

TELEVISION: The Wartime Instructor

by AUSTIN LESCARBOURA

Mass instruction of air raid wardens is essential to our war effort. Television is proving to be a remote school teacher.



Studio scene in front of television camera shows "Mr. and Mrs. Brown" in action.

The stirrup pump is considered the best for combating incendiaries.



Police lieutenant acting as instructor for air raid television class.



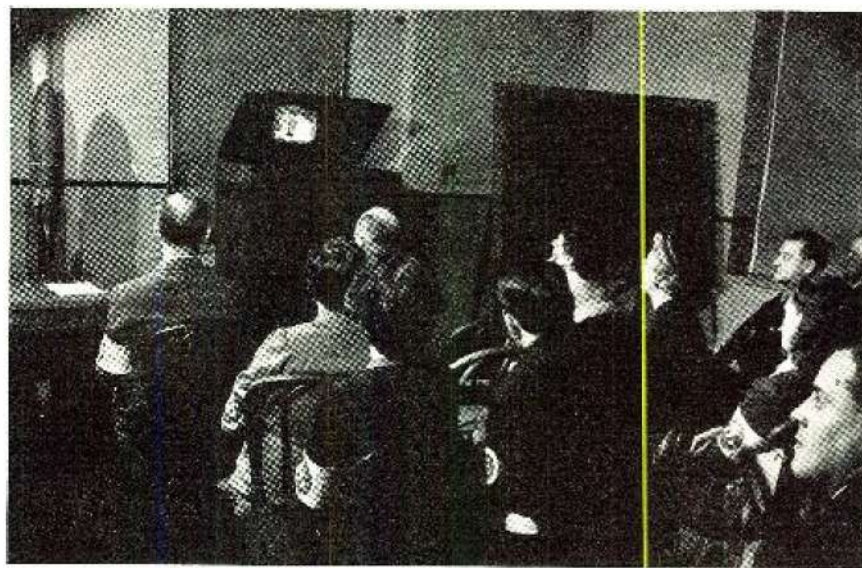
THE stars and stripes fade away with the closing strains of our National Anthem; the "Discussion Period" sign appears on the now silent television screen; and the local group sits down again to review the lecture and demonstration just attended by thousands of prospective air wardens scattered throughout the New York, Schenectady-Albany and Philadelphia areas, not to mention dozens of smaller communities all around. This is the greatest classroom in the world—and in all history. Indeed, even if television failed to offer the slightest entertainment value—and we know it is rich in entertainment values even at this early date; even if television never attained that popular price level to make it commonplace in the home—and we know it will make that popular price level in the near future; even if television continued to be little more than an interesting stunt—and we know it is far more than a stunt, already: right here and now television would still glitter as the outstanding mass instruction means of all time. Such is history in the making.

More specifically, sixty thousand or more prospective air wardens in those metropolitan areas, with more to follow, have been attending television classes for basic instruction. The fact is that they have compressed a good six months' training into as many weeks, while American ingenuity has demonstrated still another means of catching up with ruthless enemies that have several years' headstart in playing this modern game of all-out war.

These exceptionally fortunate air wardens have been listening face-to-face, and therefore most attentively, to leading civilian defense experts. They have seen and examined incendiary and demolition bombs, and witnessed the diabolical results of such destructive agencies in London and elsewhere via documentary films. They have studied poison gases and effective counter-measures. They have had a preview of swarms of bombers coming over for the attack, and the answering fire of anti-aircraft guns in action. They have gone through all the details of a blackout, and have become familiar with sand pail, long-handled shovel, stirrup pump and other tools of their wartime avocation. They have studied maps, sketches, plans, diagrams. Best of all, they have in some measure become acclimated to the surprise, shock, excitement and teamwork of realistically-staged air raids in company with the typical "Brown" family, that most efficient Post Warden, "Arthur Smith," and other fellow Americans on the television screen, thereby cultivating a growing immunity to that war of nerves upon which



Here are makings for three scenes in corner of NBC video studios.



Typical television classroom in action. Prospective wardens are observing the action of instructors on the screen of the receiver in the classroom.

our enemies place such importance in softening up intended victims. Yes, sir, these properly instructed air wardens are being made tough and ready, if it should happen here.

