TELEVISION: The Wartime Instructor

by AUSTIN LESCABOURA

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

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

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.
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 pros-
spective air wardens is a truly coopera-
tive 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, respec-
tively. 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, Gen-
eral Electric, and Philco. Thus all pre-
cincts and districts now have neces-
sary receiving facilities for the in-
struction of local air wardens.

The technical success of this mass
instruction program rests in largest
measure on the wide coverage of
WNET's television transmitter, Station
WNET, atop the lofty Empire State
Building in New York. This transmis-
sion has a dependable transmitting
range of 60 to 75 miles, taking in such
distant communities as Poughkeepsie,
Middletown, Newburgh, New Bruns-
wick and even Trenton, most of Long
Island, and Bridgeport. At this dis-
tance the usual television receiver is
directly operated with satisfactory re-
sults. In fact, the writer recently in-
stalled 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 55 feet to the playroom in the
basement, and tuning in a perfect tele-
vision image with synchronized sound.
All this, at a distance of some 30 miles

from WNET, 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 net-
works 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 Heelderberg
Mountain, south of Schen-
ectady, picks up the
WNET signal direct at a
distance of 128 miles, due
course to the lofty loca-
tion of both transmitter
and receiver. Here the
signal gets its one and
only boost for three miles
to the main WNET trans-
mitter for rebroadcast to
the Schenectady-Albany-
Troy area. This relay
service was experiment-
ally worked out early last
year, and arrangements
made to resume the re-
lay service last December.

Although there is an
AT&T coaxial line avail-
able between New York
and Philadelphia, same
having been employed at
the time of the Repub-
lican National Conven-
tion for transmitting a
video account of the pro-
cedings to New York for
television dissemination,
the present network tie-
up is again via radio, di-
rect. WNET's signals are

picked up by relay station W3XGP at
Wyndmoor, Pa., 52 miles away, and
sent on some 8 miles to the main
transmitter WPTZ in North Philadelp-
phia.

Thus three leading metropolitan
areas are tied together in the train-
ing of their air wardens. In the New
York area alone, it is estimated that
the first group totalled 5,000 prospec-
(Continued on page 75)

Map shows present coverage of instruction.
Television
(Continued from page 43)

Active 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 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 highlighting provided by the television presentation.

Now as for the television classroom curriculum proper, we must go back to January 3th 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, 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 weekday activities of the men and women alike.

The lessons have been written by NBC television program men, supervised by Police Commissioner Lewie 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 "Browning," 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 sound-light studio 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 much parallels its standing 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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vied the answer. With one or more receivers in each station house, hundreds of wardens could see and hear a single instrument simultaneously. That would recognize 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 add force to the instruction. Thus in weeks, rather than drawn-out months, a competent officer can be brought into being 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 doubtless 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-Building 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 their 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 Sunday evenings, 8:00 to 9:00 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, and 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 five domestic films to be shown to listeners in the East, based on Director Lubcke's enthusiasm for seeing what has been done by NBC.

So smooth is the television presentation that theækker-in falls to appreciate the 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 necessarily limited in size as compared with the movie stage. 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 of view. This technique was described fully in Dec., 1941, Rano News, Pg. 6, Eq. 6.

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

The cameraman at each camera wears earphones. All camermen and the control room are tied in on a party line, so to speak. Instructions come from the control room, telling each cameraman where to go next. 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. 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 analyzes the 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, conventional sound broadcasting, and also handles the electrical transcription pick-ups. The technical supervisor sits at the side of the director, making "cuts" and "takes" 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 grimeses 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 from a stand, 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 a variety of 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 when the camera 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 these changes in the control room are following the script word by word, cuing each camera when to get ready and what to pick up, and telling the central 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—maybe 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 film 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 home Comes will be very modest for the typical classroom. So be sure to watch television during the next few months! It may soon appear in a form as good as it assumes that very logical role of the greatest mass instructor of all times.

**Photoelecric**

(Continued from page 37)

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

The third type is for use where a number of sets are to be installed and a central panel is already 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 made to contain their own impulse relays which activate 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 hop his way through 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.

5. **Analysis of present protective system:** Photoelectric Anti-Sabotage

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