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THE Wireless Age

The RCA logo is positioned at the end of the word 'Age'. It features the letters 'RCA' in a bold, sans-serif font inside a circle. To the right of this circle is a globe showing the Americas. Below the globe, the words 'WORLDWIDE' and 'WIRELESS' are written in a smaller, sans-serif font, stacked vertically. A horizontal line extends from the right side of the globe.

Published at New York for its employees by the
RADIO CORPORATION OF AMERICA

Volume XI

April, 1930

RADIO CORPORATION OF AMERICA

233 BROADWAY

WOOLWORTH BUILDING

NEW YORK

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The Wireless Age

*Published monthly at New York
for its employees by the*

Radio Corporation of America



Emmet Crozier, Editor

Montgomery Wright, Managing Editor

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RADIO CORPORATION OF AMERICA
233 BROADWAY
NEW YORK CITY, N. Y.

VOLUME XI

APRIL, 1930



A NEW LANDMARK IN MID-MANHATTAN'S SKYLINE

Comparatively low height of surrounding structures at Fifty-first and Lexington assures air and sunlight for RCA Victor Building.

The Wireless Age

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Radio Corporation of America*

Volume XI

April, 1930

Plans for RCA Victor Skyscraper Announced and Work Begins

*Striking Modified Gothic Structure Will Tower
Fifty Stories at 51 St. and Lexington*

PLANS for a new skyscraper towering fifty stories to be erected at the southwest corner of Lexington Avenue and east Fifty-first Street, have been announced by E. E. Shumaker, President of the RCA Victor Company, Inc. The new office structure is to be built of face brick and Indiana limestone, and will be known as the RCA Victor Building.

The contract for construction has been let to the A. L. Hartridge Company and demolition of the old buildings now occupying the plot has begun. The plot measures 111 feet by 155 feet, comprising the balance of the block now occupied by the St. Bartholomew's Church and Cathedral High School, and including the premises from 566 to 574 Lexington Avenue and 122 to 132 East 51st Street. The plans call for completion of the building by May, 1931.

The RCA Victor Building was designed by the noted architects Cross & Cross in a modified Gothic style of architecture that will harmonize with St. Bartholomew's. It will rise to a height of 650½ feet from the ground. The four faces of the building reach upward for twenty-five stories, then set back at a graceful slant to tower twenty-five stories higher and taper off at the top. The comparatively low height of the neighboring church and high school assures unobstructed sunlight and air on every side, and makes possible architectural treatment that can be carried out practically on few office structures in the Grand Central Zone.

This latest addition to mid-Manhattan's skyline will carry the development of the Grand Central Zone farther uptown and furnish an outstanding landmark by its unusual towerlike design and its distinctive illumination at

night. Four gigantic stone figures, fifty feet in length and symbolic of the spirit of radio will front each side of the extreme top of the tower.

At night an aura of colored light will shoot out from the crown of forked lightning which each figure will rear



WORK IS WELL UNDER WAY

Steam shovels and men are busy on RCA Victor Site.

as a symbol of the speed of radio. The top of the tower, the corona, also will be strikingly illuminated at night. The design of the entrance, the lobby and the remainder of the building will carry out the same artistic motif representing its association with the age of radio and electricity.

The executive offices of the RCA Victor Company will occupy approximately half of the 310,000 square feet of available office space. The tenants will be served by a fleet of 12 high-speed elevators of a type said to be far in advance of any now in use. A number of banks and a well-known restaurant chain are already negotiating for part of the ground floor space, it has been announced by the Howard LeC. Roome Company, Inc., which is in charge of leasing and which will be the managing agents.

Provision has been made for easy accessibility through a direct passageway from the building to the Fifty-first Street Lexington Avenue subway entrance and to the new Fifty-third Street crosstown subway. Plans are also under discussion for another underground passageway leading to the new Waldorf-Astoria Hotel at Fiftieth Street.

The entire project for the RCA Victor Building is being handled by the Bartholomew Building Corporation, organized jointly by the RCA Victor Company, Inc., and the A. L. Hartridge Company. Mr. Shumaker heads the officers of the new company as president; A. L. Hartridge and I. E. Lambert are vice presidents,

E. C. Grimley is treasurer, and F. T. Pratt is secretary. The Board of Directors of the Bartholomew Building Corporation includes Mr. Shumaker, E. W. Harden, Mr. Hartridge, J. L. Ray, Mr. Lambert, Congreve Jackson, J. H. Manning, Mr. Grimley and Mr. Pratt. Mr. Manning, who is vice president of Stone & Webster and president of the Stone & Webster Engineering Corporation, is the latest addition.

The plot on which construction is to begin, was assembled by the Tishman Realty & Construction Company last September and sold to the Stanhope Estates, Inc., which resold it to the Bartholomew Building Corporation.

The announcement of the RCA Victor Building follows closely the disclosure of plans made public by Mr. Shumaker of an expansion and building program in Camden.

Otto S. Schairer is Elected Vice President of Radio Corporation

New Official Is Fitted for Duties in Charge of the Patent Department by Long, Successful Experience

THE election of Otto S. Schairer by the Board of Directors as Vice President in Charge of the Patent Department of the Radio Corporation of America has been announced by David Sarnoff, President. Mr. Schairer formerly was Director of Patent Development. His promotion is a step in a rapid rise with the corporation, a rise backed by nearly twenty-seven years of successful experience in patent law.

When Mr. Schairer, a native of Saline, Mich., and a graduate of the University of Michigan in the class of 1901, received his B. S. degree in electrical engineering in 1902, he entered the service of Westinghouse as a graduate student. In March, 1903, he became a member of the Westinghouse Patent Department. Since that time he has specialized in patent law. He was admitted to the practice of law in Pennsylvania in October of 1912. In October of 1919 he was appointed director of patent development of the Westinghouse Company and on July 1, 1926, was appointed manager of that company's patent department.

With a career in negotiations rela-

tive to patent rights already behind him, Mr. Schairer came to the Radio Corporation as Director of Patent Development on May 6, 1929. A few months later he was placed in charge of



HIS PROMOTION IS ANNOUNCED
*Otto S. Schairer is made Vice President
in charge of Patent Department.*

the license department, which was merged with the patent department.

The many persons in the Radio Corporation who have come into contact

with the new Vice President in his service with the company have been impressed with a man of crisp speech which is tempered by a friendly twinkle in his eyes. In the office his slogan is service. In his play hours he is a devotee of golf.

Mr. Schairer is a member of the following clubs and organizations: American Bar Association; American Patent Law Association; New York Patent Law Association; the Railroad Club of New York; American Institute of Electrical Engineers; Canoe Brook Country Club of Summit, N. J., and Central Presbyterian Church of Summit, N. J.

* * * *

General Order No. S=3

New York.

March 7, 1930.

At a meeting of the Board of Directors of the Radio Corporation of America held today, Mr. Otto S. Schairer was elected Vice President in Charge of Patent Department of the Radio Corporation of America, effective immediately.

David Sarnoff.

President.

A true and correct copy.

L. MacConnach.

Secretary.

* * * *

Giant Lights in "Hit the Deck"

MORE than 10,000,000 candle-power was used in lighting the technicolor scenes in "Hit the Deck," Radio Pictures' lavish musical comedy. Never before had such an array of giant lights been used for a motion picture scene at the RKO studios. The effect of this electrical display is one of the outstanding features of the picture.

RCA Institutes Moves To New Quarters

ON the sixteenth floor of the new and imposing Holland Plaza Building at 75 Varick Street, New York City, centrally located with regard to all transportation lines, will now be found the headquarters and resident school of RCA Institutes, Inc. This radio training organization, a subsidiary of the Radio Corporation of America, is the successor to the Radio Institute of America, which in turn succeeded the Marconi Institute of America, established in 1900 as the first radio school. For many years the school was located at 326 Broadway, which became a landmark in American radio history.

In explaining the move, R. L. Duncan, President of RCA Institutes, calls attention to the establishing of resident schools in Newark, Philadelphia, Baltimore and Boston, to be followed by others, quite in addition to the New York school. Furthermore, the correspondence course division has grown rapidly until many thousand students are enrolled. The organization therefore outgrew its old quarters and was compelled to seek larger quarters not only in keeping with immediate requirements but also looking to the future. No better indication of the growing needs of the radio and of allied industries could be found than the elaborate facilities of this training organization.

