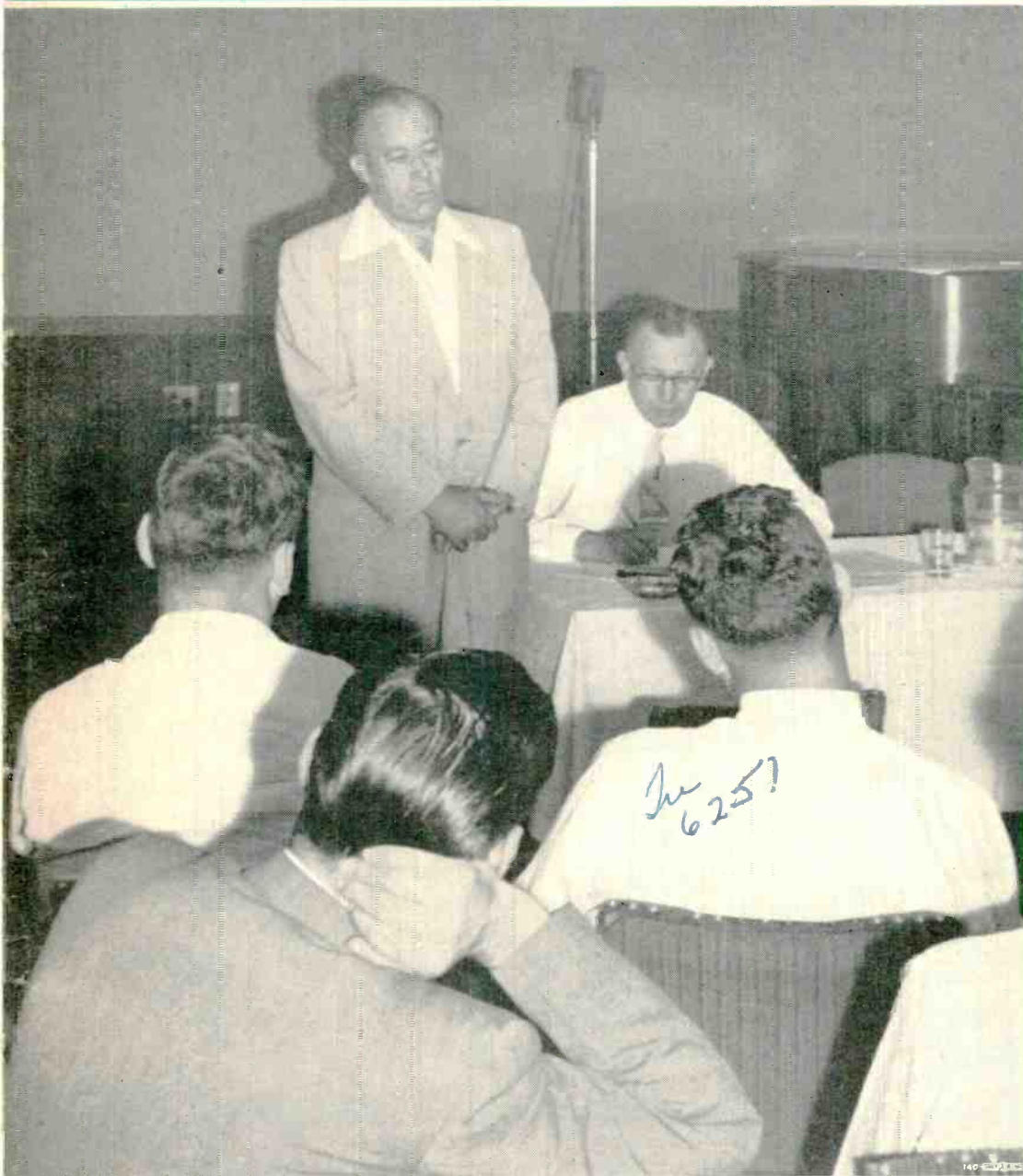


RADIO, TV and RECORDING

TECHNICIAN-ENGINEER



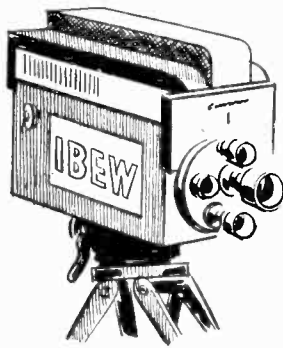
JULY-AUGUST 1953



**SECOND ANNUAL
PROGRESS MEETING**



**International
Brotherhood
Of Electrical
Workers (AFL)**



'This is the biggest insurance bonanza we have ever had'

Social Security Benefits May Total as Much as \$46,000

MANY Americans have a fortune in Social Security benefits waiting for them which they know little about, a financial columnist of *The New York Post* reported recently. It could amount to as much as \$46,000.

Many persons haven't the vaguest idea that it is available to them, wrote Sylvia Porter, the financial columnist.

"Social Security is much more than retirement benefits," she pointed out. "It also is life insurance to protect your children and their mother; it also is a lump-sum death benefit to soften the financial shock of death; it also is a pension for aged widows and dependent parents.

"Want dollars-and-cents proof of that \$46,000? Here goes:

"Assume a father of two infants—ages one and two—dies in 1953. He had been earning a salary of \$3,600 a year, was, therefore, fully insured at the top Social Security level.

"1. On application, his widow gets a lump-sum death benefit equal to three times her husband's \$85 monthly retirement pension.

"This equals \$255.

"2. His two children and their mother get a pension of \$170 a month until the two-year-old reaches 18.

"Over a 16-year period, this works out to \$32,640.

"3. His youngest child and the mother get a pension of \$127.50 a month until the youngest reaches 18, one year later.

"This amounts to \$1,530.

"4. The widow's pension ceases when both children reach 18, but she gets old-age benefits when she is 65.

For the rest of her life, she draws \$63.75 a month, equal to three-fourths of her husband's monthly retirement pension.

"If she had to buy a commercial company's annuity which would pay this sum, she would have to spend about \$11,921.

