television Transmitter Building."

"Collected Addresses and Papers on The Future of The New Art and Its Recent Technical Developments." Vol. I, 1936; Vol. II, 1937.

"Electronics in Industry." 1941.

"Into Unseen Worlds." 1941, 1942.

"Locating The Television Studio."

"Opening a New Merchandising Era for Department Stores."

"Opportunities in Radio and Electronics for Returning Servicemen," David Sarnoff. 1945.

"Progress and Promise." 1944.

"Questions and Answers. What Is Television and What It Does." 1945.

"Theater Television: Handbook for Projectionists."

Miscellaneous:

"Present and Impending Applications to Education by Radio and Allied Arts." (Rev., July, 1936.) National Advisory Council on Radio in Education: New York. Bulletin No. 5. 87p.

"The Use of The Electron Microscope.", R. B. Barnes, C. J. Burton, and T. C. Tochow. American Cyanamid Company, Stamford, Conn. 1942.

"Television and Motion Pictures," Dr. Lee de Forest. Reprinted from a series of articles in *The Hollywood Reporter*.

"First Yearbook of the Television Broadcasters Assn." and "Proceedings of the First Annual Conference, New York, Dec. 11-12, 1944."

Courtesy, Grand Central Zone Residential Area — By Richard Sargent

DESIGN FOR TOMORROW

• • •

"In our promotions to date, we give our customers sound over the radio, illustrations in newspaper advertisements, and color in our windows, interior displays and fashion shows. But in television, all these things combined will come to life — in a neatly wrapped up advertising package — deposited in the customer's lap.

"None of us is particularly proud of the way department stores have made use of the opportunities of radio. The coming of television offers a new challenge, and many publicity people with whom I have talked voice the opinion that department stores should see to it that they do not fumble the ball. They have certainly muffed it in the broadcasting field."

— William H. McLeod, *Vice President,*
Wm. Filene's Sons Co., Boston.

"We are certain that in the future few stores who make any pretense at progressive merchandising will be without some use of television in their promotional program."

— Arthur C. Kaufman, *Executive Head,*
Gimbel Brothers, Inc., Philadelphia.

"Television is destined to become a most potent force in our civilization — a force comparable to the automobile in its broadening influence on mankind. Television in the home will start to become a reality in 1946."

— E. A. Nicholas, *President,*
Farnsworth Television & Radio Corporation.

WHAT WILL YOUR TELE-TIME DOLLAR BUY?

(*Continued from page* 23)

their sales staffs can, when intelligently handled, provide an incalculable, intangible plus of enduring value.

3. Perhaps, most important, if you go into television now, you can gain valuable skill in solving the various problems peculiarly associated with television. And gain it at a fraction of what it may cost you later.

Tele-time, at the moment, cannot be sold on a dollars-and-cents basis. A few shows have sold goods well but not in sufficient dollar volume to offset expenditures. This situation is not likely to change until sets in quantity come into the market, possibly in mid-1946.

In the final analysis—in the case of any medium—the question should not be: What am I spending?—What am I getting out of it? One medium may be 50, 100 or 150 per cent more effective than another yet the least effective in tangible sales may contribute the most in intangible values and product prestige.

Don't take your producer's, or station's, or advertising agency's word for television's values. Learn them for yourself. The only intelligent, constructive and safe plan to follow when you do go into television is to set up scientific controls to learn what impression and/or sales your television expenditure is bringing you. Then you can find out whether you are just shooting money into the sky or getting back a dollar-and-cents return. Plan this research as a part of your over-all television effort.

TELEVISION AND FASHION

(*Continued from page* 46)

impression as the basis for developing programs psychologically founded on emotional appeal? We must and will try both ways. I believe the second method will be the most successful.

It is to me incongruous to think of television in terms of static presentation. Television needs the impact of continuous movement and interest to keep the viewer glued to the receiver in spite of distractions in the home.

The role of television is not to compete with the printed page; on the contrary, these mediums of information complement each other. In the past, the fear that new technical achievements would destroy established industries was completely unfounded. For example, radio did not hamper sales of records or attendance at concert halls; radio diffusion of musical culture furthered both.

As a publication is selected by certain women according to their taste, so a similar crystallization of tastes will come about in television. Different groups of differently fashion-inclined women will prefer one or another program or station, as they now prefer one or another publication. The development of a high standard of fashion thinking is a must for all fashion telecasters. As half of the population of the world is women, their interests and buying power are a very important item in the planning of the future telecaster.

FILMS FOR TELEVISON USE

Compiled by JOHN FLORY
Executive Producer, Grant, Flory & Williams

THREE TYPES of motion picture footage are available for television purposes: 1—feature films; 2—short amusement films; and 3—educational,* documentary, and industrially-sponsored films.

The Hollywood industry does not, as yet, permit much of its product to be telecast. Chief sources currently, therefore, are concerns specializing chiefly in 16 mm documentary, educational, and industrially-sponsored pictures. If the television producer wishes to have special film inserts or complete motion pictures made for video purposes, he should consult local producers of industrial and sponsored films.

To avoid legal complications make certain that the film distributor is in a position to furnish a television release from the producer, as well as a set of releases covering actors appearing in any film you plan to include in a television broadcast.

As television broadcasting for 1946 will be limited to a few metropolitan areas, the following directory of film producers and/or distributors is confined to concerns serving these areas, plus social and government sources. Additions and corrections will be gratefully received for inclusion in subsequent editions of the ATS Directory.

SOCIAL SERVICE AND GOVERNMENT SOURCES

AMERICAN COUNCIL ON EDUCATION
Motion Picture Project
744 Jackson Place, N.W.
Washington, D. C.

AMERICAN RED CROSS
National Headquarters
17th between D and E Sts., N.W.
Washington 13, D. C.

U. S. OFFICE OF EDUCATION
Division of Visual Aids
Federal Security Agency
Washington, D. C.

BUREAU OF MINES
U. S. Department of the Interior
Pittsburgh, Pa.

NATIONAL ARCHIVES
Motion Picture Branch
Pennsylvania Ave. at 8th St., N.W.
Washington, D. C.

U. S. NAVY DEPARTMENT
Film Section
Public Relations Division
Washington, D. C.

PAN AMERICAN UNION
Washington, D. C.

U. S. DEPARTMENT OF AGRICULTURE
Motion Picture Extension Service
14th St. and Independence Ave., S.W.
Washington, D. C.

U. S. PUBLIC HEALTH SERVICE
Motion Picture Branch
Bethesda Station
Washington, D. C.

U. S. DEPARTMENT OF STATE
Motion Picture Branch
Division of International Information
Washington 25, D. C.

U.S. DEPARTMENT OF THE TREASURY
Film Section
Public Relations Division
Washington 25, D. C.

U. S. WAR DEPARTMENT
Film Section
Public Relations Division
Washington, D. C.

*For authoritative information on educational films, consult:

"Educational Film Guide"
The H. W. Wilson Company, 950-972 University Avenue, New York 52, N. Y., $3.00

"Directory of 16 mm. Film Sources"
Victor Animatograph Corp., Davenport, Iowa, 50 cents

"Educators Guide to Free Films"
Educators Progress Service, Randolph, Wisconsin, $4.00

"Free Films Source Directory"
De Vry Corporation, 1111 Armitage Avenue, Chicago, Illinois, 50 cents

CHICAGO

Producers and/or Distributors of Industrial and Educational Films

ALEXANDER FILM CO.
1331 S. Wabash Ave.
Chicago, Ill.

ALL AMERICAN NEWS, INC.
2901 Prairie Ave.
Chicago, Ill.

ARTKINO PICTURES
831 S. Wabash Ave.
Chicago, Ill.

ATLAS EDUCATIONAL FILM CO.
1111 South Boulevard
Oak Park, Ill.

C. O. BAPTISTA
325 W. Huron
Chicago, Ill.

BASS CAMERA CO.
Film Rental Dept.
179 W. Madison Ave.
Chicago, Ill.

