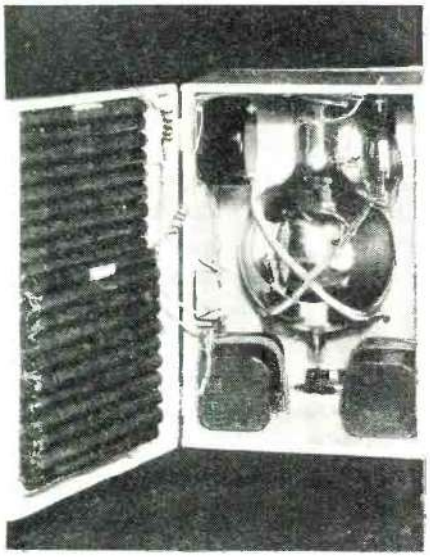
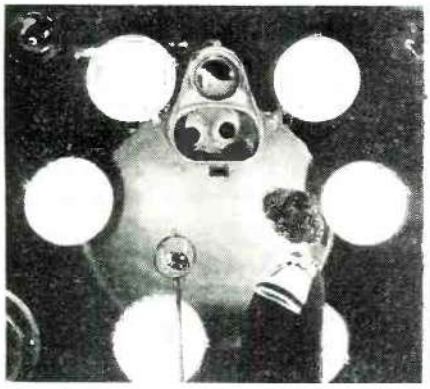
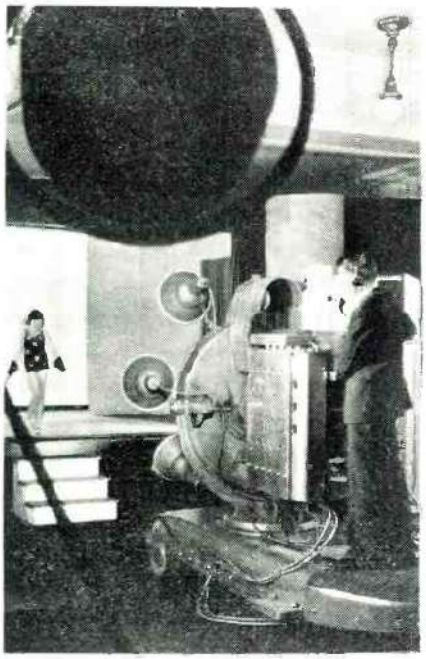


The huge television "eye" used in the whirling disk system. On the left are batteries.



An actor's view of the whirling disk camera. The six white disks are powerful spot lights.



The heavy whirling disk camera successfully televises a diminutive actress in Chicago.

IS Television

For years, Television has been "just around the corner." For years Television has been promised us as America's great new industry. What is really the truth about these reports? In this important symposium of opinion, much is revealed, little solved.

YES . . . says U. A. SANABRIA

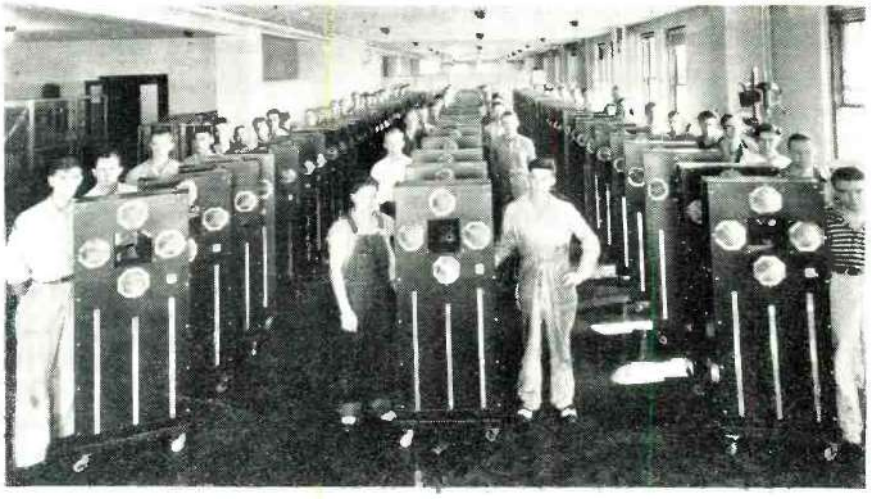
Vice-President of American Television Institute, and leading television engineer.