"**T**HE total hits a whopping \$46,346—and all of this income, under the law, is free of all tax!

"The ignorance of most Americans about their Social Security is appalling. In one instance, officials had a tough time tracing a beneficiary. When they located her, they found she was a close relative of a newspaper editor who had published many articles on Social Security. Obviously, the family didn't read the articles.

"In 1951, the law was changed to bring 4,700,000 small business men under the system. A survey at the time revealed 40 per cent did not know they were covered, 43 per cent had not taken out cards, 77 per cent didn't even know how to pay the tax.

"As one official put it to me recently, 'Social Security helps those who help themselves.' You must know your rights, protect your benefits. And you can't collect the money unless you apply.

"So take the time to find out your rights and benefits. Visit your local Social Security office (address in the phone book or ask your local post office). Write or telephone for information.

"This is the biggest insurance bonanza we have ever had. It's only partial protection, true, but it can be vitally helpful. Don't, because of ignorance, let a 'fortune' slip through your fingers!"

RADIO, TV and RECORDING
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PRINTED ON UNION MADE PAPER



IBEW General Counsel Louis Sherman leads a discussion of legal matters affecting broadcasting and recording locals.

Progress Meeting Covers Full Agenda

By **ALBERT O. HARDY**

*Director, Radio, TV and
Recording Division, IBEW*

Delegates from 36 local unions participate in three days of intense discussion of legal, jurisdictional, and organizational problems. Division Meeting at Kansas City sets overall policy for future work.

THE Radio, TV and Recording Division Progress Meeting held at the Hotel Bellerive in Kansas City, Mo., June 18, 19 and 20 was a great success according to the opinions of those who attended. Thirty-six local unions were represented by 50 delegates and 15 members of the International staff also attended the three-day session.

Albert O. Hardy acted as chairman of the meeting, being relieved from time to time by Representative Harold J. Becker; Roy Barron, immediate past president of Local Union 1259 and Local 1259's business manager, Walter L. Reed. Representative W. A. Smith of the Ninth District volunteered to act as recording secretary of the meeting and did an outstanding job keeping notes on local union reports, announcements and digests of the various subjects discussed.

No evening sessions were held this year which pro-

vided opportunities for the delegates to confer with one another and to compare personal notes and experiences. The dinner, held on June 19 was enjoyed by some 60 delegates, wives of delegates and guests. Incidentally, no dinner speeches were permitted and the announcement of this fact met with overwhelming approval.

The session on the first day got under way at 11 a. m., with customary opening remarks and with a warm welcome extended by President Barron of Local Union 1259. So that they could be immediately recognized, the members of the International staff who were present were briefly introduced. General informational material was distributed along with the recently developed tape recording label. Following luncheon, Brother W. W. Robbins, assistant to the International Secretary and director of the IBEW Research Department, explained the operation of the International office with

particular regard to its research activities. He also explained and answered many questions on the IBEW pension program.

Eleventh District Vice President Frank W. Jacobs spoke briefly to the gathering on the subject of work jurisdiction, the experience of local unions in his District and the general outlook for the future. He particularly mentioned his personal pleasure for having the meeting in his District and extended an invitation to all to visit St. Louis and his office. The remainder of the day was devoted to individual reports from local union delegates.

Discussion on Legal Subjects

Following announcements of general interest the session on June 19 proceeded with a full day's report and discussion on legal matters led by the IBEW General Counsel, Louis Sherman. Brother Sherman had anticipated spending only two or three hours as the speaker and a leader of discussion but found himself literally surrounded by questions and such intense interest that all thoughts of a time limit had to be discarded. Among the subjects given very thorough attention were the Taft-Hartley law, and cases arising from it; the comparatively recent action of the Federal Communications Commission with regard to operator rule relaxation and even the particular wording of agreements.

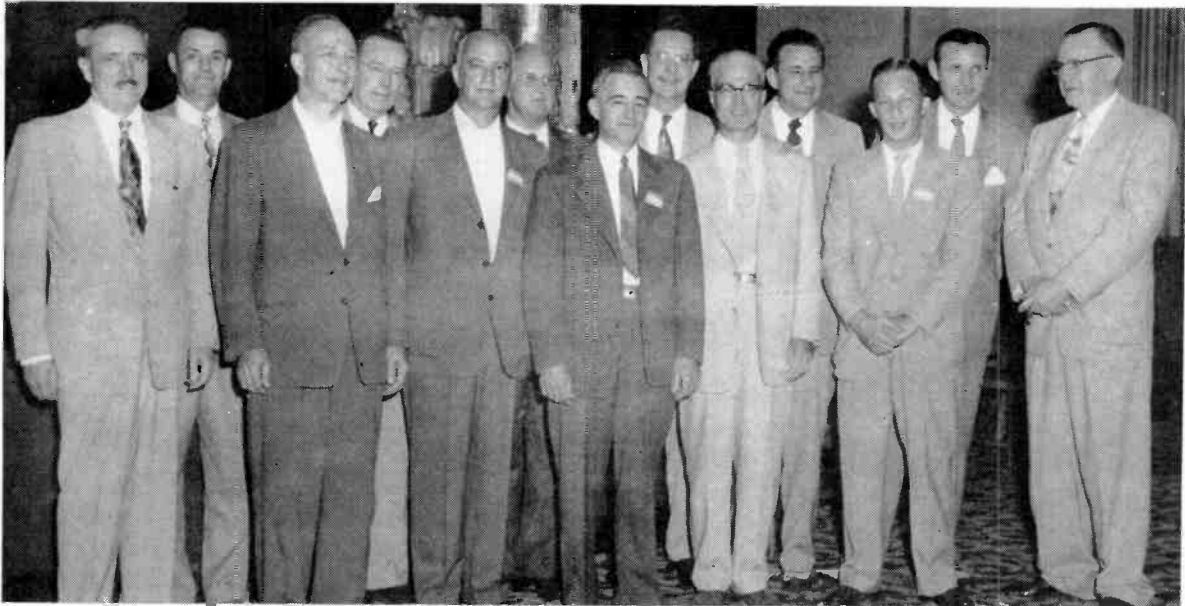
The Saturday morning session began with additional reports from local unions and as was the case during the previous year's meeting it was interesting and grati-

fyng to see the whole-hearted attention of all the delegates.