BELL & HOWELL CO.
1801 Larchmont Ave.
Chicago 13, Ill.

CASTLE FILMS, INC.
135 S. LaSalle St.
Chicago, Ill.

CENTRAL CAMERA CO.
230 S. Wabash Ave.
Chicago, Ill.

CHICAGO FILM LABORATORY, INC.
18 W. Walton St.
Chicago, Ill.

GEO. W. COLBURN LABORATORY
222 W. North Bank
Chicago, Ill.

COLLEGE FILM CENTER
84 E. Randolph St.
Chicago, Ill.

JOYCE CONNORS CO.
1 N. LaSalle St.
Chicago, Ill.

CORONET PRODUCTIONS
Private Road
Glenview, Ill.

DeVRY FILMS AND LABORATORIES
1111 Armitage Avenue
Chicago 14, Ill.

DIAMOND DEE STUDIOS
218 S. Wabash Ave.
Chicago, Ill.

DRESNER PROJECTION SERVICE
64 E. Lake St.
Chicago, Ill.

HENRI ELMAN
1327 S. Wabash Ave.
Chicago, Ill.

ENCYCLOPEDIA BRITANNICA FILMS, INC.
20 N. Wacker Drive
Chicago, Ill.

FILMS, INC.
64 E. Lake St.
Chicago, Ill.

FRANCISCO FILMS
666 N. St. Clair
Chicago, Ill.

BURTON HOLMES FILMS, INC.
7510 N. Ashland Ave.
Chicago, Ill.

HOWARD MOTION PICTURE SERVICE
2356 W. Touhy
Chicago, Ill.

IDEAL PICTURES CORP.
28 E. 8th St.
Chicago, Ill.

INTERNATIONAL FILM BUREAU, INC.
84 E. Randolph St.
Chicago, Ill.

MacDONALD PRODUCTIONS
450 E. Ohio St.
Chicago, Ill.

R. M. MacFARLAND & ASSOCIATES
520 N. Michigan Ave.
Chicago, Ill.

McHENRY EDUCATIONAL FILMS
64 E. Jackson St.
Chicago, Ill.

MODERN TALKING PICTURE SERVICE
28 E. 8th St.
Chicago, Ill.

NATIONAL RECORDING AND FILM CORP.
20 N. Wacker Drive
Chicago, Ill.

PHOTO SOUND DIVISION OF SARRA, INC.
16 E. Ontario St.
Chicago, Ill.

PILOT PRODUCTIONS
211 W. Wacker Drive
Chicago, Ill.

ROCKWELL-ELLIOTT PRODUCTIONS
53 W. Jackson
Chicago, Ill.

RUDOLPH AUGUST PRODUCTIONS
7424 S. Philips
Chicago, Ill.

RUSSELL C. ROSHON ORGANIZATION
188 W. Randolph St.
Chicago, Ill.

SHEFFIELD & CO.
1617 N. Damen St.
Chicago, Ill.

SOUNDIES DISTRIBUTORS CORP. OF AMERICA, INC.
209 W. Jackson Blvd.
Chicago, Ill.

SPINN & ASSOCIATES, INC.
1014 S. Michigan Ave.
Chicago, Ill.

TEITEL FILMS
831 S. Wabash Ave.
Chicago, Ill.

WILDING PICTURE PRODUCTIONS, INC.
1345 W. Argyle
Chicago, Ill.

WORLD WIDE PICTURES, INC.
1327 S. Wabash Ave.
Chicago, Ill.

ZENITH CINEMA SERVICE
3252 W. Foster St.
Chicago, Ill.

Producers and/or Distributors of Trailers

ACTION FILM CO.
2901 S. Prairie Ave.
Chicago, Ill.

FILMACK TRAILER CO.
1327 S. Wabash Ave.
Chicago, Ill.

NATIONAL SCREEN SERVICE CORP.
1307 S. Wabash Ave.
Chicago, Ill.

Exchanges

CAPITOL FILM EXCHANGE CO.
1327 S. Wabash Ave.
Chicago, Ill.

COLUMBIA PICTURES CORP.
1301 S. Wabash Ave.
Chicago, Ill.

ALBERT DEZEL ROADSHOWS
1325 S. Wabash Ave.
Chicago, Ill.

CLYDE ELLIOTT ATTRACTIONS
1118 S. Michigan Ave.
Chicago, Ill.

FILM CLASSICS OF ILLINOIS, INC.
1327 S. Wabash Ave.
Chicago, Ill.

GLOBE FILM CO.
1246 S. Wabash Ave.
Chicago, Ill.

LOEW'S, INC.
1307 S. Wabash Ave.
Chicago, Ill.

MONOGRAM PICTURES, INC.
1250 S. Wabash Ave.
Chicago, Ill.

PRC PICTURES, INC.
1327 S. Wabash Ave.
Chicago, Ill.

PARAMOUNT PICTURES, INC.
1306 S. Michigan Ave.
Chicago, Ill.

POLISH AMERICAN FILM CORP.
1541 W. Division St.
Chicago, Ill.

PRAGA FILM CO.
3951 W. 26th St.
Chicago, Ill.

RKO RADIO PICTURES, INC.
1300 S. Wabash Ave.
Chicago, Ill.

REPUBLIC PICTURES CORP.
1304 S. Wabash Ave.
Chicago, Ill.

TWENTIETH CENTURY-FOX FILM CORP.
1260 S. Wabash Ave.
Chicago, Ill.

UNITED ARTISTS CORP. OF ILLINOIS
1301 S. Wabash Ave.
Chicago, Ill.

UNIVERSAL FILM EXCHANGES, INC.
1301 S. Wabash Ave.
Chicago, Ill.

VARIETY PICTURES
1325 S. Wabash Ave.
Chicago, Ill.

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
1307 S. Wabash Ave.
Chicago, Ill.

Newsreels and Stock Shot Libraries

ALL AMERICAN NEWS (NEGRO)
2901 S. Prairie St.
Chicago, Ill.

Other Sources

CHICAGO BOARD OF EDUCATION
Visual Education Division
228 N. LaSalle St.
Chicago, Ill.

CHICAGO FILM COUNCIL
c/o Chicago Board of Education
228 N. LaSalle St.
Chicago, Ill.

ILLINOIS INSTITUTE OF TECHNOLOGY
Visual Education Dept.
3300 S. Federal St.
Chicago, Ill.

INTERNATIONAL HARVESTER CO.
180 N. Michigan Ave.
Chicago, Ill.

NATIONAL SAFETY COUNCIL, INC.
20 N. Wacker Drive
Chicago, Ill.

PAN AMERICAN COUNCIL
84 E. Randolph St.
Chicago, Ill.

SOCIETY FOR VISUAL EDUCATION, INC.
100 E. Ohio St.
Chicago, Ill.

Y.M.C.A. MOTION PICTURE BUREAU
19 S. LaSalle St.
Chicago, Ill.

LOS ANGELES AREA

Producers and/or Distributors of Industrial and Educational Films

ADVERTI-FILMS
1585 Cross Roads of the World
Hollywood, Calif.

HAROLD C. AMBROSCH
1120 E. Doran
Glendale, Calif.

AMERICAN FILMS FOUNDATION, INC.
2280 Holly Drive
Hollywood, Calif.

AUDIO PICTURES
951 N. La Cienega Blvd.
Los Angeles, Calif.

ARTHUR BARR PRODUCTIONS
602 Summit Ave.
Pasadena, Calif.

BELL & HOWELL CO.
716 N. LaBrea Ave.
Hollywood, Calif.

BOND-ANSON PRODUCTIONS
314 N. Robertson
Los Angeles, Calif.

CALIFORNIA COMMERCIAL & INDUSTRIAL FILMS
9629 Brighton Way
Beverly Hills, Calif.

CARL DUDLEY PRODUCTIONS
9724 Santa Monica Blvd.
Beverly Hills, Calif.

FORUM FILMS, INC.
649 S. Olive St.
Los Angeles, Calif.