DURING years that I have been working in television I have had occasion to meet most of the important engineers and inventors in the field. Some have had more agreeable personalities than others, but behind each one I could feel a common driving force which appeared to focus into the words, "No matter what be the obstacles, we must have television."

Consider for a moment the motivating force behind these thoughts. These are men who were not supported by the Government or any benevolent society during the years they forced television from nothing into the highly developed systems we see today. All of them learned that the task was too vast and the industry too great for any individual to attempt to obtain more than a small share of the financial profit that goes to a pioneer. Yet, none of them slackened in their efforts to give us television. Basically, this hard work continues because television engineers have come to understand that whole groups of people can only continue to live together in harmony through greater mass educational mediums. They believe that the greatest mass educator will be television.

The huge capacity of a television system for exhausting the entertainment resources of producers will demand that subjects of greater mental interest will occupy more time and attention as television grows in national use. Television will be the greatest of all forces for the dissemination of information and propaganda. It shall be the responsibility of present television engineers to see that their work is not misused. I am convinced that beginning with this year, this same driving energy will direct itself toward the solution of removing the comparatively simple business barriers which remain to oppose national television service.

Some of those executives who casually print the story of their inability to find



100 television-telephones for commercial use; 100 trained men ready to service them. Why have they not been put to use? What is holding up the U. S. on this last frontier?

Here?

Under the RCA system, this is the type of picture you will receive on your television receiver.

NO . . . says COMMANDER E. F. McDONALD

President, Zenith Radio Corp.

"Television is just around the corner—but only for stock salesmen and deluded investors. It is time the public is told the truth. Television *is* coming, but serious technical and economic difficulties are delaying its introduction. Even with the finest laboratory equipment, experts have been unable to project clear pictures more than twenty-seven miles. Changes in television transmitting apparatus have been so rapid and so continuous that television receivers sold only one year ago are now obsolete. Two thousand transmitters would be needed to give adequate coverage of the United States and would require ninety thousand miles of special cable costing nearly *one billion dollars*. Television is likely to find its first application over telephone wires instead of by means of wireless television transmitters. The American Telephone and Telegraph Company subsidiaries are having television privileges included in their franchises. Television is coming, but it is *not* "just around the corner."

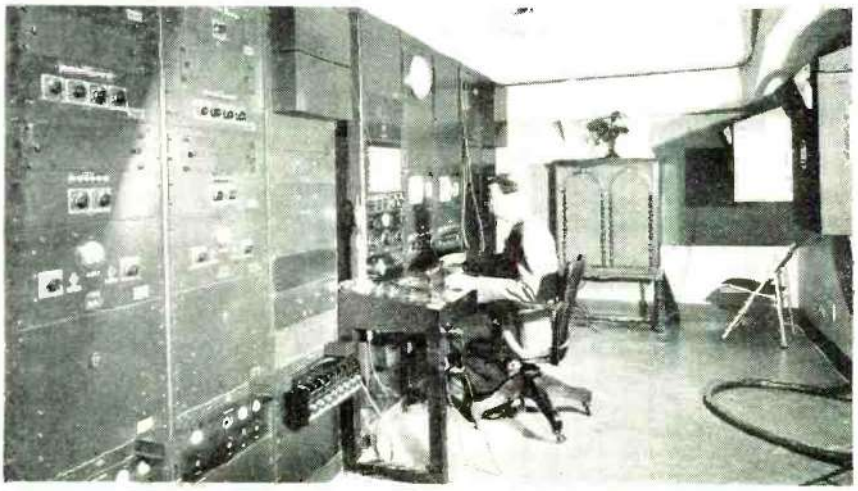
a good financial solution to launching national television service, have said, "Show us how to raise a Billion Dollars and we will give you national television service tomorrow."

I can remember when they said, "Show us television and we'll worry about the rest." Well, the time to worry is now, or the doubt of their sincerity will follow.

Where is American business acumen, if it cannot solve the comparatively simple problem of financing television?