The rapid growth of RCA Institutes recently is made evident by a perusal of its new catalogue. In forty-four pages of reading matter and photographs the book tells of the school and the need it fills. Major fields of radio work are surveyed.

Annual Report Shows 1929 Progress by the Radio Corporation

*The Total Gross Income Was \$182,137,739 and The Net
Was \$15,892,562 Last Year*

A TOTAL gross income of \$182,137,739 and net income of \$15,892,562 for the Radio Corporation of America, during the year ended December 31, 1929, was reported to the stockholders today by General James G. Harbord, chairman of the board, and David Sarnoff, president of the Corporation.

Total current assets at the end of 1929 were \$90,809,150 and total current liabilities were \$38,137,585, a ratio of nearly 2.4 to 1.

Inventories included in Current Assets at December 31, 1929, were valued at cost or market, whichever was lower, and amounted in total to \$31,947,000. Included in this amount is an item of approximately \$1,000,000 of current materials and supplies used in the Communication services.

For the first time, the Inventories included factory materials and supplies of the Victor organization amounting to \$9,000,000 which are being used in current 1930 production. The remainder of approximately \$21,800,000 represented finished stocks of vacuum tubes, radio sets, accessories, phonographs, and phonograph records. One half of these finished stocks have been sold during the first three months of 1930. The remaining finished stocks of about \$11,000,000 on hand at this date represent a normal supply of merchandise necessary to meet current trade demands.

In presenting its annual statement the Radio Corporation of America pointed to the impetus given research, engineering and manufacturing during the year by the organization of two new companies in which have been unified the engineering, manufacturing and sales activities relating to radio sets, phonographs, records and vacuum tubes.

The new organizations are the RCA Victor Company, Inc., which manufactures and sells the devices in the receiving set and phonograph fields, and the RCA Radiotron Company, Inc., which will conduct similar activities with vacuum tubes. Manufacturing work of the RCA Victor Company has been centered principally in Camden, N. J., in the plants formerly owned by the Victor Talking Machine Company, while the principal manufacturing center of the RCA Radiotron Company is at Harrison, N. J., at factories formerly owned by the General Electric Company.

"It is confidently believed that the unification of the previously divided manufacturing and selling rights under the patents of the group," stated the report, "together with the unification of research and engineering which will be made possible thereby, will assist materially in meeting the responsibility of leadership which rests upon the founders of the radio industry in America.

"It will mean greater flexibility of

(Continued on page 40)

Farewell Dinner Given E. A. Nicholas by Associates in RCA Career

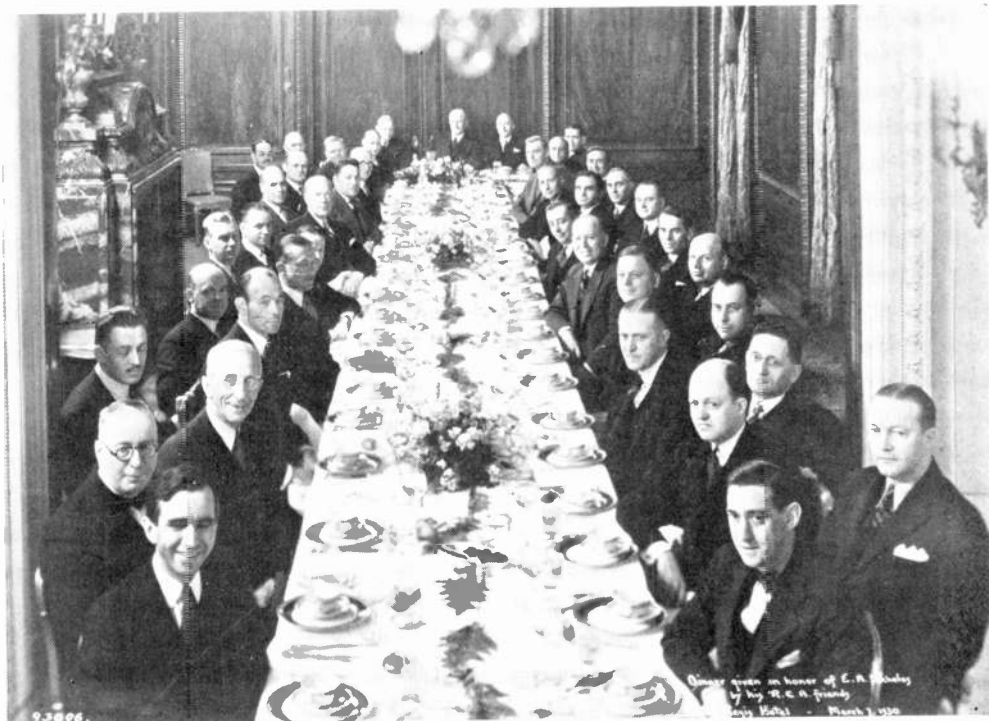
*General Harbord Is Toastmaster—a Handsome Bronze
Ship's Clock As Parting Gift*

A FAREWELL dinner was given for E. A. Nicholas, formerly Manager of the Radiola Division of the RCA Victor Company, by his associates, at the St. Regis Hotel, in New York, March 7. It was attended by a group of his closest business friends, associated with him in his long and distinguished service with RCA. General James G. Harbord, Chairman of the Board of Directors of the Radio Corporation of America

presided as the toastmaster.

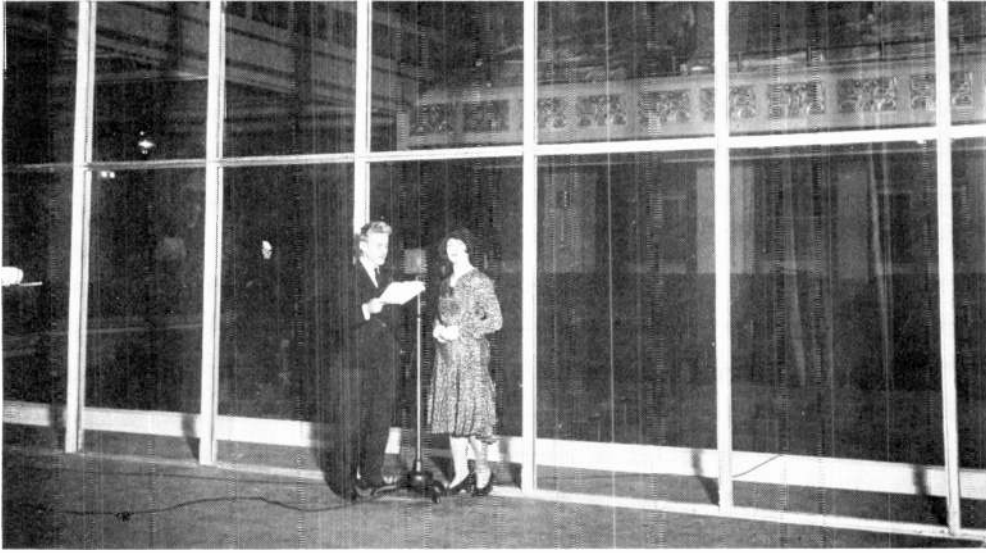
"Nick," as he is affectionately known in the trade, recently resigned from the RCA Victor Company to organize a radio distributing company of his own. He is one of the best known and liked men in the industry. He first began his radio career as a messenger boy for the United Wireless Company in 1909. A year later he went to sea as a wireless operator. After eventful

(Concluded on Page 24)



AT THE DINNER FOR E. A. NICHOLAS

At the head table, from left to right, are E. A. Nicholas, General James G. Harbord and J. L. Ray, Vice-President of the RCA Victor Company



DOWN WITH THE CURTAIN AND ON WITH THE PERFORMANCE
At the microphone in the new Times Square Studio of NBC.

A Notable Audience Enjoys Show After 6-Ton Curtain Is Down

*Six Hundred Invited Guests Watch through Glass while
They Listen at Times Square Studio Opening*

A BROADWAY "first night" without precedent in the history of Times Square attracted a select audience of celebrities Sunday night, March 16.

Two things never before experienced by veteran Broadwayites marked the formal opening of the National Broadcasting Company's new Times Square Studio with an elaborate presentation of the Collier's Radio Hour.

It was physically impossible to be "fashionably late."

The show started only after the curtain went down. And the curtain

weighed six tons.