Brother H. Walter Thompson of Local Union 1220 made a short report of the meeting held during the week of February 16, 1953, in Los Angeles, which meeting was called by the International office for the purpose of securing late information and advice on the status of the television industry with particular emphasis on film operations as opposed to "live" television programming.

Matters of Overall Policy

Many recommendations resulted in decisions of overall policy and the relationship between the IBEW and other unions involved in this expanding industry. The meeting was adjourned at the scheduled hour of 5:30 p. m., on Saturday, June 20, following tentative settlement on a date for the 1945 Progress Meeting. Brother Hardy announced that he would seek the cooperation of the International Secretary and the Housing Committee of the International Convention so as to put into effect as far as possible the recommendation of the 1953 meeting that the 1954 meeting be held just prior to the International Convention in Chicago, Ill. General approval was expressed of the theory that more delegates from our local unions would attend the Progress Meeting if the meeting were made to be contiguous to the convention. Such plans as they develop will be the subject of correspondence and will be given ample distribution through the *TECHNICIAN-ENGINEER*.



INTERNATIONAL STAFF—Geo. A. Mulkey, Geo. J. Dengel, Russell D. Lighty, W. W. Robbins, Franklin A. George, Freeman L. Hurd, Walter L. Reif, Albert O. Hardy, Harold J. Becker, O. E. Johnson, Taylor L. Blair, Forrest C. Conley, W. A. Smith.

A dinner, held on June 19, was enjoyed by some 60 delegates to the Progress Meeting, their wives, and several guests.



Another view of the Progress Meeting Dinner, held in the Hotel Bellerive. This time from the head of the table.

Delegates could relax in comfortable ballroom booths during some of the sessions of the Kansas City meeting.



Research Director Robbins addresses the second annual meeting.



A lively discussion on broadcast engineer problems.



Business Manager Reed of Local 1259 in the chair, President H. Walter Thompson makes a committee report.

Vacation Relief

It's summer replacement time for many radio, television, and recording engineers—time for a few days of relaxation and summer vacation. Here are some tips on how to enjoy it more.



We offer advance warning to all hapless vacationing engineers: Check with the lady of the house before you start filling the auto trunk. Certain items must be readily available at all times!

THIS is the time of the year when the broadcasting technician begins to look for his own summer replacement—for two weeks. He studies over the family budget, checks the bank balance, counts cash on hand, and announces that he needs a vacation . . . even if it's just to the suburbs.

Thanks to his local union's contract with the station management, he is assured of vacation with pay. In many cases, he has other vacation advantages:

- "Vacations will start following each man's two days off."
- "Choice of vacation by seniority within groups in each local union."
- "No recall from vacation for any reason, without the consent of the local union."
- "Four weeks vacation for five-year men."

Photos on this page and the series on page 9 were supplied by the Wool Bureau, Inc. Much of the material in the accompanying article supplied by Carol Lane, women's travel director for Shell Oil Company.



"Well, now that I've got it," you say, "where will I go, and how?"

Here are some helpful suggestions from some sun-burned brothers who have already been.

Advance Planning The ideal vacation provides opportunities for rest, relaxation, and stimulation. You need all three. You need time not only to stretch those forgotten muscles, but also time for a change of scenery and an opportunity to share ideas with new acquaintances in new places.

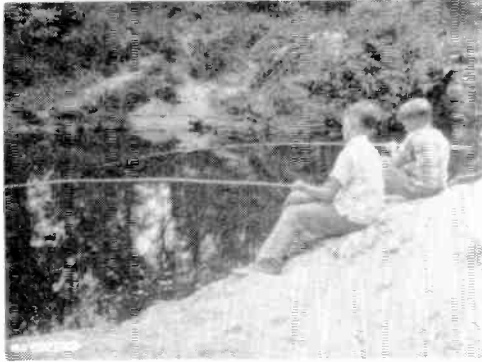
Once you've decided on where you want to go, begin your advance planning by tapping the various state and regional sources of free information about accommodations, special events, points of interest.

A trip to the nearby gas station is all that's needed for an up-to-date road map. Oil company touring services will plot your course, if you like. If you're traveling by car, several publications list motels and describe accommodations. Most motels will make reservations for you at your next day's destination, and accept a deposit to confirm it. (If you haven't got a reservation, start looking for "Vacancy" signs about 4 p. m.)

If you're interested in going back to nature, camping trips, etc., the National Park Service, Department of Interior, Washington, D. C., can supply you with a map showing national and state parks and describing camping areas and facilities. State Fish and Game Commissions supply hunting and fishing information. The

Continued on page 8

Suggestions for making the most of your vacation



JES' FISHIN'—Nothing eases the tension of a full year's work like relaxing beside a good trout stream, dabbling a grasshopper in the water. The kids go for it, and most fishing trips are inexpensive.



VISIT AN HISTORICAL SITE—The National Park Service provides many recreational services for the tourist. Here visitors to Washington, D. C., enjoy a ride down the Chesapeake and Ohio Canal in a mule-drawn canal boat. National Park Service fees are always nominal.



SEE THE WIDE-OPEN SPACES—For the man who has been fenced in by tubes and instruments for months, nothing improves his viewpoint on life like travel in the great outdoors. Here, Mount Shasta rises majestically above the California grasslands.



VISIT A SHRINE—Independence Hall and the Liberty Bell are only two of scores of national shrines which make us proud that we are Americans.



ENJOY A NATIONAL PARK—There are 28 national parks awaiting your selection. Each offers the best in tourist facilities and scenic grandeur. Here, a family enjoys the view in Yosemite Park, Calif.

Vacation Relief *Continued from page 6*

outdoors editor on the local newspaper is a reliable source of where-they're-biting, etc.