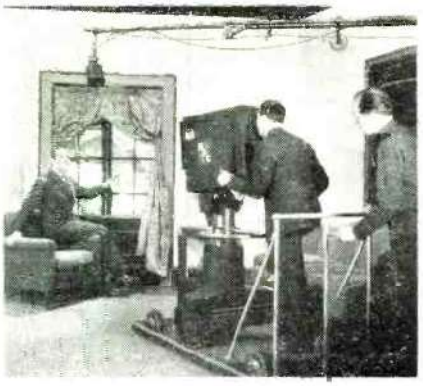
Wouldn't our financial geniuses of yesterday blush with shame to see some of our most notable business executives actually printing the story of this unbelievably difficult task of financing an invention already more perfected than any heretofore launched? Certainly these men are not serious; they have not really tried to think out a good financial solution for television service:

(Continued on page 69)



NBC Empire State Bldg. Studio television control room. A lot of equipment, but only intermittent programs. When will this equipment get regular use?

Two high power television tubes. The plates become so hot that water cooling is needed.



Michael Bartlett, screen star, is televised by The RCA Iconoscope. The engineer looks into the camera watching the performance.

The television receiver of the future. Less complicated than a modern broadcast receiver.

Is Television Here?

(Continued from page 17)

they have not stopped to think that it is now time for them to do their share.

America needs men to give it the split-second television service it will soon have on a national scale.

England Far Ahead in Television, Says Noel B. Gerson

TELEVISION isn't something for the future to be dreamed of in the Sunday supplements. Television is here—today. But that's the whole trouble—it isn't here at all. It's in England.

For more than a year two daily television programs of one hour each have been broadcast from London by the British Broadcasting Company. Thousands of Englishmen have television sets in their homes, and the number is increasing daily.

The average Londoner is as complacent about television as he is about a regular B.B.C. broadcast, or about his daily ride to his office on the bus or the underground. He is amazed to learn that American television is still in the "experimental" stage.

The English public was introduced to regular telecasting in August, 1936, although some telecasting was done as early as 1932. The first programs, which were naturally rather crude, consisted of short vaudeville and variety acts, lectures, news-reel films and excerpts from American and British movies. Production has since been polished, and the scope greatly broadened. At the present, mobile units record special events as they occur, such as the Coronation of King George VI, or the tennis matches at Wimbledon.

In February of last year the London station at Alexandra adopted a single set of technical standards for public transmissions. This was the beginning of television in its present phase. The Palace was selected for the transmitter site because it stands three hundred feet above sea level, and still is in the heart of the city. Over fifty-five thousand square feet of space are utilized for television broadcasts. Masts erected on the roof gave the top aerial a height of six hundred feet. There are two aerials—one imposed on top of the other, the lower being the regular radio boadcasting unit.

Between five and ten thousand persons in London own sets. As the price of the receiving apparatus decreases, the audience is expected to increase proportionately. A good set may be purchased for a minimum of $200 to $320. Costs may be reduced below the $100 mark in the next year or so. When that day comes, mass reception will begin. All of which adds up to one thing: television is no longer a novelty or a freak—it is big business. And the television people in England will tell you that they are playing for keeps.

At the present time the B.B.C. presents one hour of television in the afternoons and one hour in the evenings. There is a great clamor for more, but so far there are too few "viewers," and the cost remains prohibitive. Nevertheless the Corporation continues its relentless research for improvements.

Among the most important of the recent developments has been the mobile unit. This consists of three vehicles, each about the size of a large motor bus. The most important of these contains the control room equipment, and is similar to the control room at Alexandra Palace. The unit has three cameras. When a television picture has been obtained in the mobile control room it must still be conveyed to the Palace and broadcast in the usual way. Consequently it was found necessary to lay a specially designed cable in the center of London.

Authorities and luminaries beg for a chance to telecast. With a pardonable tone of pride in his voice Mr. Frost said that, "Everybody in the Empire who is anybody has been on."

Television is still an extremely expensive proposition (although costs are less in England than they would be here). Scenery, costume and other production expenses double the normal cost of broadcasting. It must be remembered that this is not only radio, but audition PLUS vision. The operators of the only public television service in the world ruefully admit that the cost will always be greater. Even so, the public is paying approximately what it did for radio ten years ago.

The British disagree with us that television is only effective for very short distances. Being conservative, they guarantee reception for only a twenty-five mile radius, but privately admit that a decent set can almost always pick up programs at a distance of at least seventy miles. They said cautiously, that the big buildings of New York, Chicago, Philadelphia and San Francisco could increase the range even more. Recently, for instance, California police television type signals, said to have a range of only ten miles, have been badly interfering with police reception in Princeton, N. J.