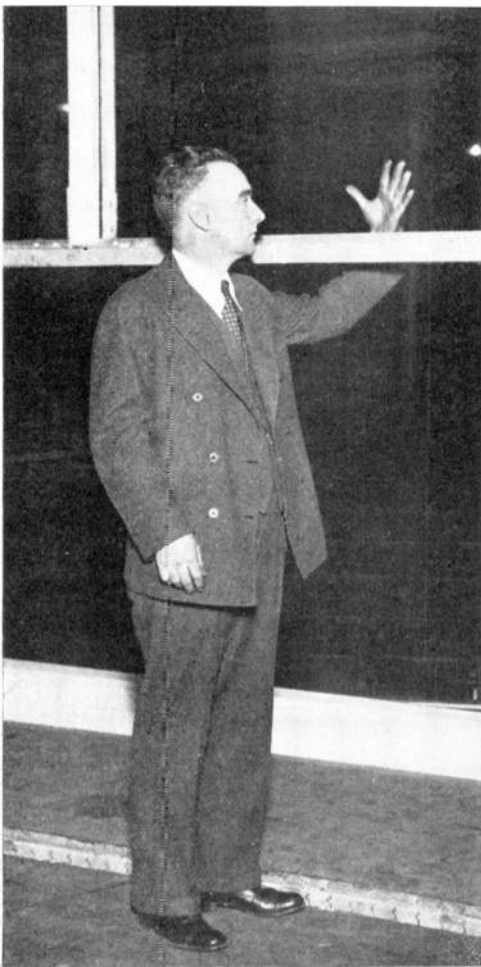
The innovation in promptness caused no disappointment to expectant notables. They were all warned beforehand that the audience of millions scattered throughout the country could not await the pleasure of New York's "400"—or even the gallant 600 which the former New Amsterdam Roof accommodates. So they got there on time.

Without being aware of it, they were fifteen minutes early. Before the actual broadcast began, Phillips Carlin addressed the brilliant gathering on the

purposes of "The Times Square Radio Studio," and the NBC's object in establishing an operation base in the heart of the amusement center of the world.

Then the six-ton glass curtain was lowered and the new studio went on the air for the first time, in full sight of the 600 invited witnesses.

By the glow of colored "baby spots," the gathering of celebrities had a chance to imagine what television might be like, although the NBC has no plans



AS CLEAR AS NBC'S TONES
E. R. Cullen, Engineer in Charge,
shows off the Curtain.

of entering this field until it has advanced far beyond its present stage. Loudspeakers in the auditorium brought the audience every sound beyond the glass curtain, just as it was heard through NBC networks.

The Grand Duchess Marie of Russia, appearing as guest speaker in Collier's Hour, easily carried off the honors of the evening with her talk on "The Education of a Princess."

The other guest speaker was Dr. Clarence True Wilson, who spoke on "The Church's Rights in Politics." Dr. Wilson is general secretary of the Methodist Board of Temperance, Prohibition, and Public Morals. The musical feature, in addition to the regular concert orchestra, was a personal performance by Tom Griselle, winner of Victor's \$10,000 prize, of one of his own compositions.

Celebrities of the world of finance and business from New York, Philadelphia, Washington, Chicago and Buffalo were attracted by Broadway's shortest "first night." Their interest was shared by a host of celebrated New Yorkers from business, social, newspaper and theatrical worlds.

Among the prominent guests at the formal opening of the Times Square Studio were General James G. Harbord, Chairman of the Board of Radio Corporation of America, David Sarnoff, President of the Radio Corporation of America, M. H. Aylesworth, President of the National Broadcasting Company; G. F. McClelland and John Elwood, vice presidents; Thomas H. Beck, President of Collier's; F. Richard Anderson, Erlanger representative who cooperated with the NBC in taking over the New Amsterdam Roof; George H. Hazen, chairman of the board of the Crowell Publishing Co.

Radioletter Services to Portugal

NIGHT radioletter and week-end radioletter services were to be established to Portugal on April 1, it was announced by W. A. Winterbottom, Vice-President of R.C.A. Communications, Inc., as the WIRELESS AGE was going to press. At the same time, night radioletter services will be established to Angola (Portuguese West Africa) and to the Island of Cyprus, in the Mediterranean.

The night radioletter rate to Portugal will be \$2.00 for twenty words and 10 cents for each additional word. The week-end radioletter rate will be \$1.60 for twenty words and 8 cents for each additional word. The night radioletter rate to Angola will be \$5.80 for twenty words to the cities of Benguela, Luanda, and Mossamedes. The charge for additional words will be 29 cents a word. To other places in Angola the rate will be \$5.90, and 29½ cents for words over twenty; to Cyprus, \$2.60 for twenty words and 13 cents for each additional word.

Radiomarine Announces Reductions Affecting Thirty-four States

Cut on Landline Charges Ranges from One to Eight Cents a Word—District of Columbia Included

RATE reductions affecting thirty-four states and the District of Columbia and ranging from one to eight cents a word for landline charges on radiograms to or from ships at sea routed via RCA Atlantic coastal stations, have been announced by C. J. Pannill, Vice-President and General Manager of the Radiomarine Corporation of America.

The new schedule of rates was inaugurated in cooperation with the landline associates of the Radiomarine Corporation, Mr. Pannill stated.

The Atlantic coastal stations of the Radiomarine Corporation are in Chatham, Mass., New London, Conn., East Moriches, L. I., New York, Tuckerton, N. J., Baltimore, Md., and Palm Beach, Fla.

A reduction of one cent a word in the landline charges was made to the following states: Colorado, Delaware,

Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, Montana, New Hampshire, New Mexico, New York State, North Dakota, Oklahoma, Pennsylvania (outside of Philadelphia), South Dakota, Tennessee, Texas, Vermont, Wyoming and the District of Columbia.

A two cent reduction was made to the following states: Alabama, Arkansas, Iowa, Minnesota, Mississippi, Missouri, Virginia, West Virginia and Wisconsin.

A three cent reduction was made to North Carolina.

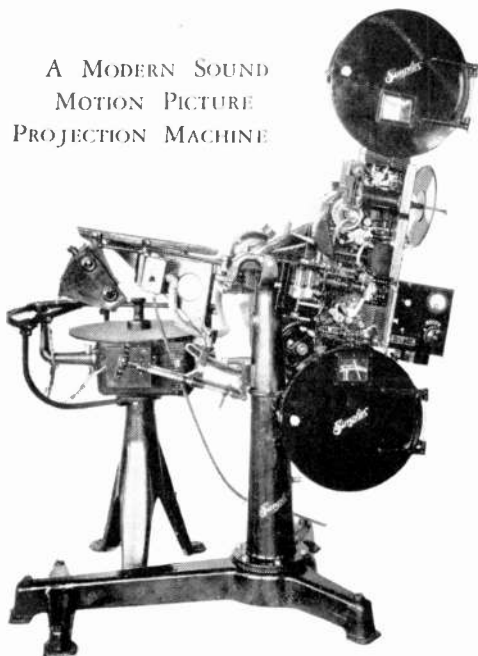
A reduction of four cents a word was made to Florida (except Key West), Georgia and South Carolina.

The rate for Key West, Florida, was reduced eight cents a word.

The reductions were made possible by the surprising advance in marine radio equipment in the last few years.

Sound Motion Picture Progress Is by No Means at an End

A MODERN SOUND
MOTION PICTURE
PROJECTION MACHINE



Dr. Alfred N. Goldsmith believes, however, that no radical change in the methods now employed is likely and that development probably will proceed along fairly conventional and well defined lines until the great possibilities of the legitimate theatre's heir have been attained.

By DR. ALFRED N. GOLDSMITH

Vice President and General Engineer, Radio Corporation of America

Copyright by Electronics.

ONE of the most striking modern applications of electronic phenomena is the sound motion picture. Built around the vacuum tube amplifier, both in studio recording and theatre reproduction, it necessarily depends for the accompanying speech or music upon the flying (but suitably controlled) electron in the vacuum tube.

The development of the sound motion picture art has been an unusually rapid one, after a long period during which it lay dormant. While sound

motion pictures were one of Edison's earliest dreams in the pioneer days of his development of the phonograph and motion picture projector, yet the large-scale commercial exploitation of this field necessarily awaited the modern vacuum tube amplifier and the acoustic knowledge which enabled its proper utilization.