If you're able to invest in a big-time resort vacation, a travel agent can supply wads of literature and make reservations at no cost to you. (Best way to enjoy a resort vacation and afford one, however, is to take one after Labor Day, when the summer crowds are gone.)

For Car Travel If you're headed for the beach, touch up any damaged chrome parts, wax and polish the car, as salt-water hastens corrosion. Place a plastic spread or old shower curtain over the car seat to protect the upholstery from sand and damp bathing suits.

If you're headed for the mountains, have your brakes, clutch and tires checked.

An extra gallon gasoline can and safety flares are good precautionary devices to have on hand.

Automotive engineers say to check air pressure in your tires in the morning when they're "cold" for an accurate reading.

Some Budget Tips Resorts with "package" rates, including free use of recreational and sports facilities and the American meal plan, save entertainment money, if you're considering going to some spot and staying there until time to return to work.

Tourist homes are usually lowest priced accommodations, if you're planning a long motor trip. Many motels will add a cot for a child in your room at no extra cost.

A traveling iron, which folds neatly into a suitcase will cut those high valet costs.

Picnics help stretch vacation dollars. For breakfast, picnic right in the car, pick up sweet rolls and fruit the night before, and fill the thermos bottle with hot coffee next morning. Sandwiches and soft drinks at roadside parks later in the day give the kids a chance to run off their pent-up energy.

What to Pack If you're just going auto touring or on a jaunt to the farm and the old folks, choose some wrinkle-free clothes in neutral colors or prints which hide road dust. The wife's skirts should have plenty of knee-room, and her jackets or blouses should be roomy underarms for comfort on the trip. The new low-cost denim slacks, with elastic waists are good for loafing engineers. Dress the kids in simple clothes, free of frills. Denim, seersuckers, and thin cottons are good for them too. Most men prefer to drive in slacks and sport shirts.

An extra blanket helps in many cases . . . for spreading on a picnic, on the beach, or for cool night driving.

And don't forget that raincoat . . . nothing better for changing a tire in the rain.

If you're going camping, here's a possible checklist:

tent, tent pegs, sleeping bags, extra blanket, liquid-fuel cook stove, fuel can, water pail, flashlight, matches in waterproof container, cooking utensils, axe, sheath knife, thermos bottle, first-aid kit, metal mirror, fishing tackle, and reading material.

If you're going to a summer resort, remember that many hotels there will have certain dress standards for their guests, even in the most informal resort and beach areas. Men are required, for example, to wear coats and ties in the evenings. Still others, with more rigid rules, require formal dress for dinner and on special occasions. So, if you're planning this kind of vacation, try to check the regulations in advance; otherwise, go prepared for anything.

Sports equipment which has been stored in the closets all year might be taken out and polished up for a two-week run. A softball is always welcome in the lazy summer afternoon. You can enjoy tennis at many hotel resorts. A large beach ball or even small rubber balls for roly-poly keep the kids occupied.

You might include under sports equipment that extra deck of waterproof cards. Poker, cribbage, bridge, anything . . . once the sun has set and the shower and evening meal is done.

For the Youngsters Some railroads furnish coloring books and crayons to restless kids. Check the porter on this.

Take along a slumbertime blanket or soft toy for the pre-school child. . . . something they go to sleep with at home to reassure them in their strange new surroundings.

If they're in grade school, let them commune with nature when the opportunity arises. Handbooks of trees, birds, and insects can be picked up for 25 cents each. A couple of jars and nets for bugs add to the paraphernalia.

Take along a "mystery box" filled with some new, some familiar toys. Hand out one a a time to prolong the interest.

A pleasant rest area can be improvised in the back of the car, if you're hitting the open road. Stack about four pieces of luggage up to the level of the rear seat. Cover with an air mattress or blanket, and the kids can fight it out in the back, while mama helps you drive.

Before You Go Stop deliveries of the newspaper, milk, and laundry. Close and lock the windows, but don't draw all the blinds. (The police say that this arouses the burgle instinct in certain characters.) Empty and turn off the refrigerator. Leave a key with a friend, relative or neighbor in case of an emergency. Let the boys at the transmitter know where you're going, for the love of Pete. And good luck, have a nice trip! Send us a postcard!

TIPS ON PACKING a Broadcast Engineer's Suitcase



1 TROUSERS OF VACATION SUITS are placed separately in the bottom of the suit compartment of the two-suitcase. They are alternated so that the waist of the first pair are at one end and the waist of the second at the opposite end, with trouser legs hanging over the end of the case. Next the coats are placed on hangers and locked onto the hangar bar. All wrinkles are smoothed out and the coat body is left hanging over the front of the compartment. Strips of crushed tissue paper in a U shape are placed firmly in the shoulders to prevent wrinkling. Crisp worsted travels best, we are told.



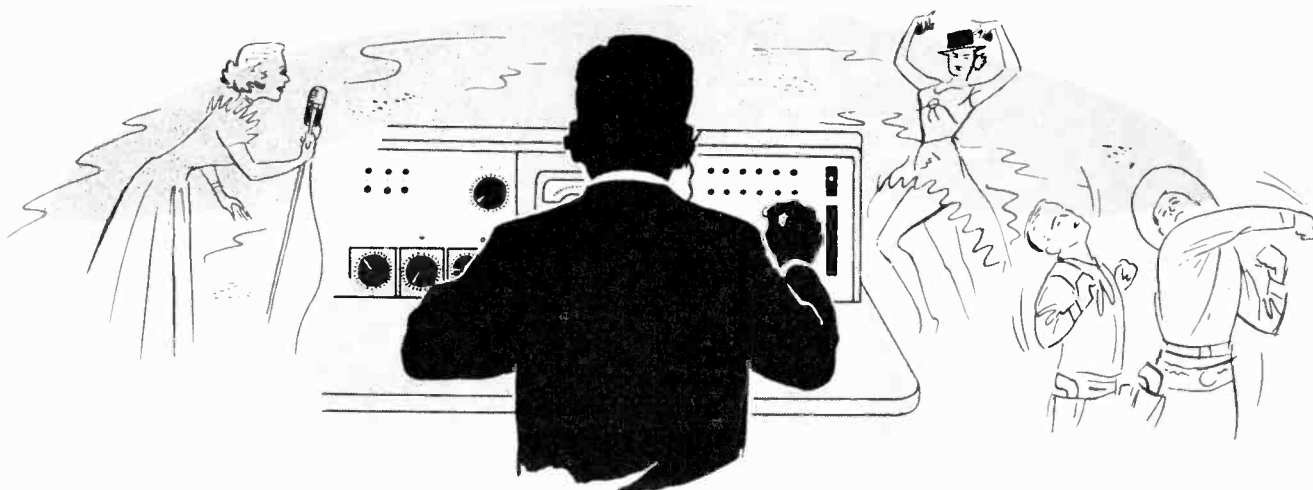
2 SLEEVES ARE ROLLED along the body of the coats, forming a unit which will stay in place when the compartment is fully packed. The coats are left hanging out until the next step in packing is completed. Experienced packers, we are told, avoid having to cram last-minute items into the bag in a manner which causes wrinkling and soiling of carefully packed clothes by preparing a check-list in advance. Lay it all out before packing.