The television classroom for prospective air wardens is a truly cooperative effort in which the *New York Police Department*, *Civilian Defense* authorities, the *National Broadcasting Company*, and leading manufacturers of television receivers have taken part in the New York metropolitan area, while these same facilities have been expanded to the Schenectady-Albany and the Philadelphia territories by *General Electric* and *Philco*, respectively. Thorough use has been made of all existing television sets out in the field, plus many more installed where necessary through the courtesy of the *Allen B. Du Mont Laboratories, Inc.*, *Radio Corporation of America*, *General Electric*, and *Philco*. Thus all precincts and districts now have necessary receiving facilities for the instruction of local air wardens.

The technical success of this mass instruction program rests in largest measure on the wide coverage of NBC's television transmitter, Station WNBT, atop the lofty Empire State Building in New York. This transmitter has a dependable transmitting range of 60 to 75 miles, taking in such distant communities as Poughkeepsie, Middletown, Newburgh, New Brunswick and even Trenton, most of Long Island, and Bridgeport. At this distance the usual television receiver is directly operated with satisfactory results. In fact, the writer recently installed a *Du Mont* television receiver in 20 minutes flat, simply assembling the dipole and reflector rig, placing same on the rafters under a slate roof, dropping the twin-conductor cable some 35 feet to the playroom in the basement, and tuning in a perfect television image with synchronized sound. All this, at a distance of some 30 miles

from WNBT, indicates a powerful and dependable signal certainly workable at two or three times this distance under favorable and proper receiving conditions.

It is interesting to note how this television air raid warden classroom program has made full use of the first available television network. After hearing so much discussion as to the almost insurmountable difficulties of establishing television networks especially by means of costly coaxial cable lines, we are now made aware of the simple relay network in daily operation. The GE relay station atop Helderberg Mountain, south of Schenectady, picks up the WNBT signal direct at a distance of 129 miles, due of course to the lofty location of both transmitter and receiver. Here the signal gets its one and only boost for three miles to the main WRGB transmitter for rebroadcast to the Schenectady-Albany-Troy area. This relay service was experimentally worked out early last year, and arrangements made to resume the relay service last December.

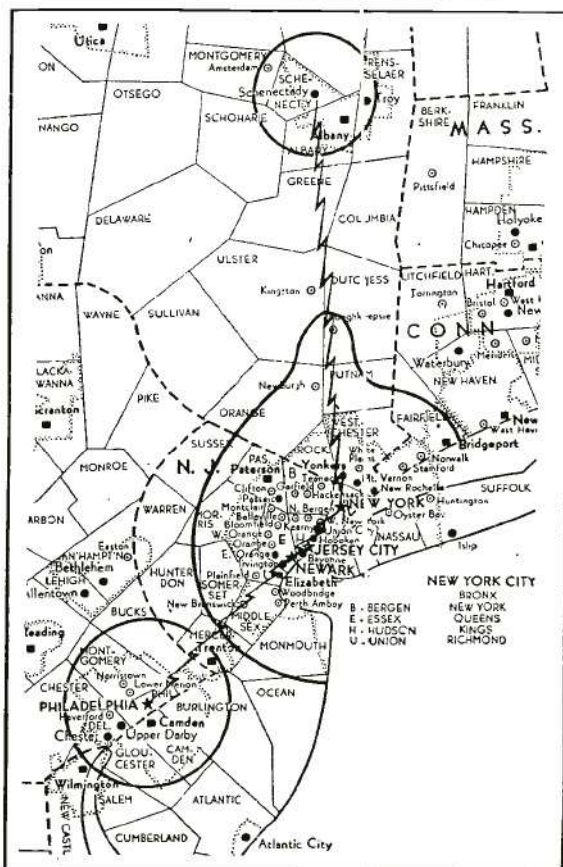
Although there is an AT&T coaxial line available between New York and Philadelphia, same having been employed at the time of the Republican National Convention for transmitting a video account of the proceedings to New York for television dissemination, the present network tie-up is again via radio, direct. WNBT's signals are

picked up by relay station W3XP at Wyndmoor, Pa., 32 miles away, and sent on some 8 miles to the main transmitter WPTZ in North Philadelphia.

Thus three leading metropolitan areas are tied in together in the training of their air wardens. In the New York area alone, it is estimated that the first group totalled 54,000 prospec-

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Map shows present coverage of instruction.



Television

(Continued from page 43)

five air wardens scattered throughout the five boroughs, attending the television classes held in all police stations. It is safe to assume that at least another 6,000 prospective air wardens, and no doubt far more, have been attending television classes in private homes, taverns, clubs, radio stores and elsewhere in the other main areas, not to overlook the hundreds of suburban communities surrounding those main areas.