It is quite clear to the workers in the sound motion picture field that development, while rapid, has by no means come to an end and that the apex of performance has not been attained. A

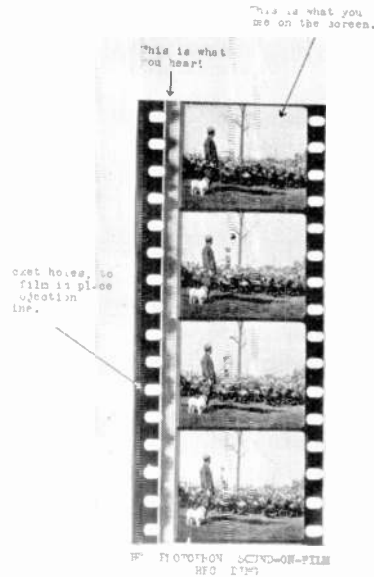
number of normal lines of development are becoming increasingly clear to the students of the field. While it is, of course, possible that sound motion pictures may suddenly take an entirely new turn, involving a radical change in the methods employed, yet this appears unlikely. Development will more probably proceed along fairly conventional and well-defined lines.

The sound motion picture is, in a sense, the heir of the legitimate theatre. The silent motion picture was really a lineal descendant of the pantomime performances—a rather limited type of theatrical entertainment which had practically disappeared from the legitimate stage at the time of the advent of the silent motion picture. It is a tribute to the ingenuity and artistic taste of the producers of the silent motion pictures that they were able to turn so apparently unpromising a method as pantomime performances into a highly interesting form of theatrical entertainment. The wide pictorial possibilities of the camera, as compared to the restricted scenic capabilities of the legitimate stage, were a substantial factor in the ultimate success of the silent motion picture.

The sound motion picture, however, is the heir rather of the legitimate spoken drama or comedy. This is at once an advantage and a handicap. The spoken theatrical performance has been highly developed through centuries of experience, and there has been built up an acting group capable of presenting adequately the subtle shades of meaning of

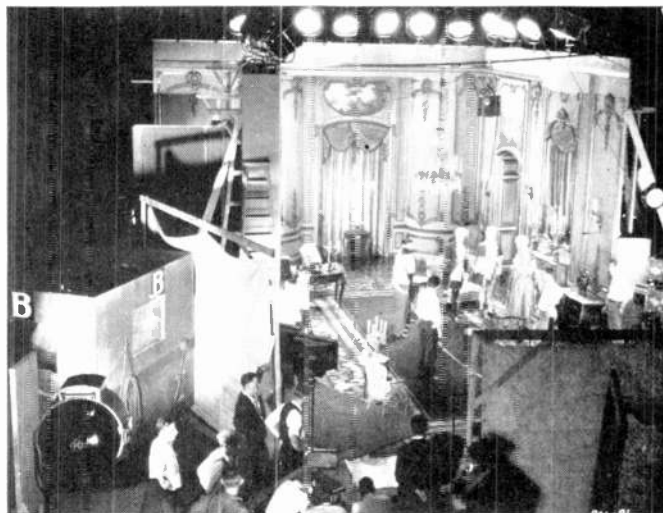
a modern theatrical performance. Accordingly, sound motion pictures found themselves in the difficult posi-

(Continued on Page 42)



PHOTOGRAPHING SOUND AND ACTION

A strip of film and a scene in a "talkie" studio where a motion picture with sound is being produced.





THE ST. PATRICK'S DAY PARTY

Mrs. Gobel presides at a happy luncheon at which table "fixings" are green.

For Anything from a Cinder in an Eye to a St. Patrick's Day Luncheon

*Mrs. Gobel Is Both Hostess and Friend to the Women
of the Radio Corporation*

By SHIRLEY HABER

IF en route from luncheon you pick up part of the itinerant atmosphere in your eye. . . .

Or rip your thumb on that pesky splinter on your desk's promenade deck. . . .

Or encounter a feast day, such as St. Patrick's Day. . . .

And if you're one of the lucky girls to whom this charming lady is equally charming hostess. . . .

Then—Mrs. Gobel fixes it for you!

A hostess so versatile, you will say, is a lady extraordinary. So she is! As extraordinarily poised and delightful as she appears, too, which is to praise with no faint praise.

She is tall and hostess-ly—as appropriately *chic* as you could ask your most admirable hostess to be—and she radiates the sort of kindness and friendliness you really "write home about".

That business of having to rip your thumb or entertain foreign bodies in your eye isn't the half of it. Take, for instance, that St. Patrick's Day feast she sponsored between noon and 2 o'clock on March 17th! There was "the wearing of the green" a-plenty, with an array of table "fixings" and hangings to match that made the good eating even better. There were St. Patrick's Day sweets galore for dessert. Next came a little bit of auction.

Then—all this under Mrs. Gobel's direction, you know—came no less welcome a personage than the camera man. Concomitantly, began a spontaneous beauty contest as each girl up and looked her prettiest.

Among those present were Miss Ward, Miss Finan, Miss Rosenberg, Miss Radile, Miss Pratt, Miss McLaughlin, Miss Domin, Miss Chamberlain, Mrs. Starzel, Miss Cassel, Miss Berger, Mrs. Mace, Miss Barnett, Miss Nixon, Miss Wishart, Miss Casserly, Miss Daly, Miss McElligott, Miss Ahrens, Miss Kuhn, Miss Guth, Miss Babcock, Miss Kay, Mrs. Charter, Miss Rolnick, Miss Barr, Miss Ennisley, Miss O'Gara, Mrs. McKee, Miss Giacalone, Miss Woerner, Miss Driscoll, Miss True, Miss Hodupp and Miss Jackie.

Of course, no men were present, but need we add that "a good time was had by all?"

* * * *

Radio Men Act Quickly in a Collision

S. M. Christie, Assistant Superintendent of the Radiomarine Corporation at 326 Broadway, New York, has received a letter from Senior Operator Charles J. Sheblak of the *S. S. Monterey* describing its ramming in a dense fog, by the Italian freighter *Isarco* of Trieste while off the New

Jersey coast about thirty-five miles south of Scotland Light Vessel.

"At the time of the collision, 3:58 P. M.," Operator Sheblak writes, "the Junior Operator, George Witt, was on watch in the Radio-room and I arrived there a few minutes later in time to hear the *Isarco's* operator start calling. I established communication with the *Isarco* immediately while Mr. Witt conveyed all received information to Captain Petersen on the bridge. It was quickly ascertained that neither vessel was badly damaged and that none of the crew or passengers had been injured. No distress calls were transmitted.

"The *S. S. Mohawk* and the *S. S. Shawnee*, both of the Agwi Lines, called us and asked whether we would require assistance. Fortunately the damage to the *Monterey's* bow was all above the water line and consequently did not render the ship un-

seaworthy. We turned back to New York, proceeding slowly on account of the fog, anchored off Ambrose Channel Light-ship for the night, and arrived safely at Robins Drydock, Brooklyn, early the following morning.

"I wish to thank the Operators at WSC and WNY who were very prompt in handling our traffic during this emergency."



Photo by Constantine Ross, Design Laboratory.

VERSATILE

Mrs. Gobel's position demands many varied qualifications.

Several Recent Developments Give Excellent Photoradio Results

The Pictures Transmitted Today Show Little Resemblance to those Being Sent a Short Time Ago

By R. H. RANGER



A WORKER IN PHOTORADIO

R. H. Ranger of R.C.A. Communications is widely known as an expert.

AUTOMATIC retouching of pictures is one of the latest accomplishments of photoradio. In any photographic process, there is a certain loss in transfer from one step to the next. This the automatic retouching helps to overcome in the transmission of photographs by radio. It consists of an electric circuit with capacity in it, such that any change from one shade to another is over-em-

phasized for a very brief interval, and this gives either a slightly darker line in a change from a light shade to a darker one, or a white line in a change from a darker shade to a lighter one. It gives extra shape to the transmitted pictures.

Another feature in improving the quality of picture transmission has been the alternation between successive strokes so that the even ones are set lighter than the odd. This means that each succeeding line across the picture is made at a different value. First a light line then a dark one. The advantage of this is that the picture values at each end of the scale are brought out, which otherwise might well be lost. On the stroke that is set lightly, for example, the parts on the picture which are just a little lighter than the darkest will be brought out, whereas with a uniform setting, they might have been all in the darker setting.