FRITH FILMS
Box 565
Hollywood, Calif.

RODNEY GILLIAM CO.
7904 Santa Monica Blvd.
Hollywood, Calif.

HOLLYWOOD FILM ENTERPRISES, INC.
6060 Sunset Blvd.
Hollywood, Calif.

HOLLYWOOD MOVIE SUPPLY
4279 Crenshaw
Los Angeles, Calif.

HUBBARD HUNT PRODUCTIONS
5746 Sunset Boulevard
Hollywood, Calif.

IDEAL PICTURES CORP.
2408 W. Seventh St.
Los Angeles, Calif.

MODERN MOVIES, INC.
6018 Fountain Ave.
Hollywood, Calif.

DONALD REED
8737 Wilshire Blvd.
Beverly Hills, Calif.

ROLAND REED PRODUCTIONS
8627 Sunset Blvd.
Hollywood, Calif.

FREDERICK K. ROCKETT CO.
6063 W. Sunset Blvd.
Los Angeles, Calif.

SCIENTIFIC FILMS, INC.
6052 Sunset Blvd.
Hollywood, Calif.

SCREEN ADETTES, INC.
1709 W. Eighth St.
Los Angeles 14, Calif.

ROGER SUMNER PRODUCTIONS
327 E. Green St.
Pasadena, Calif.

TELEFILM, INC.
6039 Hollywood Blvd.
Hollywood 28, Calif.

RICHARD THOMAS ENTERPRISES, INC.
712 N. Cienega Blvd.
Hollywood, Calif.

TRADEFILMS, INC.
666 N. Robertson
Los Angeles, Calif.

WILDING PICTURE PRODUCTIONS, INC.
1040 N. Las Palmas Ave.
Hollywood, Calif.

RAPHAEL G. WOLFF, INC.
1714 N. Wilton Place
Hollywood, Calif.

WORLD INDEPENDENT FILM DISTRIBUTORS
1908 S. Vermont Ave.
Los Angeles, Calif.

Producers and/or Distributors of Trailers

NATIONAL SCREEN SERVICE CORP.
2018 S. Vermont Ave.
Los Angeles, Calif.

PACIFIC TITLE & ART STUDIO
1123 N. Bronson Ave.
Los Angeles, Calif.

STANDARD SCREEN SERVICE
7920 Santa Monica Blvd.
Los Angeles, Calif.

Exchanges

ASTOR PICTURES
1968 S. Vermont Ave.
Los Angeles, Calif.

AZTECA FILMS DISTRIBUTING CO.
1907 S. Vermont Ave.
Los Angeles, Calif.

COLUMBIA PICTURES CORP.
1920 S. Vermont Ave.
Los Angeles, Calif.

FILM CLASSICS OF SOUTHERN CALIFORNIA
1968 S. Vermont Ave.
Los Angeles, Calif.

LOEW'S, INC.
1620 Cordova St.
Los Angeles, Calif.

MONOGRAM PICTURES OF CALIFORNIA, INC.
1924 S. Vermont Ave.
Los Angeles, Calif.

OLMSTEAD-STUBINS, INC.
1924 S. Vermont Ave.
Los Angeles, Calif.

PRC EXCHANGE OF LOS ANGELES, INC.
1966 S. Vermont Ave.
Los Angeles, Calif.

PARAMOUNT PICTURES, INC.
1613 W. 20th St.
Los Angeles, Calif.

RKO RADIO PICTURES, INC.
1980 S. Vermont Ave.
Los Angeles, Calif.

REPUBLIC PICTURES CORP.
1926 S. Vermont Ave.
Los Angeles, Calif.

SPECIAL ATTRACTIONS EXCHANGE
1928 S. Vermont Ave.
Los Angeles, Calif.

TWENTIETH CENTURY-FOX FILM CORP.
2019 S. Vermont Ave.
Los Angeles, Calif.

UNITED ARTISTS CORP.
1918 S. Vermont Ave.
Los Angeles, Calif.

UNIVERSAL FILM EXCHANGES, INC.
1960 S. Vermont Ave.
Los Angeles, Calif.

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
2025 S. Vermont Ave.
Los Angeles, Calif.

WORLD INDEPENDENT FILM DISTRIBUTORS
1908 S. Vermont Ave.
Los Angeles, Calif.

Newsreels and Stock Shot Libraries

WILLIAM M. DENNIS FILM LIBRARIES
2506½ W. Seventh St.
Los Angeles 5, Calif.

GENERAL FILM LIBRARY
1426 N. Beachwood Drive
Los Angeles, Calif.

INTERNATIONAL THEATRICAL AND TELEVISION CORP.
3123 W. Eighth St.
Los Angeles, Calif.

MERCER RAY & CO.
4241 Normal Ave.
Los Angeles, Calif.

Other Sources

SUPERINTENDENT OF SCHOOLS
County of Los Angeles
808 N. Spring St.
Los Angeles, Calif.

DIRECTOR OF CURRICULAR MATERIALS
Glendale Unified School District
411 E. Wilson Ave.
Glendale, Calif.

SUPERVISOR
Long Beach Public Schools
Long Beach, Calif.

VISUAL EDUCATION SECTION
Board of Education
Los Angeles City Schools
1151 S. Broadway
Los Angeles, Calif.

LOS ANGELES COUNTY DEPARTMENT OF HEALTH
808 N. Spring St.
Los Angeles 12, Calif.

PASADENA CITY SCHOOLS
Library and Visual Service
1501 E. Villa St.
Pasadena 4, Calif.

AUDIO-VISUAL DEPT.
Santa Monica City Schools
1333 Sixth St.
Santa Monica, Calif.

SOUTHERN CALIFORNIA COUNCIL OF INTER-AMERICAN AFFAIRS
427 W. 5th St.
Los Angeles, Calif.

DEPT. OF VISUAL INSTRUCTION
University of California Extension Div.
813 S. Hill St.
Los Angeles, Calif.

MILWAUKEE

Producers and/or Distributors of Industrial and Educational Films

ADVERTISING ACCESSORIES, INC.
812 N. 11th St.
Milwaukee, Wis.

ATOMIC RESEARCH CORP.
3706 N. 11th St.
Milwaukee, Wis.

FILM ARTS CORP.
725 W. Wells St.
Milwaukee, Wis.

VERNON J. KRAFT STUDIOS
704 W. Wisconsin Ave.
Milwaukee, Wis.

Producers and/or Distributors of Trailers

NATIONAL SCREEN SERVICE CORP.
812 N. 11th St.
Milwaukee, Wis.

Exchanges

ASTOR PICTURES FILM DISTRIBUTORS
725 W. Wells St.
Milwaukee, Wis.

COLUMBIA PICTURES CORP.
1133 N. Eighth St.
Milwaukee, Wis.

FILM CLASSICS OF WISCONSIN
641 N. Seventh St.
Milwaukee, Wis.

INDEPENDENT FILM EXCHANGE
639 N. Seventh St.
Milwaukee, Wis.

LOEW'S, INC.
736 W. State St.
Milwaukee, Wis.

MONOGRAM-MIDWEST FILM CO.
1030 N. Eighth St.
Milwaukee, Wis.

PRC PICTURES OF WISCONSIN, INC.
641 N. Seventh St.
Milwaukee, Wis.

PARAMOUNT FILM DISTRIBUTING CORP.
1121 N. Eighth St.
Milwaukee, Wis.

RKO RADIO PICTURES, INC.
732 W. State St.
Milwaukee, Wis.

REPUBLIC PICTURES CORP.
1131 N. Eighth St.
Milwaukee, Wis.

TWENTIETH CENTURY-FOX FILM CORP.
1016 N. Eighth St.
Milwaukee, Wis.

UNITED ARTISTS CORP.
1137 N. Eighth St.
Milwaukee, Wis.

UNIVERSAL FILM EXCHANGES, INC.
1032 N. Eighth St.
Milwaukee, Wis.

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
1022 N. Eighth St.
Milwaukee, Wis.

