Television turns the corner!

By Ray F. Freer

Radio sets can never be converted into television sets.

And when television does arrive—no more than two years away—Los Angeles will be ready for it.

In fact, though the population is not aware of it, television broadcasts are released twice daily from KHK.

Heading KHK's regular television staff is Harry H. Luker, 35-year-old engineer, who is one of the foremost television authorities in the country today.

They are mostly all young men—these televisionists.

After graduating from the college of electrical engineering at the University of California at Berkeley, Luker was engaged by the late Don Lee to work on television.

Culminating several years of pioneer work, Luker put on public demonstration at KHK last June a new 300-line television receiver and improved transmitting equipment. This was the first public demonstration of modern television ever to be held in the United States.

Thousands of people crowded into the Don Lee Building to see science's latest marvel.

If you happen to be driving around Silver Lake some Wednesday evening, you will get further evidence of television experiments in Los Angeles. You may see a large group of automobiles surrounding a residence that has a small antenna, "Television Demonstrator," in the window.

"What's this?" you may inquire of those going inside the house.

"Fellow named Luker of KHK is holding a television test out here," you will be told. "Has a bunch out here every week—radio engineers, motion picture people, newspapermen, and what not."

"Television, eh? Well, I've always wanted to see one of those contraptions work. Guess I'll go in too." "Not unless you have tickets," you will be informed.

If you are lucky enough to get tickets, you will see some amazing things. Come with me to one of these sessions. You'll get as big a thrill out of it as the time you clapped on a pair of earphones, jiggled a "cat's whisker," and listened to your first radio broadcast.

We enter a room that has been converted into a tiny theater. In the corner are two tables. One is a regular high-frequency radio receiver. The other looks much the same but is slightly larger. Where the oustapaper should be is a curved mineral screen—about ten inches across.

This is the television set.

The television set is warmed up and a greenish square of light sticks on the mineral screen. Soon the hills of a well-known newsworthy scene in a nine-inch square on the screen and the greenish glow dies out. The newsreel comes over the Don Lee television station.

WKXO, on 45,000 kilocycles, the sound comes from KHL, on 900 kilocycles. There is a perfect synchronization between the sight and sound, which is remarkable in view of the difficulty that the motion-picture industry had when talks first came into existence.

The scene we are watching has been sent over the air a distance of three and a half miles. Because of two interfering radio stations, the Don Lee television station.

Television only a few years ago presented a blurry, wavy picture that could barely recognized. Now modern television has no excuses to offer. The pictures are clear and indistinguishable.
TELEVISION TURNS THE CORNER!

With larger screens and other technical improvements they should be as suitable as the modern motion picture. Professor Homer Blum of Princeton making a speech. His face, the wrinkles in his clothes, the gestures of his hands are clearly visible. This is a shot of war-time Spall—though in miniature—proving that the dramatic effects that depict the era of one hundred years ago; pictures recall wartime experiences.

The old scanning disk method of receiving television images has definitely been discarded. Modern televisionists are using the cathode ray tube, explained Lukeke. With the cathode ray tube millions of tiny electrons are thrown against the mineral screen. These tiny points of light—10,000,000 or more—give us the picture. It is the same principle upon which the camera of a newspaper engraving is based. Look closely at any newspaper picture and you will see that it is made up of a mass of tiny dots. Similarly the picture on the television screen is made up of thousands of pin points of light.

Although Lukeke and his associates at NBC are in the perfection of television, they are not keeping all their secrets to themselves.

"We are showing this demonstration self-sustained envelope we will send plans and directions for building a television set to anyone who writes," the television expert promises.

"With a moderate amount of mechanical skill and a certain knowledge of radio, anybody can build one of these receivers for a little over $1,000," he says. "We've already sent out something like 3,000 sets of plans—not only in this country but in all parts of the world!"

THERE are several such homemade television sets in Los Angeles today. They help Lukeke and KUSY make tests on reception, distance, visibility.

You cannot buy a commercially made television set at the present time. In 1931, C. F. Jenkins of New Jersey started out on a $250,000 program to manufacture sets—but this was for old-time, ninety-line television. Dr. Jenkins is dead now and his company is defunct.

"Commercial sets will not be available for a year or two," says Lukeke. "Outstandingly estimated that all the way from $50 to $500 have been made, but none have been sold.

"A fortunate result," says Lukeke, "is the demand for television experts. There are already 4,000 or more sets in use. We are already making sets for individuals and small companies, and the demand is increasing daily."

The R.C.A. Victor Corporation of New York City has also made experimental sets which have been carried on by Vladimir Zworykin, the Farnsworth laboratory headed by Philo Taylor Farnsworth at Philadelphia and the Philco radio laboratory at Philadelphia.

The R.C.A. Victor corporation is spending $1,000,000 on their television experiments in New York City. They have established a television station in the Empire State Building and are now privately making field tests.

Some time this month the first television broadcast between New York and Philadelphia has been made. The high frequency television waves will be intensified between two cities.

The idea that television equipment will be costly observed by television experts in all parts of the world—so there may be some reason for the "LADIES of the future to be careful with this new invention."

Abroad, Great Britain is leading the race to broadcast television. Subsidized by the government and supported by the public, there is a feeling in Great Britain that television has had ample tests with which to experiment. The British Broadcasting Company has converted Alexandra Palace—a relic of the Victorian days—into a North London hillside to become a television station. The British, too, are laying a television wire between London and Birmingham—the site of England's second station.

Argentina's television will start soon and plans have been made to televise King Edward VIII on Christmas Day. Additional official and radio equipment manufacturers in the British Isles are making bold assertions that "looking in" will be common things soon. Receiving sets have been estimated at prices ranging from $50 to $100.

Many countries have a milestone in their television progress last March when a two-way television and telephone connection was made between Berlin and Leipzig. Besides this the Germans are being urged to call for the erection of more transmitters, the production of home receiving sets and direct, medium portable equipment.

A new 10,000-watt image transmission apparatus is projected by a new French wireless to supply the 300-watt one in use. Japan has set the year 1936 as the climax to a long series of carefully planned television tests under the direction of the Japan Broadcasting Company. Technically, says the Japanese expert, they are all ready to begin broadcasting. They are now using the cheap and efficient receiving set can be designed and built. Japanese television broadcasting is expected to begin in April, 1936, with the completion of a new building for station JODA in Tokyo. Television will be the main event of the world over. Technically television is ready to begin at almost any time. Economic difficulties are a compromise.

TELEVISION will probably come to a great deal upon the motion picture industry for films to be broadcast. Already at the present time news reels and other short subjects will be sent out over the network. Later, feature pictures will be shown. If television companies tried to produce their own films they would find that it would cost as much as $200,000 for each production.

Some of the technical problems that have not been strenuously met so far are the size of the receiving screen, interference of television waves by hills and automobiles, and distance from the broadcasting station.

Television will never take the place of the motion picture. It cannot possibly crowd out the newspaper, and it seems unlikely to entirely eclipse the radio. It can—and will—harmonize with all three. It will grow and steadily, rather than justly, in visual form, become more and more popular, and a new and exciting medium of entertainment.

The next two years will see television sets in thousands of American homes. Television has turned the corner.

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