Perhaps the most outstanding recent accomplishment, has been the new visible recording means. It is a purple vapor that is generated in a vessel, much like an atomizer. The big difference is that this generation is done inside of a tank, where the larger particles have a chance to settle out, before the fine vapor is brought out to the small nozzle that projects the recording stream at the paper. One of the finest imaginable lines is thus projected in-

stantly on the paper, rotating in the picture machine. A minute shutter placed on the end of a 100-A loud speaker unit then cuts this jet of vapor off and on to make the dots and dashes of the finished picture. It seems almost like black magic for this stream of vapor, which is quite invisible, to come out of the nozzle and the dots and dashes to show up on the paper for no apparent reason.

One of the outstanding recent developments in facsimile, has been the one headed by Mr. C. J. Young, formerly of the General Electric Company, and now with the RCA



*Ch. Young
London 1930*

Associated Press Photo.

A COMPARISON SHOWS PROGRESS

*Chief Justice Hughes, Sent in 1924, and
General Dawes, Sent in 1930.*



Victor, of a carbon recorder. It works with a continuous roll of paper, with carbon paper fed against it. Three 100-A loud speaker units then cause a bar to strike the carbon paper against a revolving cam on the inside of the turn of the paper. This striking takes the carbon from the carbon paper and puts it on the white paper to build up the picture values in a surprisingly faithful manner.

All of these improvements are in active operation now. Just around the corner, and in actual test at the present time, is multiplex operation. The purpose of this is to speed the rate at which

pictures are handled. There seem to be too many limitations to increasing the speed of operation merely by having the drums which hold the paper at transmitter and receiver turn over faster. The signals which then would have to go out for each and every little dot following the typewriting or other matter of the picture, would be so fast that the necessary impulses in the air would not go through accurately. Because of this physical limitation to speed other means of increasing the speed and likewise improving the quality had to be devised. Multiplex is the answer. In multiplex, more than one line of the picture is scanned at a time, and although each line is scanned at a nominal rate, so that the radio circuit will carry it, the output will be doubled. These scanning lines of the picture are usually about one hundred and twenty to the inch. If two are taken at the same time, it is seen that the rate at which the picture will be covered will be twice as fast. It will be as if there were only sixty lines to the inch depth of the picture.

Multiplex is accomplished on the radio circuit, by the use of a transmitter which is capable of radiating two

slightly different wave lengths on the same antenna from the same equipment and power plant at the same time. These two wave lengths are very close together, so close that they fall within the allotted frequency band of the transmitter. At the receiving station, the two are separated by electric filters. All of this requires, of course,

very accurate stability of the frequency of the transmitter. By the use of properly temperature-compensated oscillators, this has now been accomplished to accuracies of the order of one part in one hundred thousand!

Only moderate powers are being used in the present tests, of the order of two or three kilowatts; but the success of the tests to Montreal and England, warrant the hope of adding power

amplifiers to multiply the effectiveness of the system.

Instead of borrowing time from the regular code transmitters, photoradio has graduated to the importance of having its own transmitter. This is a new standard transmitter which the Engineering Department of R.C.A. Communications just has finished installing at New Brunswick. It takes on the call letters of one of the oldest short waves operated by the R.C.A.,-WIZ.



EVERETT MARSHALL, OPERA STAR

Photoradio sent to Hollywood when Radio Pictures contract was signed.

This is for a day wave of 22 meters. The transmitter likewise has a night of setting of 43.5 meters, with the call letters WAZ.

New high speed diversity receivers have been set up at Riverhead, which take care of the receiving situation in facsimile as far as the American side is concerned. The English and German Engineers are busily engaged in raising their standards likewise. A complete set of the new standard production facsimile equipment has gone forward to Germany, so that it, as well as England, will be set up to work with Broad Street. In return, it is expected that a complete set of equipment will be forwarded to us by the Telefunken Company, and later by the Marconi interests, so that Broad Street will see all three types of such equipment in operation. Fortunately, all of these equipments are being made to work interchangeably.

The pioneering period of photoradio is drawing to a close and the commercial activity period is beginning to take shape, with more requests for the service, as well as more demands for the apparatus, by government departments and foreign countries in particular.

Interesting recent uses of the service have been the transmittal of drawings to close a contract, rushed from Boston by aeroplane and thence to London over the air. Fight pictures were sent over the landline from Miami and thence direct to London. Speakers in the International Broadcasts have had their pictures taken while broadcasting and rushed to this country by photoradio. The use of the system for the transmission of cartoons has been particularly effective due to the clean cut character of the lines of the original. These have mostly been from this side to London.

Trademark Plaques To Photophone Theaters

HAVING blossomed forth with a brand new trademark, RCA Photophone, Inc., has incorporated it in an attractively designed black and gold plaque which is being welcomed by exhibitors for display over their box offices or in the lobbies of their theatres. With a "catch-line" across the top reading "Sound Satisfaction," the trademark stands out conspicuously and beneath it are the words, "In This Theatre."

One particularly auspicious introduction of the new plaque was that in which Governor Allen of Massachu-



GOVERNOR ALLEN PRESENTS PLAQUE
*An auspicious introduction of Photophone's
new trademark in Boston.*

setts presented one to Manager Albert Fowler of the Uptown Theatre, in the fashionable Back Bay section of Boston on the occasion of the New England premiere of "The Vagabond King."

R.C.A. Institutes Courses Filled

ACCORDING to a statement just issued by R. L. Duncan, President, RCA Institutes, the day courses of that training school are filled up until March 29 and the night courses until June 9, after which new classes will begin.

"The large and steadily increasing demand for radio trained men," Mr. Duncan says, "is reflected in the number of applications for our resident courses in New York, Newark, Philadelphia, Baltimore and Boston, where complete RCA institutes are maintained, quite as well as in our correspondence courses."

Pathe Cinema of France Is Made Sole Photophone Distributor There

Arrangement Means RCA Sound-Picture System Will Become Standard with Leading Interests

THROUGH an arrangement just consummated with Pathe Cinema of France, the RCA Photophone sound-picture system will become standard with leading producers and theatre interests in France, it is announced by Charles J. Ross, Executive Vice-President of RCA Photophone, Inc. Photophone represents the interests of the Radio Corporation of America, the General Electric Company, and the Westinghouse Electric and Manufacturing Company in the development of sound-motion picture equipment. Following negotiations conducted here and abroad during the last two months, Pathe Cinema, Mr. Ross announced, becomes the sole distributor of RCA Photophone reproducing equipment in the Republic of France.

The deal just completed, Mr. Ross explained, provides for the immediate creation of a servicing organization by Pathe Cinema, to which company will

be transferred all sound reproducing equipment installed to date and operated by RCA Photophone, Inc., in France. Pathe Cinema, which hereafter will continue the development program of RCA Photophone in the French Republic, takes over all the sound recording equipment that has been under lease in the Pathe studios. In addition to the cash considerations involved in the transfer, extensive royalty payments will accrue to the RCA Photophone during the next five years.

Pathe Cinema operates large motion picture studios at Joinville le Pont, a suburb of Paris, and ever since the inclusion of sound in the motion picture industry has employed RCA Photophone sound recording equipment in its production activities. For the last several months Pathe Cinema studios have been at peak production, and it was because of contemplated expansion that the company's executives ap-

proached RCA Photophone, Inc. Following the preliminary negotiations several Pathe Cinema sound engineers visited the United States and for several weeks inspected and studied the sound recording and reproducing equipment in studios in New York City and Hollywood and also made careful observation of reproducing apparatus in many of the country's leading theatres. With a large number of theatres in France now employing RCA Photophone sound reproducing equipment, it is the intention of Pathe Cinema, cooperating with RCA Photophone, to embark upon an intensive campaign looking toward the installation of RCA Photophone apparatus in the leading motion picture theatres of the French Republic.

In accordance with the provisions of the agreement entered into between RCA Photophone, Inc., and Pathe Cinema, the latter will provide competent recording and reproducing engineers to install both recording and reproducing equipment in its studios. For a period of time sufficient to give the French engineers an opportunity to familiarize themselves thoroughly with the equipment, their work will be supervised by engineers supplied by RCA Photophone, Inc.

Telegraph-Telephone Installed by N. A. T.

THE National Air Transport Company and the Radiomarine Corporation of America are proceeding cooperatively with installation of the first two-way radio telegraph - telephone equipment on a National Air Transport plane. The installation will soon be completed, it has been announced by David S. Little, of Cleveland, Superintendent of the Great Lakes Division of the Radiomarine Corporation.

The trial installation will be a combination telephone - telegraph type transmitter. Extensive tests of telegraph versus

telephone transmission are planned. Interests in telegraphy versus telephony is growing due to the decided saving in weight and the far smaller cost of apparatus.