Newsreel and Stock Shot Libraries

COMMUNITY MOTION PICTURE SERVICE
2176 N. 37th St.
Milwaukee, Wis.

MOVIE MART
4518 W. Burleigh
Milwaukee, Wis.

FILMOSOUND CIRCULATING LIBRARY
Photoart House
844 N. Plankinton Ave.
Milwaukee, Wis.

Other Sources

MR. RICHARD E. KRUG, Librarian
Milwaukee Public Library
Milwaukee, Wis.

NEW YORK AREA

Producers and/or Distributors of Industrial and Educational Films

ABBE FILMS
503 Fifth Ave.
New York, N. Y.

ADVANCE TELEVISION PICTURE SERVICE, INC.
729 Seventh Ave.
New York, N. Y.

AMERICAN TRADING ASSOCIATION
723 Seventh Ave.
New York, N. Y.

ASSOCIATED FILMAKERS, INC.
45 Rockefeller Plaza
New York, N. Y.

ASTOR PICTURES CORP.
130 W. 46th St.
New York, N. Y.

AUDIO-FILM LIBRARIES
41 Washington St.
Bloomfield, N. J.

AUDIO PRODUCTIONS, INC.
630 Ninth Ave.
New York, N. Y.

HAROLD AUTEN
152 W. 42nd St.
New York, N. Y.

B. K. BLAKE, INC.
1270 Sixth Ave.
New York, N. Y.

BELL & HOWELL CO.
30 Rockefeller Plaza
New York 20, N. Y.

BERGMAN ASSOCIATES
732 Eastern Parkway
Brooklyn 13, N. Y.

AL O. BONDY
630 Ninth Ave.
New York, N. Y.

BRANDON FILMS, INC.
1600 Broadway
New York 19, N. Y.

JOHN BRANSBY
1600 Broadway
New York, N. Y.

BRAY PICTURES CORP.
729 Seventh Ave.
New York, N. Y.

BRITISH INFORMATION SERVICES
Film Division
30 Rockefeller Plaza
New York 20, N. Y.

JULIEN BRYAN PRODUCTIONS
291 W. 12th St.
New York, N. Y.

CALHOUN STUDIOS
4 W. 40th St.
New York, N. Y.

CAMERA CENTER
596 Grand St.
Brooklyn, N. Y.

CAMPUS FILM PRODUCTIONS
71 W. 45th St.
New York, N. Y.

CARAVEL FILMS, INC.
730 Fifth Ave.
New York, N. Y.

CASANAVE-ARTLEE PICTURES, INC.
1600 Broadway
New York 19, N. Y.

CASTLE FILMS, INC.
30 Rockefeller Plaza
New York 20, N. Y.

CINEFFECTS
1600 Broadway
New York 19, N. Y.

COLUMBIA PICTURES CORP.
729 Seventh Ave.
New York, N. Y.

COMMONWEALTH PICTURES CORP.
729 Seventh Ave.
New York 19, N, Y.

DAVIS & GECK, INC.
57 Willoughby St.
Brooklyn, N. Y.

FRANK DONOVAN ASSOCIATES
1775 Broadway
New York, N. Y.

EDITED PICTURES SYSTEM, INC.
330 W. 42nd St.
New York, N. Y.

ENCYCLOPEDIA BRITANNICA FILMS, INC.
1841 Broadway
New York 23, N. Y.

TED ESHBAUGH STUDIOS, INC.
35 W. 45th St.
New York 18, N. Y.

EXPANDING CINEMA, INC.
729 Seventh Ave.
New York, N. Y.

J. L. FEIERBACHER
221 E. 46th St.
New York, N. Y.

FILMS FOR INDUSTRY
135 W. 52nd St.
New York, N. Y.

FILMS, INC.
330 W. 42nd St.
New York 18, N. Y.

JOHN FLORY
441 Lexington Ave.
New York 17, N. Y.

FOTOSHOP, INC.
18 E. 42nd St.
New York, N. Y.

FUN FILM LIBRARY
545 Fifth Ave.
New York, N. Y.

WILLIAM J. GANZ CO.
40 E. 49th St.
New York, N. Y.

GENERAL BUSINESS FILMS, INC.
565 Fifth Ave.
New York 17, N. Y.

GRANT, FLORY & WILLIAMS
441 Lexington Ave.
New York 17, N. Y.

JOSEPH P. HACKEL
167 W. 57th St.
New York, N. Y.

PAUL HANCE PRODUCTIONS, INC.
1776 Broadway
New York, N. Y.

JAM HANDY ORGANIZATION
1775 Broadway
New York, N. Y.

HARTLEY PRODUCTIONS
20 W. 47th St.
New York 19, N. Y.

HOFFBERG PRODUCTIONS, INC.
620 Ninth Ave.
New York, N. Y.

INSTITUTIONAL CINEMA SERVICE
1560 Broadway
New York, N. Y.

INTERNATIONAL GEOGRAPHIC PICTURES
52 Vanderbilt Ave.
New York, N. Y.

INTERNATIONAL THEATRICAL AND TELEVISION CORP.
25 W. 45th St.
New York 19, N. Y.

INTERNATIONAL WORKERS ORDER, INC.
80 Fifth Ave.
New York 11, N. Y.

HERBERT KERKOW PRODUCTIONS
480 Lexington Ave.
New York, N. Y.

KING COLE'S SOUND SERVICE, INC.
203 E. 26th St.
New York, N. Y.

KNOWLEDGE BUILDERS
625 Madison Ave.
New York, N. Y.

KODASCOPE LIBRARIES
Eastman Kodak Stores, Inc.
356 Madison Ave.
New York, N. Y.

LEWIS SOUND FILM PRODUCTIONS
71 W. 45th St.
New York, N. Y.

LOUCKS & NORLING STUDIOS
245 W. 55th St.
New York, N. Y.

MARCH OF TIME
369 Lexington Ave.
New York, N. Y.

METROPOLITAN LIFE INSURANCE CO.
1 Madison Ave.
New York, N. Y.

MODERN TALKING PICTURE SERVICE
9 Rockefeller Plaza
New York 20, N. Y.

MOGULL'S, INC.
68 W. 48th St.
New York, N. Y.

MOTION PICTURE ADVERTISING SERVICE CO., INC.
70 E. 45th St.
New York, N. Y.

MOVIEPIX, INC.
20 E. 42nd St.
New York 17, N. Y.

NATIONAL ASSOCIATION OF MANUFACTURERS
14 W. 49th St.
New York, N. Y.

NATIONAL CINEMA SERVICE
71 Dey St.
New York, N. Y.

TED NEMETH STUDIOS
729 Seventh Ave.
New York, N. Y.

NEW YORK UNIVERSITY FILM RENTAL LIBRARY
71 Washington Square South
New York, N. Y.

NONTHEATRICAL PICTURES CORP.
165 W. 46th St.
New York, N. Y.

NU-ART FILMCO
145 W. 45th St.
New York 19, N. Y.

OFFICIAL FILMS, INC.
625 Madison Ave.
New York 22, N. Y.

PATHESCOPE CO. OF AMERICA, INC.
580 Fifth Ave.
New York, N. Y.

PICTORIAL FILMS, INC.
1270 Sixth Ave.
New York 20, N. Y.

POST PICTURES CORP.
723 Seventh Ave.
New York 19, N. Y.

PRIOR MOTION PICTURE CO.
Chrysler Building
New York, N. Y.

PROGRESSIVE EDUCATION ASSOCIATION
289 Fourth Ave.
New York, N. Y.

RKO TELEVISION CORP.
1270 Sixth Ave.
New York, N. Y.

RELIGIOUS MOTION PICTURE FOUNDATION
140 Nassau St.
New York, N. Y.

RUSSELL C. ROSHON ORGANIZATION
RKO Building
Radio City
New York 20, N. Y.

DOUGLAS D. ROTHACKER
729 Seventh Ave.
New York 19, N. Y.

RUBY FILM CO.
729 Seventh Ave.
New York, N. Y.