Dealing with first hand experience, the writer has had as many as 22 air wardens and auxiliary policemen of his little community attending the television classes in his basement playroom. The men and women have been most attentive. Not a word has been spoken during the lecture. Following the half-hour session, there has



Actor doubles as Post Warden.

been lively and profitable discussion. And each one attending has found it far easier to study manuals and instructions already available, due to the dramatization and high-lighting provided by the television presentation.

Now as for the television classroom curriculum proper, we must go back to January 5th of this year, when at the request of the *New York City Police Department*, the television facilities of NBC were made available for air raid warden instruction purposes. Anywhere from one to forty sets were located in most of the 100-odd air raid zones in the five boroughs of Greater New York, and these were pressed into service. Suitable films were shown, along with a 40-minute lecture by a lieutenant from the *Police Academy*, and a demonstration of air warden tools. The response was so encouraging that an extensive course of air warden lectures and demonstrations via television was decided upon.

The first course just drawn to a close consisted of six telecast lessons in basic training. These lessons, telecast at the rate of one a week, have been drawn from official defense publications, London's experience, and the work of the *New York Police Department* experts. Although there was one

new lesson each week, it should be noted that the same lesson was given twice in the morning, twice in the afternoon and twice in the evening, on Monday, Tuesday and Wednesday, so as to accommodate the tens of thousands of prospective air wardens with the limited number of television receivers available. The choice of morning, afternoon, and evening sessions has fitted in nicely with the normal workaday activities of women and men alike.

The lessons have been written by NBC television program men, supervised by Police Commissioner Lewis J. Valentine. The first lesson was on the general duties of the air raid warden. The second covered the incendiary or fire bomb. The third dealt with blackouts. The fourth was devoted to gas warfare. The fifth and sixth lessons were review sessions, with that invaluable element of repetition to make the facts sink in thoroughly.

These television classroom sessions are far from pedagogic humdrum. In fact, the television screen action has all the graphic and moving appeal of a Hollywood production. The first lesson had Maurice Wells as Post Warden "Arthur Smith," directing pedestrians to shelter and halting traffic on a street scene during an imaginary raid. The second lesson depicted a "bombing" of New York's famous Times Square with the assistance of actors, stage sets, sound effects and motion pictures. The "Browns," television's typical New York family, also fought down a spluttering fire bomb that fell into their apartment during the "raid." This scene was a masterful blending of live actors, stage settings, still photos and motion pictures that baffled everyone but the television studio technicians.

In each of the lessons which, as previously mentioned, are repeated 18 times during the first three days of the week, a uniformed member of the staff of the *Coordinator for Police Department Civilian Defense* faces the television cameras in NBC's sight-sound studios at Radio City. He states the several points to be covered in the lesson. At intervals other cameras bring the words of the defense expert to life with dramatized demonstrations of rules laid down by the *Office of Civilian Defense*. For 30 minutes the prospective air wardens follow the fascinating and theatrical presentation. Then, after the telecast is over, they retire to discuss points raised, under the leadership of the precinct defense officer.

Nothing like this has ever been attempted before anywhere in the world. It is something new, not only in radio but in education. And its success in practice pretty much parallels its daring in conception.

The new television school was born of war's necessity. With the job of training upwards of 200,000 voluntary workers in New York City alone, the Police Department faced a difficult situation. Television classroom pro-

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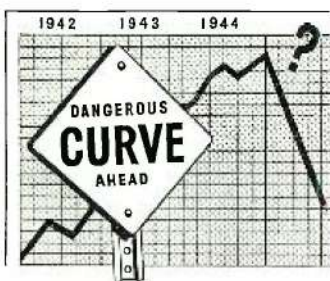
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vided the answer. With one or more receivers in each precinct station house, hundreds of wardens could see and hear a single instructor simultaneously. That would economize the time of the department's experts and introduce standardization to the training. No longer would there be the confusion arising from conflicting interpretations. Drawings, diagrams and close-ups would clarify problems left obscure by words alone. And dramatization would lend added force to the instruction. Thus in weeks, rather than drawn-out months, a competent air warden force has been brought into being by truly American genius for getting things done.