The B.B.C. has two "freaks" on its record books—cases where programs, telecast in London, were picked up thousands of miles away, once in New York, and once in Johannesburg, South Africa. It would be hard to draw any conclusions from these phenomena, but one might hazard a fairly accurate guess that if such distance can be achieved accidentally, it won't be long

before distance-telecasting is perfected.

A normal television set costing $300 has a screen ten by sixteen inches, although the new models have screens of almost twice that size. The screen itself is set on a slant, with a plate of glass in front of it, and on one's line of vision when seated. Incidentally, from sixteen to twenty persons can view a program comfortably seated in front of one machine. Furthermore, the lights need not be totally extinguished—as long as they are dim in the immediate vicinity of the receiving unit, that is sufficient.

The average afternoon London program when viewed might be as follows:

At exactly three o'clock, Big Ben, as he always does, would flash on the screen, chiming the hour. A pretty brunette in a finely patterned but clearly visible black lace dress would be introduced by an announcer. The screen shows them in black and white, although it is possible to get a machine with sepia tints, too. Most amazing of all is that the figures are seen clearly in three dimensions. The perspective and depth was something that is not expected.

The girl executes a series of Spanish dances. Next the head of Mme. Tussaud's Museum gives an illustrated lecture on clay modeling. Here is television at its finest. Such a talk on the radio alone might become dull. But during the speech, two assistants model a bust of Prime Minister Neville Chamberlain, and one can actually see what the man is talking about. So an ordinary lecture is turned into a living document.

For the third item, a full fifteen-minute British Movietown News-reel is shown. The last portion of the program is devoted to a production of an operetta by John Gay. Because of the smallness of the screen it is still difficult to show more than six characters on the stage at once. Television has already developed a technique of its own for lighting, make-up and scenery, so it is probable that the problem of exhibiting a large number of characters simultaneously will soon be solved, too.

The most vital question about television is this: the British have it; why can't we? Unfortunately there are a number of very sound reasons. The most obvious is the difference in the respective sizes of the British Isles and the United States. It is cheaper and simpler to erect stations in a country which measures its distances in hundreds of miles than one which must cope with thousands. One-fourth of the British population is concentrated in the London area.

Observers both in this country and in England have declared with remarkable unanimity that there is a grave obstacle in the path of American television. This hurdle is the motion picture industry. Such an antipathetic attitude is logical—and only too human. Once television comes, Hollywood will be no more. The daily televised news-reels are sufficient proof of that.

It is comparatively simple for the B.B.C. to inaugurate a service like television because of the Corporation's unique character. There are no commercial broadcasts reaching the airwaves through the facilities of the B.B.C. Although privately owned and controlled, the company is closely affiliated with the government—our nearest comparison would be the relationship between Washington and the TVA. As a result there is full backing and a fat wallet behind any B.B.C. enterprise.

The Corporation gets most of its revenue from two sources, the listener being the most lucrative. Every owner of a radio or television set must pay the government an annual license tax. The various publications of the Company are also big money-makers. In this country television depends on the whims of commercial sponsors, and it stands to reason that these interests will not invest their money until they are sure of a safe margin of return. Which means that the problem of distance must be solved and the price of sets reduced appreciably before mass reception will make sponsorship profitable to the cigarette and chewing gum manufacturers.

Experiments in the United States led to the successful transmission of simple outlines in 1925. Two years later the American Telegraph and Telephone Company demonstrated the transmission of a picture by wire over a distance of two hundred and fifty miles. This was repeated by wireless shortly afterwards. There are three television "experimenters" in America right now—RCA, the Philco Radio and Television Corporation, and the remarkable Philo T Farnsworth.

RCA, which has transmitters on the top of the Empire State Building, and receivers in Radio City, put on a show for newspapermen just one year ago. The program was much like the one described a little earlier in this story. Vision was good, and the press came away from the demonstration enthusiastic. This ardor has been dampened somewhat by the subsequent lack of action. Your correspondent, for one, would like to know why nothing has happened here.

In 1929 and 1930 the British took the lead and are now thundering down the home stretch with not an American horse in sight. The Germans are planning on starting public telecasts in the near future. The French are already dabbling. How much longer must America wait?

—30—