LESLIE ROUSH PRODUCTIONS, INC.
119 W. 57th St.
New York 19, N. Y.

SKIBO-PRODUCTIONS, INC.
165 W. 46th St.
New York, N. Y.

FLETCHER SMITH STUDIOS
1585 Broadway
New York, N. Y.

SOUND MASTERS, INC.
165 W. 46th St.
New York, N. Y.

SPOT FILM PRODUCTIONS, INC.
339 E. 48th St.
New York, N. Y.

SPRINGER PICTURES, INC.
35 W. 45th St.
New York, N. Y.

TOMLIN FILM PRODUCTIONS
480 Lexington Ave.
New York, N. Y.

TRANSFILM, INC.
35 W. 45th St.
New York 19, N. Y.

UNIVERSAL PICTURES CO., INC.
1250 Sixth Ave.
New York, N. Y.

VISION EDUCATIONAL PRODUCTIONS
509 Fifth Ave.
New York 17, N. Y.

C. L. WELSH PRODUCTIONS
Old Bedford Road
Port Chester, N. Y.

WEST COAST SOUND STUDIOS, INC.
510 W. 57th St.
New York, N. Y.

WILDING PICTURE SALES CORP.
385 Madison Ave.
New York, N. Y.

BERTRAM WILLOUGHBY PICTURES, INC.
1600 Broadway
New York 19, N. Y.

WILLOUGHBY CAMERA STORES, INC.
110 W. 32nd St.
New York 1, N. Y.

WILLARD PICTURES
45 W. 45th St.
New York, N. Y.

Y.M.C.A. MOTION PICTURE BUREAU
347 Madison Ave.
New York 17, N. Y.

EMERSON YORKE STUDIOS
35 W. 45th St.
New York, N. Y.

Producers and/or Distributors of Trailers

CINEMA-CRAFT CO.
630 Ninth Ave.
New York, N. Y.

NATIONAL SCREEN SERVICE CORP.
630 Ninth Ave.
New York, N. Y.

SPECIAL SCREEN SERVICE, INC.
653 Eleventh Ave.
New York, N. Y.

WELGOT TRAILER SERVICE
630 Ninth Ave.
New York, N. Y.

Exchanges

A.F.E. CORP.
630 Ninth Ave.
New York, N. Y.

ASTOR FILM EXCHANGE
630 Ninth Ave.
New York, N. Y.

ATLAS FILM EXCHANGE
723 Seventh Ave.
New York, N. Y.

BIG "U" FILM EXCHANGE, INC.
622 Ninth Ave.
New York, N. Y.

COLUMBIA PICTURES CORP.
630 Ninth Ave.
New York, N. Y.

EXCELSIOR PICTURES CORP.
723 Seventh Ave.
New York, N. Y.

EXCLUSIVE PICTURES CORP.
729 Seventh Ave.
New York, N. Y.

FILM CLASSICS DISTRIBUTING CO.
362 W. 44th St.
New York, N. Y.

LOEW'S, INC. (METRO-GOLDWYN-MAYER)
630 Ninth Ave.
New York, N. Y.

MONOGRAM PICTURES CORP.
630 Ninth Ave.
New York, N. Y.

PRC PICTURES OF NEW YORK
630 Ninth Ave.
New York, N. Y.

PARAMOUNT PICTURES, INC.
331 W. 44th St.
New York, N. Y.

REPUBLIC PICTURES CORP.
630 Ninth Ave.
New York, N. Y.

RKO RADIO PICTURES, INC.
630 Ninth Ave.
New York, N. Y.

TODDY PICTURES CO.
723 Seventh Ave.
New York, N. Y.

TWENTIETH CENTURY-FOX FILM CORP.
345 W. 44th St.
New York, N. Y.

UNITED ARTISTS CORP.
630 Ninth Ave.
New York, N. Y.

UNIVERSAL (See BIG "U")

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
315 W. 44th St.
New York, N. Y.

Newsreel and Stock Shot Libraries

GENERAL FILM LIBRARY, INC.
1600 Broadway
New York, N. Y.

MILES FILM LIBRARY
729 Seventh Ave.
New York, N. Y.

MOVIETONE NEWS
460 W. 54th St.
New York, N. Y.

NEWS OF THE DAY
450 W. 56th St.
New York, N. Y.

PARAMOUNT NEWS
544 W. 43rd St.
New York, N. Y.

PATHE NEWS
625 Madison Ave.
New York, N. Y.

UNITED NEWSREEL CORP.
625 Madison Ave.
New York, N. Y.

UNIVERSAL NEWSREEL
630 Ninth Ave.
New York, N. Y.

Other Sources

AMERICAN FILM CENTER, INC.
630 Fifth Ave.
New York, N. Y.

AMERICAN MUSEUM OF NATURAL HISTORY
79th and Central Park West
New York, N. Y.

BOARD OF EDUCATION
Bureau of Visual Instruction
110 Livingston St.
Brooklyn, N. Y.

MONTCLAIR PUBLIC SCHOOLS
Visual Education Department
Board of Education
22 Valley Road
Montclair, N. J.

BOARD OF EDUCATION
Department of Library and Visual Aids
Newark, N. J.

BOARD OF EDUCATION
Paterson, N. J.

BOARD OF MISSIONS AND CHURCH EXTENSION OF THE METHODIST CHURCH
Department of Visual Education
150 Fifth Ave.
New York, N. Y.

BOY SCOUTS OF AMERICA
2 Park Ave.
New York 16, N. Y.

BROOKLYN MUSEUM
Brooklyn, N. Y.

EDUCATIONAL FILM LIBRARY ASSOCIATION, INC.
45 Rockefeller Plaza
New York 20, N. Y.

GENERAL MOTORS CORP.
Department of Public Relations
1775 Broadway
New York, N. Y.

GRUBER'S CAMERA EXCHANGE, INC.
141 Washington St.
Newark, N. J.

HARMON FOUNDATION, INC.
140 Nassau St.
New York, N. Y.

L. KALTMAN & SONS, INC.
287 Washington St.
Newark, N. J.

METROPOLITAN MOTION PICTURE CO.
50 Branford Place
Newark, N. J.

MONTCLAIR STATE TEACHERS COLLEGE
Montclair, N. J.

MUSEUM OF MODERN ART FILM LIBRARY
11 W. 53rd St.
New York, N. Y.

NATIONAL TUBERCULOSIS ASSOCIATION
1790 Broadway
New York 19, N. Y.

THE NEWARK MUSEUM
Newark, N. J.

PORT OF NEW YORK AUTHORITY
111 Eighth Ave.
New York, N. Y.

RELIGIOUS FILM ASSOCIATION, INC.
297 Fourth Ave.
New York 10, N. Y.

RUTGERS UNIVERSITY
Department of Biophotography
New Brunswick, N. J.

YALE UNIVERSITY PRESS FILM SERVICE
386 Fourth Ave.
New York, N. Y.

PHILADELPHIA

Producers and/or Distributors of Industrial and Educational Films

DE FRENES & CO.
1909 Buttonwood St.
Philadelphia, Pa.

PAUL M. FRAILEY PRODUCTIONS
Fidelity-Philadelphia Trust Bldg.
Philadelphia, Pa.

HATHEN PRODUCTIONS
264 South Van Pelt
Philadelphia, Pa.

KODASCOPE LIBRARY
c/o Eastman Kodak Stores, Inc.
1020 Chestnut St.
Philadelphia, Pa.

KUNZ MOTION PICTURE SERVICE
1319 Vine St.
Philadelphia, Pa.

LINCOLN PRODUCTIONS
437 Chestnut St.
Philadelphia, Pa.

LIPPINCOTT PICTURES, INC.
4729 Ludlow
Philadelphia, Pa.

McCURDY FILMS
56th and Woodland Ave.
Philadelphia, Pa.

NEWS REEL LABORATORY
1707 Sansom St.
Philadelphia, Pa.

PHILIP RAGAN ASSOCIATES, INC.
Broad St. Station Bldg.
Philadelphia, Pa.