The National Air Transport for several years has employed fifteen beacon receiver equipments purchased from the Radiomarine Corporation of America on their mail ships over the Chicago-New York airway.

Stout Air Service, Inc., has placed an order with the Cleveland branch of the Radiomarine Corporation for four aircraft beacon receiver equipments and installations are being made.

Beacon Receivers for T.A.T.-Maddux

AN order for RCA aircraft beacon receivers to be installed on passenger planes flying the western division route of the T.A.T.-Maddux Company, has been placed with the Radiomarine Corporation of America, according to an announcement by W. G. Logue, Commercial Manager of the RCA Company.

Mr. Logue said the order brought the total of radio safety units supplied by his company for T.A.T. and the T.A.T.-Maddux planes to twenty-five within the last year. All are of the remote control type with provision for operation from the cockpit by either pilot or co-pilot. The receivers are used for beacon, weather, and communications service in connection with the ground stations of the Transport Company and the Department of Commerce.

In the Swirling New Theatrical Art Vaudeville Still Makes Stars

*All the Opportunities of a Sound Picture and Radio
Era Beckon to Talented RKO Newcomers*

THE present revolutionary conditions of the theatrical business in this country—the swift and sudden predominance of the talk-

unceasing source and supply of American theatre amusement. In this situation the vaudeville department of Radio-Keith Orpheum is one of real creation.



AMONG THE MOST GIFTED NEW ONES

Beth and Betty Dodge win applause in RKO vaudeville.

Our current musical comedies and revues are headed and sustained by many of the vaudeville alumni, including Fred Stone, George M. Cohan, Joe Cook, Al Jolson, Eddie Cantor, Marilyn Miller, Ed Wynn, Elsie Janis and innumerable others.

It would seem that with the advent, about a year ago, of the Radio-Keith-Orpheum, the time had arrived for a new appreciation of the service which vaudeville has rendered to every branch of the amusement world. The silent films were not without their recruits of beautiful and gifted pantomimists from vaudeville. But with the perfection of sound pictures vaudeville has become a veritable Golconda of speaking, singing, dancing and comedic genius trained to the hour, tested before a critical public and

ing motion pictures, of color photography, of radio exploitation of genuine artists, prompt the thought that vaudeville now, as in the past, is a great and

therefore ready for every requirement of the sound and picture films as well as for the newest and most pretentious of stage productions.

It was inevitable that the "talkies" would find their greatest store of talent in vaudeville. From vaudeville to stellar success in the sound films already have come the Ken Murrays, the Jack Oakies, the Polly Walkers, the Bert Wheelers, the Gilda Grays, the Marguerite Padulas, the Dorothy Lees, the Ned Sparks, the Betty Compsons, the Bob Woolseys, the Lina Basquettes, the



"TALKIE" STARS FROM VAUDEVILLE

Lina Basquette, above; Dorothy Lee, left, and Ken Murray, all of RKO stage and Radio Pictures.



Chester Morris's, the Joe Cawthornes and scores of others present, or oncoming favorites of the talking screen.

What is of utmost importance is the fact that the places of these as they migrate to other fields are quickly filled through the resourcefulness of RKO vaudeville booking officials with young and talented newcomers. Nothing in the history of vaudeville has been as beneficial to its growth as its present affiliation with the various phases of



what is termed "the wireless age of entertainment," and its interchange of artists with radio, sound pictures and the phonograph.

This present month reveals an astounding list of engaging material on the RKO stages from coast to coast, many of them no doubt, the potential starring timber of tomorrow.

With the retirement of Pavlowa have come such refreshing young dancers as Ledova, Natacha Nattova, Beth and Betty Dodge and countless others. Al Trahan, Jim McWilliams, Harry Delf, the Weaver Brothers, Olsen & Johnson, William and Joe Mandel, are among those who lead the new army of fun makers.

So on throughout the entire list of varied entertainment which makes up vaudeville, is found a great array of new headliners. It is these and coming discoveries of RKO, with its present resources and energetic direction that give vaudeville its great novelty, its wholesome attractiveness and its sense of future security.

* * * *

"Sound" Film Thrills Alaskan Town

THE first of seven RCA Photophone, Inc., installations contracted for by motion picture exhibitors in Alaska was completed recently when the initial showing of an entire "sound" program was presented in the Liberty Theatre at Ketchikan.

A telegram from the manager of the theatre to the home office of RCA Photophone, Inc., at No. 411 Fifth Avenue, New York City, conveyed the information that practically every person in the town attended the opening.

It was the first time anything of the kind had been seen in the district.

A Farewell Dinner to E. A. Nicholas

(Continued from Page 8)

service at sea, in New Orleans and the Great Lakes, he became Great Lakes Superintendent in Cleveland for the marine division of the Radio Corporation of America.

David Sarnoff, who was then Vice-President and General Manager of the RCA, called Mr. Nicholas to New York in 1924 to act as his assistant. As the sales activities of RCA expanded with the rapidly growing radio industry, Mr. Nicholas was appointed Eastern District Sales Manager. Later he was promoted to head the Radiola Division.

In parting, his many friends in the Radio Corporation and its subsidiaries presented him a handsome bronze ship's clock and barometer appropriately inscribed.

* * * *

Next World Radio Meet in 1932

WASHINGTON, March 31. Plans for the next international radio conference, to be held in Madrid in 1932, already are under way and in the next eighteen months data to be used by the delegates who will represent the United States at the meeting will be gathered by the various bodies interested. The last conference of this sort was in Washington in 1927.

European countries already have begun their studies of the radio question involved in their communications operations, according to reports reaching Washington. They will enter the conference two years hence prepared to protect such wave lengths as they are using.

A Powerful Beacon for Airplanes Installed at New Brunswick

*Interesting Problems Arise in Erecting the 8,000,000
Candle Power Light on High Antenna Mast*

THE installation of a high-powered beacon light as a protection to aviators has just been completed by R.C.A. Communications, Inc., at its New Brunswick, N. J., radio station. The Hadley Field Airport is three miles from the radio station's masts.

R.C.A. Communications, Inc., erected the beacon in an endeavor to eliminate the hazard to airplanes flying over the air mail route at night or in bad weather. The beacon is a red light with a concentrated candle power of 8,000,000 which revolves continuously on the top of one of the four-hundred foot masts supporting the antenna system at the New Brunswick radio station. The particular mast upon which the beacon is mounted stands in the center of the antenna system.

The light is controlled from the main transmitting building and is illuminated or extinguished by closing or opening an oil switch. A 2200 volt armoured cable carries the energy from the supply source to the top of the mast, where transformers are installed to step down the voltage to the amount required for the light and the motor. Owing to the strong high frequency field set up by the powerful transmitting antennas, every precaution had to be taken to install this cable in such a manner that no trouble would be experienced through the high voltages and current surges. It was, therefore,

necessary to shield the cable and to ground it at frequent intervals and to place filter condensers in the light circuit. The beacon mechanism had to be screened thoroughly by netting and grounded to carry off any pick-up that might be experienced. The height of the beacon as compared with the other structures made it necessary to protect it from direct lightning hits and consequently a copper cage had to be provided around it so that if a lightning discharge took place it would be carried through the mast to the ground.

This is believed to be the only red revolving beacon on the Atlantic seaboard and will be used to designate the RCA Communications' Stations.

The New Brunswick radio station was built in 1914 and the Hadley Field airport was opened in 1924.

The rapid growth of aviation within the last few years has increased the hazard to flyers offered by the towers.

* * * *

Paul P. Peirano Back After Operation

PAUL P. PEIRANO of the Radio Real Estate Corporation at 66 Broad Street has recovered completely and again is spending full-time days at the office after an operation for gall stones which kept him in Polyclinic Hospital within one day of a month.

Radio Goes with Dickey Expedition in Search for Orinoco's Source

*RCA Equipment and an RCA Institutes Graduate
Will Maintain Communication*

DR. HERBERT SPENCER DICKEY, who sailed from New York on March 20th on the Furness Liner *Dominica*, heading

are Major De Forest W. Morton, former Cavalry Officer of the U. S. Army, who will be the astronomer and topographer; Robert W. Durrett, radio operator, a graduate of R.C.A. Institutes, Inc., Arthur Menken, taxidermist and photographer; and Mrs. Dickey, who will act as zoologist. Mrs. Dickey will bring back a collection of birds and small animals for the Bronx Zoo of New York.