3 AFTER THE COMPARTMENT DIVIDER has been dropped in place, trouser legs, which had been left hanging over the ends of the suitcase, are folded over the top of the coats, with all wrinkles smoothed out. Next the buttons of the coats are folded up over the trouser legs, with wrinkles smoothed out and sleeves held in their rolled position. The compartment is now packed and the closing curtain or strap can be fixed in place. Such careful measures cut down on valet costs and save work with a traveling iron.



4 FINISHED PACKING, after placing furnishings in the opposite compartment, he watches his wife's progress in packing her fitted wardrobe case. She, too, is careful to smooth out all wrinkles and uses tissue in the shoulders of suit jackets to prevent crushing. For many vacation trips such care with clothing is not necessary, of course. But these tips are also valuable when you're traveling on union or station business and must stay well-groomed.



The Radio Man Nobody Knows

by WALTER GORMAN

IF YOU'RE a radio director and you haven't got a good engineer, get one, or don't do the show.

Without a good engineer, nothing availeth. You can start with a brilliant script, cast it full of Cornells, score it for 40 men, rehearse it until it jumps—if the man sitting next to you in the control room doesn't know exactly what he's doing when you go on the air, he can ruin your glorious little spectacle with the twist of a wrist.

He usually does know what he's doing, because engineers are among the most consistently good, if least publicized, performers in radio. But that doesn't mean that it's easy. A radio program of any pretensions puts a tremendous load on the man who is riding gain. Aside from his knowledge of basic electrical engineering, he must know how to set up musicians and voices and sound effects in many studios possessing a great variety of acoustical characteristics. He has to know where the strings sound nice in 3H or 3R, and where they're likely to sound right if he's been roped into doing a show in an airplane hangar or a submarine wardroom.

And he and the director have to work out the best spots for all the other elements—cast chorus, sound and audience—so that he will be able to isolate each element

and impose on it his individual control. Then he blends all components together in a happy-if-sometimes-hard-to-arrive-at-balance when the show goes on the air.

It's nice to watch a good engineer pass a complicated show through the tips of his fingers. As the sweep hand on the clock pushes past the last few seconds before air time, he settles himself at the console. The script, with heavily marked cues, lies between his arms. Just in front of him is the V. I., which measures sound in electrical equivalents; below that a battery of eight "pots" which he will ride for the next half-hour; and on either side of him a reptilian tangle of patch cords. The second hand comes up to the nose. He cracks the pots for chorus, orchestra and announcer microphones. He watches the reflection of the director in the control room glass.

AS the director drops his arm, the engineer opens his pot and the battle of the balance has begun. For the next half-hour, a lot of people out in the studio will be acting, playing music, telling jokes, smashing sound-effects dishes and clapping their hands—all at eight different microphones. Whatever and whenever something happens, the Engineer will be there to open the right pot to the right microphone just before it does.

Most engineers handle all types of radio programs but a few are specialists in music or dramatic shows. One man is known as a "comedy" engineer, because he has a fine hand at riding up a weak audience laughter, and is therefore in great demand.

Engineers are a laconic and cynical lot, given to doing their jobs competently and steadily, and with a certain

The author is a well-known network radio director and an officer of the Radio and Television Directors Guild, A. F. of L.

This article first appeared in a Sunday edition of the "New York Times" and is reprinted with permission of the author and the newspaper.

talent for the direct statement which is not frequently found around a radio studio. No matter how many people tell a director he's just done a fine show, he can never be sure in his heart unless the engineer turns to him and says: "Hey, that wasn't too bad."

I once heard a radio director and a diva trying to work out a bit of microphone technique for an aria. It went with great difficulty, apologies on the part of the director, and much discussion in terms of projection and phrasing. When the director left the control room for a moment to moisten his brow, the engineer opened the talk-back and said: "Hey! Sing louder." It worked fine after that.

SOMEWHERE in the soul of every engineer there is a mystic force which tells him that beauty is not in the spoken word or the borrowed violin, but rather in the complexity of a world where ohm and watt and ampere mingle together in dark and mysterious ways.

Nobody in radio has as yet ever been able to discover what radio engineers do with their free time. They are rarely seen in the saloons that crowd the Paley and Rockefeller establishments; few of them have been known to take a drink. They never get out of a cab that you're trying to get into, nor is one of them ever packed next to you in olive oil on the elevators at CBS. The moment a show is over, all engineers immediately disappear down dark corridors and stairways to nether parts of the building, and are never seen again until their next program.

Although some are reported to be married and living with their families, no certain proof of this exists and the thesis seems on the whole highly improbable; engineers could never be related to other people—only to other engineers.

New Color Television Tube

A color-television picture tube was recently patented which reproduces full-color images via a gridwork of tiny phosphors.

The tube's gridwork consists of tiny lines of phosphors that glow red, green, and blue, respectively, when bombarded by electrons from the tube's "gun." As the picture is received, the electron beam sweeps the proper phosphor lines. For example, red in the picture arouses electrons which strike the "red" phosphors. When viewed as a whole, the grid produces a full color picture.