The first series of lessons already completed, the television school will continue. NBC's television men expect that it will go on indefinitely. The basic series will doubtlessly be repeated. New courses will be given, particularly more specialized instruction for all categories of defense workers included in New York's air raid protection scheme. And then there may be other courses such as for Red Cross workers who may have the benefit of viewing First Aid, Bandage-Rolling and other demonstrations by leading experts, for those interested in wartime nutrition, for ardent students of war strategy as discussed with maps by authorities, and so on. Certainly the television school is here to stay, in wartime especially, but for peacetime reconstruction and rehabilitation, as well.

Meanwhile, other sections of our country are likewise conducting television classes in our national war efforts. The Thomas S. Lee-owned television station W6XAO in Hollywood has been running a schedule of defense programs for Southern California on alternate Saturday evenings from 8:00 until 9:30 P.M. Initial lessons have been in the form of suitable films, such as the "Safeguarding Military Information" released by the Office of Production Management, the "Front of Steel" depicting Hitler's tremendous war effort as far back as 1938 and the subsequent efforts in Canada to meet this menace, the "Fight for Liberty" and the "Building a Bomber." There are several hundred telecast receivers in that territory that can be tuned in for such instructional programs. Present plans are for live demonstrations similar to those in the East, based on Director Lubcke's enthusiasm after seeing what has been done by NBC.

So smooth is the television presentation that the looker-in fails to appreciate the vast amount of time, effort and sheer hard work that goes to make it possible. The writer attended one of the air warden sessions at the NBC studio for the purpose of telling you just a few of the many details involved.

First and foremost, television pickup is many fold more involved than conventional sound broadcasting, since there must be an image as well as a

sound pickup. This means scenery. Here the Hollywood technique comes into play, but on a very obviously condensed basis since the television studio is relatively limited in size as compared with the movie stage or lot. The scenery is ingeniously worked out for the necessary street scenes, roof shots, indoor scenes, close-ups of the instructor, the American flag blown by an electric fan, which opens and closes the session, and so on. Powerful lighting is provided by batteries of reflector-type incandescent lamps mounted on sturdy racks above, at the sides and in front of each scene. Microphones are suspended by extension boom or otherwise directly above the players but out of range of the camera's field. *This technique was described fully in Dec., 1941, RADIO NEWS, Pg. 6. Ed.*

Three cameras are available in the studio, permitting wide latitude of action and also permitting constant flow from one scene to another without a break.

The cameraman at each camera wears earphones. All cameramen and the control room are tied in on a party line, so to speak. Instructions come from the control room, telling each cameraman when and where to shoot. Control room operators have the script before them, with the complete dialogue. Heavy black markings indicate when each camera is to be made ready on a given shot, and when that particular pickup is to be cut in by the man at the control desk who flips the necessary switches.

The control room operators—director, technical supervisor and audio and video control engineers—have before them the monitor screens showing images picked up by the respective cameras, as well as the master monitor screen with the image being released to the transmitter. The video control engineer also has cathode-ray oscillographs before him, showing the technical intricacies of the signals and guiding him in his shading and other corrections. Another operator monitors the sound level, as on conventional sound broadcasting, and also handles the electrical transcription pick-ups. The technical supervisor sits at the side of the director, making "cuts" and "fades" and relaying directions to cameraman on the studio floor below. Meanwhile the television stage manager is out on the studio floor, using hands and arms and grimaces to guide the action, since he must remain silent during the show. A private line phone connects him with the director in the control room.

The actors must be thoroughly rehearsed for their roles. Obviously no script can be read during the performance, since this is "seeing" as well as "hearing" by the audience. Therefore, the lines must be mastered before the television show begins, which means that actors with legitimate stage training have advantages over those with broadcasting or movie training only. That there is a definite television staging is obvious to the visitor

to the television studio. Standing in the control room and watching the various monitor screens, one can account for the momentary pickup of three cameras. Camera No. 1 may be kept trained on the Police Lieutenant who is the lecturer, but is standing by while Camera 3 is picking up a diagram illustrating some technical point. Meanwhile Camera 2 may be wheeled into position to pick up a corner of the "Browns'" living room where husband and wife are listening to Post Warden "Smith." But at that very moment the picture going to the transmitter may be a battery of anti-aircraft guns in action, with actual sound effects, obviously coming from the film pickup. Three cameras, film pickup, electrical transcription turntables, actors and lecturer are all blended together into a smooth, convincing, thrilling presentation, because those chaps in the control room are following the script word by word, cuing each cameraman when to get ready and what to pick up, and telling the control desk operator what camera to switch in and out, with beautiful precision.