INSPECTING THE RADIO EQUIPMENT

*Dr. Dickey, Mrs. Dickey, Major Morton and
Robert W. Durrett, left to right.*

an expedition which sets out with the intention of discovering the headwaters of the Orinoco River in South America, will keep in communication with the United States by radio.

The members of Dr. Dickey's staff

The expedition is under the auspices of the Museum of the American Indian, Heye Foundation, of New York. It will remain in the field six months. In addition to penetrating to the source of the famous river—the only large river in the world whose watershed remains unexplored—there is some hope that archeological remains may be found. Dr. Dickey and his wife have attempted the trip twice before, but hostile Indians, the loss of an outboard canoe motor, and other mishaps turned them back.

The party will go from Trinidad to Ciudad Bolivar, Venezuela, by steamer and river boat and then transfer to canoes for the further trip up the river. Dr. Dickey made his plans to arrive at the height of the rainy season so that

the greatest amount of water will be found in the shallows, enabling the expedition to go as far as possible in canoes. When water navigation is no longer possible, the expedition will establish a base camp. From there, Dr. Dickey, Major Morton, and Mr. Menken will push on to the source.

Quantities of harmonicas and trinkets were taken as gifts for the Guaharibus Indians who have turned back five expeditions and murdered a number of rubber hunters. Dr. Dickey believes that the presence of a woman in the party may relieve the minds of the Indians of any fear of being mistreated.

A contract has been signed by Dr. Dickey with the New York Times to furnish that paper an exclusive story of the expedition and he expects to be in regular radio communication with the Times throughout the trip.

Radio equipment was furnished by the Radio Corporation of America and the Marine Corps. The RCA Victor Company, Inc., supplied a commercial short-wave receiver type 1495-D which has a tuned frequency stage utilizing a screen-grid Radiotron UX-222, a regenerative detector and two audio stages. The set is completely shielded and

especially designed for sensitivity and smoothness of control. The entire equipment is portable. Tubes for the transmitter and all accessories including loudspeaker were supplied by the RCA.

The transmitter to be used is a 50 to 100 Watt self-excited oscillator furnished by the Marine Corps. Its wave range is 18 to 45 meters, with power supplied by G. E. dynamotor with marine gas engine drive. The expedition hopes to keep a regular schedule with the Times and it will work also with marine stations, Washington, and amateurs. The greatest distance to New York will be about 3,000 miles.

Mr. Durrett entered the R. C. A. Institutes school

in New York on January 6th of this year and completed his course on March 5th. He has been operating radios since 1923 when he built his first short-wave transmitter.

"Although the station I built was not a famous one," he explained, "I managed to be well known on the air and make some very satisfactory contacts. In 1920 I operated the University of Michigan radio station with which we communicated with their Greenland Expedition, and earlier with the Macmillan Expedition in Labrador."

Radio Engineers Find the World Too Small

MR. SARNOFF quotes an interesting remark by Senator Marconi, inventor of radio telegraphy, made to him when they last met.

"Marconi said the trouble with the whole wireless situation was the world was too small," Mr. Sarnoff relates. A short wave, traveling 186,000 miles a second, goes around the world three times before it settles down. Every time the signal returns to the point of origin it registers, resulting in a difficulty called 'radio echoes.' These 'echoes' emphasize the fact that radio has made the world so small that scientists are complaining about the lack of elbow room."

Entire Ordinary of the Mass of the Gregorian Chant Is Recorded

Reproduction Is Undertaken Only After a Decision That Methods Now Assure Faithful Rendition

THE entire Ordinary of the Mass of the Gregorian Chant has been recorded for the first time in America by the Pius X School



POPE GREGORY DICTATING ANTIPHONAL
The picture reproduced here is from an ancient manuscript.

of Liturgical Music of the College of the Sacred Heart, according to an announcement by the Victor Division of the RCA Victor Company.

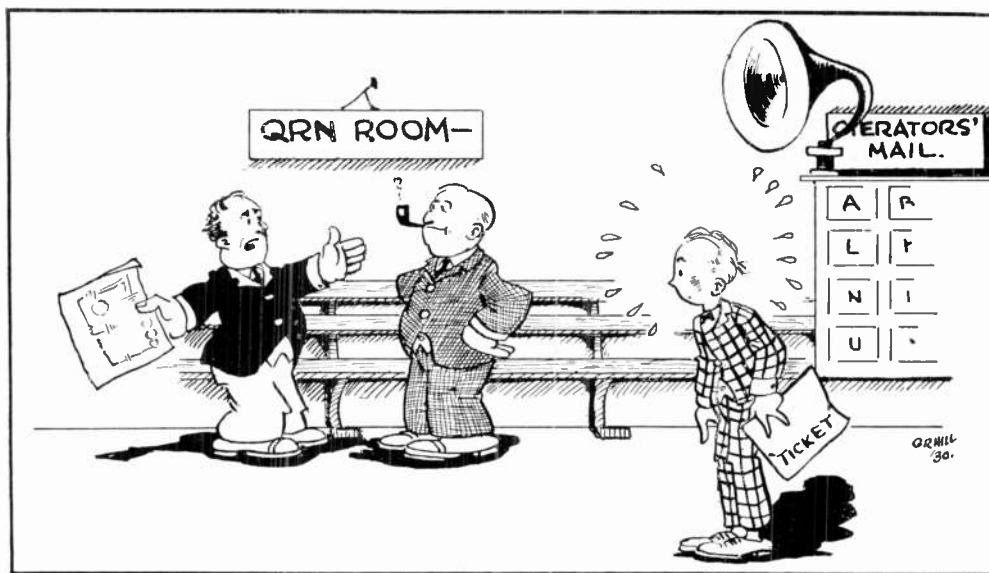
The appearance of these recordings at this time coincides with the twenty-fifth anniversary of the *Motu Proprio* on church music issued by the late Pius X, and recently made a part of the new Apostolic Constitution on Sacred Music by Pope Pius XI, in which he urged

the more general use of the Gregorian Chant in all Roman Catholic churches. The records now, for the first time, make accessible to every section of America, authentic examples of the Gregorian music.

As a further step in advancing the Gregorian movement arrangements are being made, the announcement stated, to record the Mass and Vespers as sung by the monks of the Abbey Solesmes, in France.

The recordings were undertaken after it was decided that the present-day advances in electrical recording and reproduction were fully capable of conveying the exact phrasing, the fine inflections and true rhythm of the Gregorian music as originally rendered. It is the feeling of Gregorian scholars that the use of mechanism in propagating sacred music is in keeping with the times, besides enriching the world of music with additions to its store of mediaeval music.

Among the religious societies which co-operated with the project are the Dom Mosquereau Schola Cantorum at Washington, established by Mrs. Justine B. Ward; the Pius X School of Liturgical Music of the College of the Sacred Heart, of which Mother G. Stevens is director; The Society of St. Gregory of America, the Rev. John M. Petter, President; and its official publication, *The Choirmaster*, of which N. A. Montani is editor.



THE "OLD TIMERS" MINCE NO WORDS
A lad with a new "ticket" gets pointers the books left out.

In "the Static Room" the Dream of the Graduate Survives Its First Test

The Novice Is Given a Ship Assignment and Meets the Veterans of Many Cruises

By R. D. HUTCHENS, *Photoradio Operator*

STEVE JORDAN often had gazed into the dry diagrams of his correspondence course with unfocused eyes, and had seen himself leaning against the ship's rail, gazing across a sheet of sparkling water while the admiring passengers had ascribed his dreaminess to long years at sea.

Now, after a few months of theory and code, he had passed the government examination. He touched the corner of his operator's license reassuringly as he briskly walked into the

Radiomarine offices at 326 Broadway.

"What ship you on?" asked Miss Levy, the little abstract and coast tax girl. Then, as she saw his bewilderment:

"Oh, first job. See Miss Michelsen."

Miss Michelsen handed him a bond application. "There's a desk you can use in the static room. Then see Mr. Christie."