The tube is a step in the progress of RCA's electronic scanning color idea. The inventor, Hunter C. Goodrich of Collingswood, N. J., has assigned his patent to RCA.

The system hinges upon making the electron beam travel straight across the screen along the narrow phosphor lines. If the beam gets off the proper phosphor, the color picture will not be as it should.

Tiny strips of metal are interposed between groups of three phosphors to keep the beam in register. When the beam jumps off register, it strikes a metal strip, and corrections are fed into an auxiliary deflection system of the tube to reposition the beam.

Method to Scramble TV Pictures

A method of sending scrambled television pictures has been patented by Dr. Alfred Goldsmith, chairman of the board of technical advisors of RCA.

The system, which could be valuable in wartime or in pay-as-you-see TV plans, presents a jumble of light on video screens, unless the receiver is equipped with an oscillator to straighten out the picture.



"If I were a factory worker, a working man on the railroads or a wage earner of any sort, I would undoubtedly join the union of my trade. If I disapproved of its policy, I would join to fight that policy. If the union leaders were dishonest, I would join to put them out. I believe in a union, and I believe all men who are benefited by the union are morally bound to help to the extent of their power in the common interest advanced by the union."

...President Theodore Roosevelt

NLRB's 17th Annual Report Shows Steady Rise in Representation Elections, Less 'Unfair' Cases



ON July 1, the National Labor Relations Board released to the newspapers its 17th annual report of activities—covering the fiscal year of 1952 (which ended on June 30, 1952).

This would be just another annual list of statistics by a Federal agency, except for the fact that it covers the last full year of NLRB activities under a Democratic administration . . . and also excepting the fact that it shows a record number of NLRB elections and fewer unfair practice decisions.

During 1951-52, the NLRB conducted the largest number of representation elections in its 17-year history—6,866 separate contests to determine whether or not 778,724 employees wished to be represented by unions in bargaining with their employers. This was an increase of five per cent over the prior record of 6,525 elections established the previous year.

Of these elections, 5,158 (or 75 per cent) were conducted by agreement of the employers and the unions involved. This also was an all-time record number.

There were 10,447 petitions for representation elections filed during fiscal 1952. On the other side of the ledger, the agency closed 10,603 representation cases, reducing its backlog at all levels to 2,280 cases.

The record number of elections and the sizable increase in election decisions is due to the Board's decision during this period to put the processing of representation cases ahead of unfair practice cases.

When the 18th annual report, covering the fiscal year just ended, is published, NLRB members predict an even more significant increase in election cases handled.

Since the close of the 1952 fiscal year, the Board has managed to effect a substantial reduction in the time consumed in the processing of unfair labor practice and election cases. For example, Board officials recently told Congressional Appropriations Committees that time consumed from issuance of a complaint to final decision has been reduced from an average of 507 days in 1952 to an average of 321 during recent months.

● **Unfair Labor Practices**

Charges of unfair labor practices were filed in 5,454 cases during fiscal 1952, almost two hundred more than during the previous year.

The division of charges between employers and unions continued approximately the same as in past years under the amended act—79 per cent against employers and 21 per cent against unions. Unions filed 3,347 charges, or approximately 62 per cent; individuals filed 1,653, or 30 per cent; and employers filed 454, or 8 per cent.

● **Actions of General Counsel**

The General Counsel's staff, as prosecutor of unfair labor practices, closed 4,778 unfair practice cases without the necessity of formal action, the report showed. This was 88.7 per cent of all such cases closed by the agency.

Of the 4,778 cases, 26 per cent were dismissed. The remaining 74 per cent were withdrawn or adjusted by settlements arranged by investigators.

Formal complaints, which launch the trial of a case, were issued by the General Counsel in 699 cases. The 699 cases in which the General Counsel found it necessary to go to trial in an effort to remedy unfair practices constituted 13 per cent of all cases in which he and his staff acted during the year. Eighty-three per cent of these cases were against employers and approximately 17 per cent against unions.

● **Actions of Board Members**

The five-member Board issued decisions in 369 unfair practice cases which were brought to it on contest over either the facts or the application of the law. This compared with 419 such cases decided by the Board members in the previous year, when its appropriation from Congress was larger.

Of the 369 cases decided, 293 involved charges against employers and 76 involved charges against unions.

Violations of one or more sections of the Act were found in 232 of the cases against employers (79 per cent). In the remaining 61 cases, the complaint was dismissed in its entirety.

In the cases against unions, violations were found in 70 (92 per cent). In the other six, the entire complaint was dismissed.

In addition, the Board issued decisions adopting the recommendations of trial examiners in 39 cases where

no exceptions to the reports were filed by the parties. Of these, 35 were cases against employers—25 finding violations and 10 dismissals—and four were cases against unions—all finding violations.

● **Some Policy Decisions**

In a 200-odd page section of the report, the Board summarized and classified the bulk of the decisions in representation and unfair practice cases.

Among the significant decisions were:

For the first time in its 17-year history, the Board asserted jurisdiction over a labor union in its capacity as an employer. The union was the Airline Pilots Association. In deciding that this “employer” was engaged in commerce, the Board applied the same criteria customarily used in the case of an ordinary business. It was found that the union’s dealings with about 40 airlines (requiring staff members to travel extensively and to consult with Federal officials) estab-

lished it as a multistate enterprise of the kind over which jurisdiction is generally asserted. Elections were directed among the union’s professional and non-professional employees.

In two cases, the Board undertook administrative investigations as to the compliance status of unions with the filing and non-Communist affidavit requirements.

The Board members refused to come to the aid of strikers who had been denied reinstatement, on the ground that the strikers lost the protection of the Act by engaging in a strike for an illegal purpose—namely, to enforce demands for unlawful union security provisions. The argument was made by the union that the employer had in effect “condoned” the illegality of the strike by failing to advance the illegality as a reason for denying reinstatement. The Board said that the condonation theory used in other cases may not be applied to accord reinstatement rights to strikers who forfeited them by conducting a strike against public policy.