The television classroom has profound implications. In this war, it is indispensable. Tens of thousands—even millions—have to be taught certain essential things. Months must be compressed into weeks, weeks into days, days into hours. Time is the very essence of our successful preparedness.

But beyond all this wartime service of television, there must be a long-range silver-lining value when peace comes again. To one familiar with the discouraging deadlock of visual education—schools waiting for good educational films to be made and local films libraries to be established, on the one hand, and film producers waiting for schools to raise the necessary huge sums to warrant special film production, on the other—this television classroom idea has intriguing possibilities. It may be that video broadcasting will prove the logical answer. Certainly it will make a single lecturer or instructor simultaneously available to hundreds of scattered schools in a given metropolitan area. It will likewise make one demonstration available to thousands and even tens of thousands of students. It will help standardize given instruction. It will provide timely, up-to-the-minute, living subjects in the case of direct pickups, or, where the same subjects are to be given over and over again, a single film economically produced in the absence of prints, will appear simultaneously before many scattered classrooms.

Originally thought of mainly in terms of entertainment, it may well be that television will find its earlier and most valuable application in our schools. Particularly at first, because what might be a considerable price for the average home will be very little indeed for the typical classroom. So be sure to watch television during the

next few months! It may soon appear in cap and gown, as it assumes that very logical role of the greatest mass instructor of all times.

—30—

Photoelectrics

(Continued from page 37)

as well as the indicators showing location of the particular unit that has caused the alarm.

The third type is for use where a number of sets are to be installed and a control panel is already a part of the equipment of the user. The object is to use his panel and thus avoid duplication of equipment. For this purpose the Anti-Sabotage Sets are

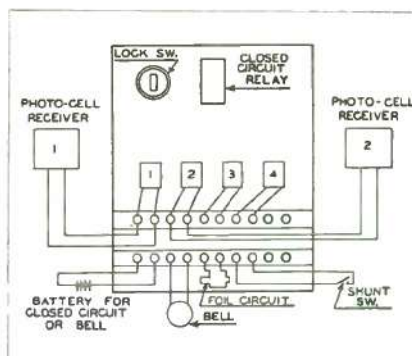
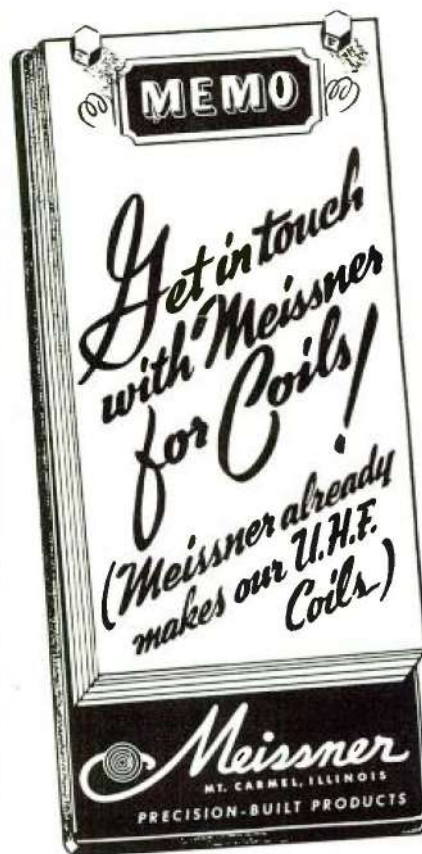


Fig. 1.

made to contain their own impulse relays which actuate the alarm relay on the panel.

Following are some of the considerations to be given when surveying an area to be protected—

1. Kind of area to be protected: Whether outdoor or indoor, large or small, centrally located as, for example, a radio tower, or spread out like a power plant.
2. Type of property to be protected: Is it something a saboteur has to get close to in order to harm or can he do damage from a distance?
3. Kind of terrain: In the case of an outdoor installation it is important to consider the profile of the ground. In places where a sharp rising knoll would intercept a long beam then a number of short beam units must be used.
4. Method of saboteur's approach: If the property is surrounded by a wall which is too well guarded to allow a saboteur to chop his way through it then the most likely approach would be for him to scale the wall. In that case the beam should be parallel to the wall but high enough so the head of an innocent pedestrian walking along would not intercept it. Too many variations occur to permit giving rules for all circumstances but the proper solution is dictated by the common sense of the person making the survey.
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