TELEVISION MOTION PICTURE ADVERTISING CO.
1707 Sansom St.
Philadelphia, Pa.

WELSH STUDIOS
25th and Lehigh Ave.
Philadelphia, Pa.

Producers and/or Distributors of Trailers

NATIONAL SCREEN SERVICE CORP.
1201 Vine St.
Philadelphia, Pa.

Exchanges

AMERICAN FILM CO.
1329 Vine St.
Philadelphia, Pa.

CAPITAL FILM EXCHANGE
1314 Vine St.
Philadelphia, Pa.

COLUMBIA PICTURES CORP.
1240 Vine St.
Philadelphia, Pa.

Drawing by Dorothy McKay, from *Esquire*, December 1945. © 1945, Esquire, Inc. 919 N. Michigan Ave., Chicago, Ill.

"I can't wait for television — I'm anxious to get a look at John's other wife."

FILM CLASSICS OF PHILADELPHIA
1315 Vine St.
Philadelphia, Pa.

HOLLYWOOD FILM EXCHANGE
1220 Vine St.
Philadelphia, Pa.

LOEW'S, INC.
1233 Summer St.
Philadelphia, Pa.

MONOGRAM DISTRIBUTING CORP.
1241 Vine St.
Philadelphia, Pa.

PRC PICTURES
1321 Vine St.
Philadelphia, Pa.

PARAMOUNT FILM DISTRIBUTING CORP.
248 N. 12th St.
Philadelphia, Pa.

RKO RADIO PICTURES, INC.
250 N. 13th St.
Philadelphia, Pa.

REPUBLIC PICTURES CORP.
1225 Vine St.
Philadelphia, Pa.

TWENTIETH CENTURY-FOX FILM CORP.
302 N. 13th St.
Philadelphia, Pa.

UNITED ARTISTS CORP.
302 N. 13th St.
Philadelphia, Pa.

UNIVERSAL FILM EXCHANGE, INC.
308 N. 13th St.
Philadelphia, Pa.

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
1225 Vine St.
Philadelphia, Pa.

Other Sources

PHILADELPHIA BOARD OF EDUCATION
Department of Visual Education
Parkway at 21st St.
Philadelphia, Pa.

"Once the public gets a taste of television, it will come so fast it will make you dizzy. No matter what the sets cost, there won't be enough wagons to haul them to the public." — JOSEPH KATZ, *President*, Capital Broadcasting Co.

SCHOOL DISTRICT OF PHILADELPHIA
Board of Public Education
Parkway at 21st St.
Philadelphia, Pa.

SCHENECTADY—ALBANY

Producers and/or Distributors of Industrial and Educational Films

ADVERTISING ACCESSORIES, INC.
1044 Broadway
Albany, N. Y.

GENERAL ELECTRIC CO.
1 River Road
Schenectady, N. Y.

Producers and/or Distributors of Trailers

NATIONAL SCREEN SERVICE CORP.
1044 Broadway
Albany, N. Y.

Exchanges

COLUMBIA PICTURES CORP.
1050 Broadway
Albany, N. Y.

LOEW'S, INC.
1060 Broadway
Albany, N. Y.

MONOGRAM FILM EXCHANGE, INC.
1046 Broadway
Albany, N. Y.

PARAMOUNT PICTURES, INC.
1044 Broadway
Albany, N. Y.

RKO RADIO PICTURES, INC.
1048 Broadway
Albany, N. Y.

REPUBLIC PICTURES CORP.
1046 Broadway
Albany, N. Y.

TWENTIETH CENTURY-FOX FILM CORP.
1052 Broadway
Albany, N. Y.

UNIVERSAL FILM EXCHANGES, INC.
1054 Broadway
Albany, N. Y.

WARNER BROTHERS PICTURES DISTRIBUTING CORP.
1058 Broadway
Albany, N. Y.

Other Sources

NEW YORK STATE DEPARTMENT OF HEALTH
Division of Public Health Education
18 Dove St.
Albany 6, N. Y.

NEW YORK STATE WAR COUNCIL
Film Division
353 Broadway
Albany 7, N. Y.

A MOVIE fashian show—Televisian please copy!

A MOVIE CAMERAMAN LOOKS AT TELEVISION

By IRVING BROWNING
Producer of Motion Picture Shorts

As I SEE IT, television promises much for the motion picture cameraman's future. It offers a fascinating outlet for serious experimentation in lighting, composition and perspective. It provides opportunities to capture further honors in his art. The rich half-tone values with which we are familiar in fine still photography and on the motion picture screen will soon be evident in television.

At first glance, a television studio's stationary lights, fixed to the ceiling, are depressing to a movie cameraman accustomed to the highly mobile lighting equipment in a modern motion picture studio. Wartime restrictions, understandably, have prevented advancement in this respect and improvements are promised. Modern photographic facilities are an imperative need. And more sensitive iconoscopes, which have recently been demonstrated.

With motion pictures steadily shooting an increasing percentage of film in color—and tele-engineers working feverishly to perfect natural color television—one may well wonder which medium will be the first to use color exclusively.

Television can revive all the old time movie tricks and use them successfully. A new generation of youngsters would find them fresh and entertaining.

Miles of factual film, movie shorts, comedies and cartoons—popular with all audiences—will be rapidly devoured by television projection machines. And cameramen will rove the world over for new scenes and thrills to satisfy their insatiable appetites.

Film transcriptions will become to television what electrical disc transcriptions are to radio—with costs low enough to meet the budget requirements of the most conservative advertising campaigns. Film innovations to meet this need are in development. I myself have some very definite ideas.

As I watch "live talent" television shows I am convinced that much of this new art can best be presented via the medium of film. Viewers are certain to compare tele-picture quality with motion picture quality and the latter represents the cream of much footage from many angles and many retakes. Live television at present attempts to capture perfection in "one take." The gamble is too great to succeed often.

Television will be a living newspaper, yes, with many parades, conventions, fires and big games presented as they happen—but the bulk of regularly scheduled telenewscasts must be made up of carefully edited newsreels. News, otherwise, will monopolize the medium and completely upset commercially sponsored schedules. Libraries of news events will be required for the use of every commentator.

The film cameraman will not be crowded aside by television; he will become more important than ever.

PIONEERING A RELAY NETWORK

(*Continued from page* 27)

more and more advertisers will seek the benefits of sight-and-sound selling via television. Sponsored programs will require the best efforts of the new school of television actors, writers, producers, cameramen and sound technicians who have learned the specialized techniques of telecasting during our pioneering yesterdays. I visualize the development of an entirely new art, calling for the varied talents of many thousands of men and women.

This growth of television programming will present countless opportunities to alert, aggressive young Americans, many of them returning veterans. We in the television industry may hope to attract the "cream of the crop" of young America, for development of both the technical and artistic phases of television, because ours is a new industry with many chances to get in on the ground floor.

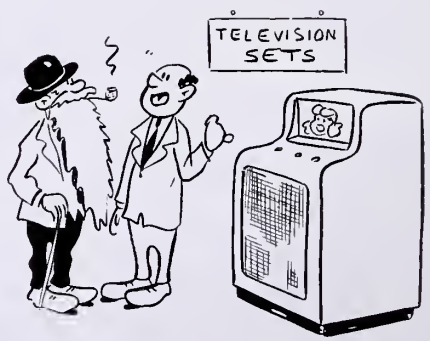
Also, as television grows through the expansion of television networks, I can see in it boundless opportunities for service to America and to the world, in education, news, entertainment, merchandising and the creation of a better understanding between people in far-distant areas. In this way, television networks bringing sight-and-sound programs of all kinds to all peoples can certainly help notably toward that common goal of mankind—an enduring, democratic and prosperous era of peace.

BEYOND TOMORROW?

(*Continued from page* 9)

Communications, both domestic and foreign, may in the future be by photographic rather than telegraphic methods. Thus, a message, or a letter, or a newspaper page, may be placed before the televiser at the sending end, and instantly photographed at the receiving end of the circuit. This would represent accurate, high speed transmission unequalled by any system of communication in use today.