Method for Grading Picture-Producing Instruments Devised

HIGH mathematical accuracy in pre-determining the quality of images any given television or photographic system will produce was reported recently as the result of progress on a unique measuring system which permits for the first time the scientific grading of picture-producing instruments.

The progress was outlined in a technical paper delivered by Otto H. Schade, nationally known RCA tube department engineer, before the convention of the Society of Motion Picture and Television Engineers in Los Angeles, April 28.

In an address before the SMPTE 18 months ago, Mr. Schade disclosed his system of universal ratings which can be applied to measure with scientific objectivity the quality of all image-producing instruments—camera and projection lenses, TV camera and picture tubes, and positive and negative motion picture film. Today’s paper outlined the use of the system to translate optical properties of images into electrical terms.

The new application is based on the establishment of electro-optical equivalents to permit accurate expression of optical characteristics in mathematical language, he explained. For example, many significant properties of an image depend upon the characteristics of its “star” image (image of a point source of light). The table of electro-optical equivalents shows the star image of an optical “circuit” to be the counterpart of the impulse response of an electrical circuit. Accordingly, the mathematical relations between electrical impulse responses, frequency characteristics, and edge transitions can be applied to compute counterpart properties of optical star images.

The importance of the electro-optical equivalents to the television and motion picture industry, Mr. Schade said, is that they can be applied to accurately grade the quality of the elements of any image-producing system. The gradings, in turn, make it possible to pre-determine mathematically the quality of the picture which the system is capable of producing.

Conversely, knowing the picture-quality required, equipment designers can apply the electro-optical equivalents to determine the characteristics required by each element of any image-producing system to produce such quality, he said.

To illustrate, Mr. Schade pointed out that the measuring system has been applied to determine the requirements of a theatre TV system capable of moving-picture quality. Having measured the quality of standard motion pictures, it was possible to specify the characteristics of TV camera tube, optical system, projection kinescope, and other elements required for such a theatre TV system.

This scientific approach points the way to optimum equipment design, he declared. Heretofore, the picture quality of TV and photographic systems has been determined visually. The ratings system will enable the motion picture industry, film processors, lens makers, and television tube manufacturers to quickly and accurately determine with electronic instruments the characteristics of basic elements of TV and photographic systems and to apply the measurements against mathematical optimums.

Technical NOTES

'Cinebeam' Picture Tube

A new Cinebeam picture tube with a reflector that acts like millions of tiny, built-in mirrors, and produces sparkling, fine-grained pictures with deep blacks, snowy whites and warm greys even under daytime viewing conditions, has been announced by Zenith Radio Corporation.

Twenty Zenith receivers in the 1954 line are equipped with the tube in either 21-inch, 24-inch or 27-inch size.

Tarnish-proof metallic particles form a sheet-like highly reflective surface behind the phosphor on the inside of the tube face. When the electron beam activates the phosphor in forming the TV picture, half of the light bounces back. In other tubes, this light is lost to the picture, but the Cinebeam's "mirrors" reflect the wandering light and almost double the brilliance of the screen, says Zenith.

New Magnetic Recorder

A new magnetic recorder for professional and semi-professional sound recording has been developed by Ampex Electric Corporation.

Known as Ampex Model 350, the new machine incorporates features which company officials have found to be most desired in their contacts with broadcasting and recording engineers.

The design of the cabinet is a departure from previous studio recorders. Sloped at a 30-degree angle, the tape transport mechanism is within easy reach of an operator, sitting or standing. The electronic control panel, also slanted, is just in front of the tape transport.

Since all operative units are contained in the upper portion of the console, the machine may be placed on a desk or table if the user does not desire to use the base which is furnished.

Push-button control permits rapid shuttling between fast forward and rewind, facilitating rapid editing. All tape motion and record controls are push button operated, allowing full remote control of these functions.

To avoid tape stretch and breakage when small plastic reels are used, a switch has been added that automatically compensates for the increased tape tensions encountered with such reels.

For servicing, the top plate is pivoted at the balance

point, on the cabinet frame member. For routine checks and adjustments, the tape transport may be secured in a vertical position with its underside exposed, even while the machine is operating. Likewise, both the top and bottom of the electronic unit may be serviced while the recorder is in operation by sliding the unit partially out of the cabinet on the special runners provided. All electro-mechanical components, including takeup and rewind motor assemblies, drive motor assembly and the unitized control strip, are plugged into a central relay and power source. For emergency repairs, these plug-in components can be quickly removed as units and replaced.

A two-speed machine, the Model 350 may be obtained to operate at $3\frac{3}{4}$ and $7\frac{1}{2}$ inches per second, or at $7\frac{1}{2}$ and 15 inches per second. Frequency response to 15,000 cycles per second is available at both the $7\frac{1}{2}$ - and 15-inch speeds. At the $3\frac{3}{4}$ -inch speed, response is flat from 50 to 7,500 cycles per second.



New Ampex tape recorder features 30-degree slope on both tape transport and control sections. The two-speed machine is designed for easy recording and servicing.

Small Gobs Disrupt Fringe TV

Three Washington researchers—Dr. H. E. Bussey and George Birnbaum of the National Bureau of Standards and R. E. Katz of the Naval Research Laboratory—have discovered all sorts of atmospheric disturbances which disrupt TV reception in fringe areas. They are now investigating the phenomena in an effort to overcome them.

They have found that TV pictures in fringe areas are disturbed by small gobs or air eddies, which are about a thousand feet in diameter and which scatter the wave lengths all over the place. The air clumps differ from surrounding air in temperature and amount of moisture. They have been discovered at heights up to 10,000 feet.

The clumps are spotted by measuring at the same time the moisture, wind speed, temperature, and refractive index of air. Although the air seems to be much the same throughout, these invisible “dielectric eddies” actually change the way in which short wavelengths are transmitted. Long wavelengths don’t seem to be affected by the gobs.

Silicon for Transistors?