Beyond tomorrow, what? In television the answer lies in the extension of man's vision far beyond his immediate horizon, beyond the boundaries of his own country, until the world becomes one great neighborhood.



Courtesy, *Electrical Merchandising*

"Will yau feel better if I persanally guarantee it ta be as gaad as your ald crystal set or refund your maney?"

COLLEGE SPORTS AND TELEVISION

(*Continued from page* 20)

material, college football fits the requirements of top-flight entertainment for television audiences. There is, *first*, a wide, general interest in the game which assures large viewing audiences. *Second*, college football meets television's need for locally-produced programs of proved drawing power. *Third*, contrary to its effect on many types of radio entertainment, adding the visual element to a sports broadcast calls for no radical changes. Sight added to sound is an important and vital improvement. *Fourth*, football broadcasts possess suspense during every moment of play. They are spontaneous, unscripted and unrehearsed. Anything can happen and frequently does.

All this is not intended to minimize the problems that must be solved before football telecasts can become important for advertising purposes. Principally, these problems are technical. New camera developments in recent months may hold many of the answers. RCA's new image orthicon camera picks up pictures with much less light than heretofore, and thereby lessens the danger of a blackout from advancing darkness.

Another problem is the proper placement of cameras to obtain the best pictures and, also, with least confusion to the spectator at home. In 1940, technicians got their best results by placing cameras on opposite 20-yard lines. Since then, with the development of a telephoto lens for close-ups, it has been found practical to pick up all action from midfield.

Announcers are learning that telecast games require supplemental comment rather than straight reporting of action that can be plainly seen. Because newsreel commentators face this same problem, men with this experience are best equipped to handle sports telecasts.

During television's early days, set manufacturers will be interested in promoting programs which will make millions want to own television sets. This makes them logical sponsors for programs of broad interest such as football games. Of course, such programs will also appeal to advertisers who may not feel inclined to finance top studio entertainment during the period when the number of set-owners is very limited. Such advertisers, foreseeing the commercial potentialities of television, will discover this means to be an excellent one for establishing their franchise in the field.

There are no yardsticks and few precedents to guide pioneers in the exploitation of football's television opportunities. First, of course, there is the problem of setting up rates that are equitable to both the college and the advertiser. The experience—one might almost say the lack of it—in negotiating for radio broadcast rights should prove illuminating.

Almost without exception, negotiations for the sale of football radio rights have been conducted without any idea as to the value of such rights in terms of some generally accepted standard. This statement does not imply that any particular college has received less or more than it should but rather to point out that no college has had any possible basis for knowing whether or not it struck the best possible bargain.

This single fact was the most important reason for the formation of Televised Sports, Inc., which represents colleges in negotiating the sale of television rights. The objectives of this organization are: 1—to set up the fairest possible system for evaluating television rights, 2—to obtain general approval of this system by both colleges and advertisers, and 3—by this procedure facilitate the expansion of commercially televised sports.

Concern has been expressed by some college officials and by owners of professional baseball teams that telecasting of games may cut heavily into gate receipts, particularly in bad weather. P. G. Wrigley, owner of the Chicago Cubs, does not believe this. He will have all games at Wrigley Field televised during the summer of 1946 if equipment is available. "The tele-camera," he points out, "cannot capture the glamor and excitement of attending a baseball game in the flesh. In consequence, television, like radio, will prove a stimulant and not a deterrent to attendance."

Baseball has consistently widened its appeal as a result of the splendid reporting done by radio's sports broadcasters. Their enthusiasm and colorful characterizations have created personalities that listeners like to see for themselves. Opinion in sports circles generally is that television will create new millions of sports fans. And psychologists predict that the herd desire to go where the crowds go will boost attendance receipts to record-breaking highs.

Colleges, in my opinion, should have the right to insist that some portion of a sports broadcast be devoted to promotion of the college itself. This could be most easily managed by inserting filmed shots of campus scenes, student activities, interviews with leading college personalities, etc., during time-out periods. Inclusion of such material would mean that telecasts, far from simply promoting attendance at games, would create a desire on the part of young people to attend the college, would spread an understanding of its aims, build its prestige as an educational institution and its place in the nation's cultural life. Such interpolations should make sports telecasts more interesting without in anywise interfering with an adequate presentation of a sponsor's commercial message.

FACING TELEVISION

By BOB HOPE

Everyone is getting set for television. I've made some concrete plans. When television gets here, I'm going back to mixing concrete.

But the people who predict things are predicting that within a year there will be 12 to 16 hours of television programs a day in metropolitan areas and, shortly thereafter, all of the hi-jinks now referred to as radio, will be illustrated.

My sponsor thinks my radio show would be good for television except for just one thing. But he's got an answer for that . . . he's going to bill me as the "Masked Marvel."

Professor Colonna will be a natural. Can you imagine that kisser suddenly showing up in 20,000,000 homes? It should have people back living in trees in no time.

It should be very interesting when they do get all the radio programs switched over so you can see them. When that happens, a lot of the actors who play those teenage kids will have to shave off their mustaches and start wearing their toupees.

Bing Crosby fans will have to have two sets in their living rooms if they want to get him all in. And they'll have to sell a windshield wiper with the sets so that people who tune in on "Mr. Anthony's Program" can keep the tears off the screen.

If static ever starts interfering with the reception it might cause some odd mixups. I can see it now . . . the door to "Inner Sanctum" opens and out comes Baby Snooks and Mr. District Attorney riding on the Lone Ranger's horse.

I saw one of the new sets they're putting out now. It had dials for the radio, knobs for the phonograph, and buttons for the television. It looked like the dashboard of a B-29.

But buyers won't have to worry . . . With each set they sell, distributors will throw in 20 hours of Link trainer instruction.

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PUBLICATIONS

WATCH the following periodicals and organs for news and articles on television's progress:

Advertising and Selling, monthly, 9 E. 38th St., New York 16. CA 5-9770. Published by Robbins Publishing Co. Frederick C. Kendall, publisher-editor.

ATS News, monthly, Room 1705, 271 Madison Avenue, New York 16. MU 5-7878. Published by the American Television Society by and for members. Ralph Rockafellow, editor.

The Billboard, weekly, is published by Billboard Publishing Co., 25 Opera Place, Cincinnati. Main 5306. Joseph Koehler, indoor editor. *New York* editorial office: 1564 Broadway. ME 3-1615. Lou Frankel, radio and television editor. *Chicago* office: 155 N. Clark St. CEntral 8480. Cy Wagner, radio and television editor. *Hollywood* office: 1509 N. Vine St., Lee Zhito, radio and television editor.

Broadcasting, weekly, is published by Broadcasting Publications, Inc., 870 National Press Bldg., Washington. MEtropolitan 1922. Sol Taishoff, editor and publisher. New York office, 250 Park Ave. PL 5-8355. Bruce Robertson, N.Y. editor. Hollywood office, 1509 North Vine St. GL 7353. David Glickman, manager.

Business Week, weekly, 330 W. 42nd St., New York 18. ME 3-0700. Published by McGraw-Hill Publishing Co. Paul Montgomery, publisher.

Communications, monthly, 52 Vanderbilt Ave., New York 17. Published by Bryan Davis Publishing Co., Inc. Lewis Winner is editor.

Daily Variety, 1708-10 North Vine St., Hollywood 28, Calif. HO 1141. Published daily except Sat., Sun. and holidays by Daily Variety, Ltd. Sid Silverman, president. Arthur Ungar, editor. (See *Variety* for New York edition.)

Department Store Economist, monthly, 100 E. 42nd St., New York 17. A Chilton Publication. P. M. Fahrendorf, publisher.

Electronic Industries, monthly, technical and engineering, published by Caldwell-Clements, Inc., 480 Lexington Ave., New York. PL 3-1340. M. Clements is publisher. Dr. Orestes H. Caldwell, editor.