A sleeper has entered the electronics field, which may some day displace the highly-touted transistor. It may be years in the future before silicon, a basic element found in rocks and sand, becomes a contender to the proven germanium converters, but its progress will be something to consider.

Silicon for use as an electrical converter was tried out several years ago, but it was nosed out by germanium. Now, however, the DuPont Company is putting a new plant into operation to produce silicon in its “metallic” form. Like carbon, silicon can take several different forms—soft and smudgy or hard and metallic. Smudgy silicon corresponds to carbon in lead pencils. Metallic silicon is similar to the hard graphite bricks of carbon used in atomic piles. DuPont says the end product at the new plant will cost \$430 per pound, far too much for electronics use, but this price is expected to drop as new uses increase demand.

Zenith Introduces Hi-Fi Line

A new line of Zenith high-fidelity phonograph combinations was previewed recently.

Each model in the “hi-fi” line features the Cobra-Matic record player with stroboscope indicator that permits visual adjustment of the turntable to play all makes of records at the precise speed they were recorded.

Phone pickup, audio amplifier and speaker in the new sets are all matched high-fidelity components. The amplifier is equipped with a dual range tone control to give any shading and blending of tone desired.

JULY-AUGUST, 1953

One Moment Please



Station WLYC, Williamsport, Pa., has been having trouble getting on the air some mornings, General Manager James Fitzpatrick reported to *Broadcasting-Telecasting* magazine recently.

Engineer Paul Bosted, who was to open the transmitter one morning last year, got caught behind a herd of cattle on the country road that leads up the side of a mountain to the station’s transmitter. The cattle were unconvinced that Bosted had a deadline and didn’t want to budge. As a result, the station signed on 25 minutes late!

Improving the Looks of Western Willie

Not long ago we ran an item telling you how much better British reproduction of motion picture films on television screens was to American film TV showings. Now Philco has come up with a film scanner which should remedy the U. S. situation and prepare the industry for the day when Technicolor films and color TV get to rolling.

The scanner junks some of the principles of TV reproduction now used. The film runs smoothly through the machine, not in frame by frame jerks. A rotating many-sided glass prism fades one frame into the other.

Today’s movie projectors use a shutter to interrupt the light while the film is pulled down a notch. This gives a slight flicker or stroboscopic effect to movies. But, since the spinning prism does not shut off the light, it creates no flicker.

The machine also uses a “flying spot scanner” to take the picture from the films. The movie first is projected on the face of a picture tube similar to those in home sets. A “flying spot” of electrons scans the screen from inside the tube. This converts the movie into electrical impulses that wind up on home TV screens.

Philco reported the machine will go into production late this year.

Station Breaks



Broadcast Tube Quits

Radio Station KALB, Alexandria, La., mourns the passing of an old friend who had kept the transmitter going for 37,918 hours.

Robert E. Miller, assistant chief engineer of the Alexandria Broadcasting Company, notified the Tube Department of the RCA Victor Division, Radio Corporation of America:

"It is with deep regret that I notify you of the passing of a tried and proven friend: RCA-892-R. This tube ended its life after long and useful service as a modulator in an RCA-BTA5F transmitter. Its age was five years and seven months, or a total running time of 37,918 hours.

"Its twin, which was installed at the same time, is still going strong; we hope for many more months of service from it."

The deceased, a forced-air-cooled type power triode, was born in Lancaster, Pa., and joined Station KALB shortly after graduating from RCA's tube production line there.

Trans-Atlantic TV Study

The Senate Foreign Relations Committee approved, this month, a proposal to study the possibility of trans-Atlantic television.

Under the bill a commission would get \$250,000 for the job and report back by December 31, 1954, on any ideas advanced for setting up a microwave relay chain to carry video as well as other telecommunications.

Foreign Service Technicians

Eleven radio technicians have been appointed foreign service staff officers and assigned to overseas posts, the State Department has announced.

Assigned to Nicosia, Cyprus, are Douglas E. Clinkenbeard, formerly with CAA and with WLW, Cincinnati (1946-50); Stephen G. Harding, former research supervisor with Stromberg Carlson; Joseph Johnson, who was with KYW, Philadelphia, before service with Philadelphia International Airport; and Gordon E. Kent, who was with the Navy.

In a group assigned to Okinawa were: Bernard Casper, formerly with International Broadcasting Service; Gordon France, former co-owner of KVSM, San Mateo,

Calif., and an advertising agency owner before he joined IBS in New York; Homer Johnson, also with IBS and formerly with KULA, Honolulu; and Bert Koeblitz, formerly WECL, Elyria, Ohio, general manager.

A group going to Tangier includes: Alfred Griffiths, former chief engineer, KOTA, Rapid City, S. Dak.; and Gene Salmon, IBS recording technician and earlier with several Tulsa stations. John E. Bannon, assigned to Salonika, Greece, was a Voice of America technician after having been with WLOK, Lima, Ohio, and WROW, Albany, N. Y.

About Movie Plugs on TV

Willard E. Walbridge, general manager of WJIM-TV, Lansing, Mich., passes on a gripe, which many technicians share, in the July 20 issue of *Broadcasting-Telecasting*.

He is appalled by the volume of free plugs that TV gives motion pictures—"which have never given TV anything but a bad time."

"The most flagrant example of the television industry being duped by Hollywood was the coast-to-coast telecast of the Academy Award dinner," says Mr. Walbridge. "This glamorous, narcissistic orgy was started years ago as a promotional effort to hypo the flagging public interest in movies. It reached its promotional pinnacle when NBC-TV paid money to cover it. Millions of viewers were treated to an hour of unbridled plugging of movies, and not a little sneering at the eavesdropping television cameras."

About the 'TV-Eye'

The lowest-priced closed-circuit television system so far announced by the electronics industry was introduced recently by RCA's Engineering Products Department. Named the "TV-Eye," the unit features a camera weighing only four pounds. The system's compact control unit—which includes a transistorized power supply—weighs 14 pounds.

The "TV-Eye" employs a standard type receiver as a monitor and utilizes a free channel which can be tuned without interfering with reception on other channels.