Electronics, monthly, technical and engineering, published by McGraw-Hill Publishing Co., Inc., 330 West 42nd St., New York. ME 3-0700. Keith Henney, editor.

Film Daily, daily (except Sat., Sun. and holidays), 1501 Broadway, New York 18. BR 9-7117. Published by Wid's Films and Film Folk, Inc. John W. Alicoate is president and publisher. Chester B. Bahn, editor. Hollywood office: 6425 Hollywood Blvd. GR 6607. Ralph Wilk, manager.

FM & Television, monthly, business magazine, is published by FM Co., 511 Fifth Ave., New York. VA 6-2483. Milton B. Sleeper, editor and publisher.

Go Magazine, monthly (except January), 767 Lexington Avenue, New York. RE 4-2850. Published and edited by Capt. Arthur G. Brest.

Hollywood Reporter, daily (except Sat., Sun. and holidays). 6715 Sunset Blvd., Hollywood. HI 7411. Published by Hollywood Reporter. W. R. Wilkerson is publisher. Frank Pope, editor. Ben Kaufman is Eastern television editor, at New York bureau, 229 West 42nd St., New York. WI 7-2470.

International Projectionist, monthly, 19 W. 44th St., New York 18. MU 2-2948. Published by International Projectionist Publishing Co., Inc. R. E. Entracht is publisher and editor-in-chief.

Journal of Society of Motion Picture Engineers, monthly, Hotel Pennsylvania, New York. PE 6-0620. Published by the Society of Motion Picture Engineers. Sylvan Harris, editor.

Motion Picture Daily, daily (except Sat., Sun. and holidays), 1270 Avenue of the Americas, New York 20. CI 7-3100. Published by Quigley Publishing Co., Inc. Colvin Brown is publisher. Sherwin Kane, executive editor.

Motion Picture Herald, weekly, 1270 Avenue of the Americas, New York 20. Published by Quigley Publishing Co., Inc. Martin Quigley, editor-in-chief.

Popular Mechanics Magazine, monthly, 200 E. Ontario St., Chicago 11, Ill. Published by the Popular Mechanics Co. H. H. Windsor, Jr., publisher. New York office: 350 Fifth Ave. PE 6-6775.

Printers' Ink, weekly, 205 E. 42nd St., New York. Published by Printers' Ink Pub. Co. Robert W. Palmer, executive editor. Victor J. Dallaire is radio and television editor.

Proceedings of the I. R. E., monthly, 330 West 42nd St., New York. Published by the Institute of Radio Engineers. Dr. Alfred N. Goldsmith is editor.

QST, monthly, 38 LaSalle Rd., W. Hartford 7, Conn. Published by American Radio Relay League, Inc. Clinton B. DeSoto, editor.

Radio, monthly, 342 Madison Ave., New York 17. MU 2-1346. Published by Radio Magazines, Inc. S. R. Cowan, publisher. J. H. Potts, editor.

Radio-Craft, monthly, 25 W. Broadway, New York 7. RE 2-9690. Published by Radcraft Publications, Inc. Hugo Gernsback, publisher. Fred Shunamen, editor.

Radio Daily, daily, 1501 Broadway, New York. WI 7-6336. Published by John W. Alicoate. Frank Burke, editor. Hollywood office: 6425 Hollywood Blvd. GR 6607. Ralph Wilk, manager.

Radio News, monthly, 185 N. Wabash Ave., Chicago 1, Ill. Published by Ziff-Davis Publishing Co. B. G. Davis, editor, New York office: Empire State Bldg. WI 7-0400.

Radio Service Dealer, monthly, 342 Madison Ave., New York 17. Published by Cowan Publishing Co. Editor and publisher, Sanford R. Cowan.

Radio Tele-News, weekly, 301 W. 57th St., New York, N. Y., published by Peter Strand.

Radio & Television Retailing, monthly, business paper published by Caldwell-Clements, Inc., 480 Lexington Ave., New York. PL 3-1340. M. Clement is publisher; Dr. Orestes H. Caldwell, editor.

Radio Television Journal, monthly, is published by Kolbe Publications, Inc., 1270 Avenue of the Americas, New York. CI 7-5842. Mal Parks, editor.

Radio & Television Weekly, 99 Hudson St., New York. WA 5-2576. Edward Davis, publisher. Cy Kneller, editor.

Retail Home Furnishings, twice weekly, 8 E. 13th St., New York. AL 4-5252. Published by Fairchild Publications. E. W. Fairchild is president and publisher.

Retail Television Thinking, monthly organ for department store executives, published by Allen B. DuMont Laboratories, Inc., Passaic, N. J. New York office: 515 Madison Ave. PL 3-9800.

Science, weekly, Smithsonian Institution Bldg., Washington 25, D.C., published by American Association for the Advancement of Science. Editors, Josephone Owen Cattell and Jaques Cattell.

Science News Letter, weekly, 1719 N. St., N.W., Washington 6, D.C., published by Science Service. Watson Davis, editor.

Scientific American, monthly, 24 W. 40th St., New York 18. LO 5-6400. Published by Munn & Co., Inc. O. D. Munn, editor and publisher.

Scientific Monthly, The, monthly, Smithsonian Institution Bldg., Washington 25, D.C., published by American Association for the Advancement of Science.

***Telescreen,** quarterly, 371 S. Orange Ave., Newark 3, N. J. Published by Michael Melucci. (Formerly *Telescreen Century.*) Editor, Dr. F. L. Campbell.

***Tele-Viewer,** bimonthly, 11 W. 42nd St., New York 18, N. Y., published by Television Publications. Irwin A. Shane, editor and publisher.

***Televiser,** bi-monthly, journal of video production, advertising and operation. Published by Television Workshop of New York, 11 West 42nd St., New York 18. LO 5-1683. Irwin A. Shane, publisher.

***Television,** monthly, "business magazine of the industry," is published by Frederick Kugel Co., 600 Madison Ave., New York 22. PL 3-5748. Frederick A. Kugel, publisher.

***Television Daily** (temporarily issued as a section of **Radio Daily**), is published by Radio Daily Corp., 1501 Broadway, New York 18. WI 7-6336. John W. Alicoate, publisher. Frank Burke, editor.

Television Digest and FM Reports, weekly, 1519 Connecticut Ave., N. W., Washington 6, D. C. MIchigan 2020. Published by Radio News Bureau. Martin Codel, editor.

***Television Grey Matter,** monthly organ of Grey Advertising Agency, 166 W. 32nd St., New York. CH 4-3900.

Tide, twice monthly (weekly after Jan. 4, 1946), 232 Madison Ave., New York 16. AS 4-3390. Edwin F. Thayer, publisher. Reginald Clough, editor.

***TV, Telecasting Publications, Inc.,** 103 Park Ave., New York 17. MU 4-1562. Martin Codel, publisher, Hal Becker, editor. (First issue, April 1946.)

Variety, weekly, is published by Variety, Inc., 154 W. 46th St., New York 19. BR 9-8153. Sid Silverman, president. Abel Green, editor. Chicago office: 360 N. Michigan. Bill Hunt. (See *Daily Variety.*)

* Denotes publications devoted to television exclusively.

CBS PIONEERS FULL COLOR FINE-SCREEN TELEVISION!

©CBS 1945

This is the approximate quality of the new CBS postwar television — fine-definition — in full and natural color.

On October 10, 1945 the first experimental broadcast of brilliant, full-color television in the radar frequencies was successfully achieved by CBS.

As nearly as the printer's press and inks can accomplish, the picture above reproduces the quality of the new CBS High-Definition Television in a section of a picture measuring in full 7½" x 10". Note the tones. Note the depth of definition: features, patterns, jewels, play of lights.

Thus the long search by CBS for pictures really great (not just passable) has passed perhaps the most important milestone in the new art. The event was certainly of first importance to everyone concerned with television.

Much remains to be done, much is being done, to put this new, brightest form of television in your hands. You may be sure that CBS is doing all it possibly can.

THE COLUMBIA BROADCASTING SYSTEM