Steve entered. Two long benches, occupied by men who had just come into port and had struck various atti-

tudes of restfulness. He estimated their ages to be from 20 to 40. Three rows of metal boxes labelled with single letters, and filled with mail for the men at sea. The Z box contained 18 letters postmarked at Ravenswood, Illinois and addressed to Zwicky, who was on a cruise to Australia. A scratched desk that had outlived its style was being used as writing desk, heel prop and gaming table. The men talked glibly and Steve learned they liked to romance about the worst points of their ships: "—and the passengers! What Indians! Never tasted chicken before they made the trip with us, but right off they put on the English drawing-room act, and wanted a bath every morning. The bosun sends up a note with a pail. 'Lay this out on deck tonight' it reads, 'and pray for rain.' The skipper wouldn't let them ashore in New York until we counted the lifeboats."

"—no, no. You can't put your grid over there, no matter what Loftin or White says about it. Take this circuit, here. It's a ultra audion I been using since 1922—copy GBR with it in Bonos Eys. Mac Donough uses it for getting WNU press when his tub is way over in the Channel."

"Captain Crowley still on the *Distrata*? I was on that batoo three years ago. Once we left port a day late, driving the engines till the boilers bulged. 'I know I shouldn't go so fast near the reefs,' Crowley says, 'but I've been sailing the Mediterranean so long I know the position of every rock.' Just then we crashed into something that didn't move. 'That's one of 'em,' he yelled, and I spends the next four hours calling tugs to drag us off."

Mr. Christie, application in hand, nodded with a thoughtful frown at the new man alongside his desk.

"Mr. Jordan," he said, "the *Polaki*.

a sulphur ship of the Marden Lines sails at four this afternoon from Pier 13 East River, bound for eight or ten South American ports. The ship is small, but of course you can't expect the *Leti* on your first trip. What about it?"

"I'd rather wait."

Steve left the building, numb with a dull disappointment in things sea-going. He walked south, descended to the subway, and stood dejectedly on the platform, waiting for the train that would rattle him off to the offices of the Universal Broadcast Company. A row of dirty cars jolted to a stop, and as the doors opened, a man ran into him. Steve turned to acknowledge the apology, but the offender only threw a snarl over his shoulder.

Before the train pulled out, he was using the platform phone. Two minutes later he ran toward the "To Street" sign, hurrying to reach Pier 13, East River before four P.M.

* * * *

Radio's Value to Schools

That there is a decided field for radio in school work is evidenced by the so-called Ohio experiment, where for more than a year programs have been provided for schoolroom reception for one hour each day. The most widely disseminated educational broadcast is believed to be the Damrosch music appropriation course, which is reported to reach 150,000 school rooms weekly.

* * * *

Radio On French Trains

The French State Railway has inaugurated what is believed to be the first train in France equipped with radiophones. The train, running between Paris and Havre, is fitted out with individual earphones for each passenger.

General Harbord Relates How "Radio Donned Its Working Clothes"

An Article in Nation's Business Is Selected By Reader's Digest As One of Lasting Interest

The following, condensed from an article by General James G. Harbord in The Nation's Business, has been published in the Reader's Digest. Devoted to reprinting in permanent booklet form articles of lasting interest in current magazines.

IN 1841 Wheatstone and Cooke set up the first working telegraph in England. The public paid no attention to it till—fortunately for the telegraph—a murder was committed in a London suburb, the terminus of the first 13 mile telegraph line. The murderer escaped by train to London. But a message flowed across the line, and, as he stepped off the train at London, he was apprehended. Instantly the public realized that a practical communication system had been devised.

When Alexander Graham Bell was endeavoring to send the actual sound of the human voice over a wire, he experimented with the ear of a dead man fastened to the end of his wires, and came upon the idea of a membrane receiver—a disk that quivers under the influence of electro-magnets.

At the Centennial Exposition in Philadelphia in 1876 Professor Bell's telephone attracted little notice. It needed something unusual to ore it on the attention of the judges. This unusual something arrived in the person of the colorful Emperor of Brazil who, passing by with his glittering retinue, saw Professor Bell, his old instructor. Bell showed the Emperor his telephone. The Emperor, listening at the receiver, ejac-

ulated: "My God, it talks!" That was enough. The telephone became the sensation of the Centennial.

So continents were connected by cables. Across thousands of miles of wire, the human voice could be heard. Yet those who went to sea were still beyond reach of telephone or cable. Of them the world knew nothing until the end of their journey.

Even submarine cables were not altogether dependable. They were easily broken. And nations without coasts had to depend on the friendship of neighboring states for their transoceanic communication. Something else was needed—something that would ride high above storms, wars, political jealousies, and frontiers. And this was given to the world through the experiments of Guglielmo Marconi who, as an 18-year-old student at the University of Bologna, became fascinated with the possibilities of projecting electro-magnetic waves through space.

First he sent them a few hundred feet, then a few miles, then a few hundred miles, in bewildering progression. The English Channel was spanned early in his career. Communication was established between ships and the land. In 1901 the Atlantic Ocean was spanned

between Cornwall in England and Newfoundland in America.

For years, wireless telegraphy could not afford to compete with the cable systems and telegraph lines. On ship-board, however, it enjoyed a monopoly. Yet again, something startling had to occur before the public become wireless conscious.

That event occurred when the steamships "Republic" and "Florida" collided off Nantucket. The first distress call from a ship at sea was sent out and received at that time. More than 1500 lives were saved. Radio had become a vital factor in the safety of life at sea.

Today, radio spreads over the earth. It has donned the drab garb of the everyday worker. In the New York offices of the Radio Corporation of America there is a staff of 275 operators. Some 160 messenger boys deliver radiograms in New York City.

In these offices radiograms are typed on the perforator keyboards, and transformed into perforated patterns in a paper tape. The tape is whirled through an automatic transmitter, and its tiny perforations cause the formation of dots and dashes. Today, over the latest short-wave circuits, traffic speeds of 200 words and more are obtained. The high speed at which radiograms are transmitted precludes the possibility of their interception by amateurs or unauthorized parties.

With short-wave transmission, coming into wide use today, it is possible to employ the beam system, or directed waves, so that signals are aimed at a distant receiver like pointing a searchlight. This results in greater efficiency.

Radio has done much for the safety of ocean travelers. The average ocean greyhound handles more than 1000 radiograms on a single trip, exclusive

of press dispatches, weather reports and ship's business. In the radio direction finder, marine radio has presented the navigator with the greatest aid since the Chinese gave us the magnetic compass. A ship's exact position may be determined by means of its signals as intercepted by others equipped with a radio direction finder.

Radio beacons, or automatic transmitters along our coasts, permit the navigator to take exact bearings irrespective of darkness or fog. This means not only increased safety, but hundreds of thousands of hours saved to shipping which would otherwise be delayed.

From marine radio to aviation radio is but a step. Today the airman can communicate by radio telegraph or telephone over a considerable distance. Vital information regarding the weather is ever at the disposal of the airman whose helmet contains radio earphones. Automatic direction finders permit him to take his bearings on radio beacons and to fly a positive course with just as much certainty as an automobile driver on a concrete highway.

Radio has evolved from the first crude dots and dashes of slow manual operation to the high-speed automatic operation of today. It has found its voice in the radio telephone and the field of mass entertainment known as broadcasting. And now radio is finding its pen, so to speak, in the facsimile transmitting system already in everyday use. It is possible to send facsimile handwriting, signatures, typewritten messages, greeting cards, fashion sketches, photographs, and other items across the ocean via radio.

Indeed, with the developments now taking place in facsimile transmission, it is only a matter of time when the dots and dashes of the usual radiogram will be relics of a by-gone age, just

as the quill pen has been overshadowed by the more practical typewriter.

Of broadcasting little need be said except that it represents the capitalization of a serious handicap, and therein lies its true romance. The original plan was to employ it as a point-to-point communication means, with possible competition for the wire telephone. However, it soon became apparent that secrecy was sadly lacking. Anyone equipped with a simple receiver could readily listen to conversations passing through space. This very weakness was then exploited. The radio telephone was made to radiate waves that could readily be tuned in. Programs of general appeal were placed on the air.

International broadcasting is the next step. We shall soon have a world-wide exchange of programs, so that the talent, the culture, the mental outlook, and the nationalism of all leading countries will be known throughout the world. Perhaps, too, sight may come to join sound, as television develops, and a better international understanding will exist when faces as well as voices become familiar throughout the world.

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Promotions in RCA Photophone

SYDNEY E. ABEL, general sales manager of RCA Photophone, Inc., has announced a number of promotions.

George H. Wiley, who recently became identified with the RCA Photophone selling organization, has been appointed manager in charge of the Northern New York district, with headquarters in Buffalo. Mr. Wiley was an independent producer for many years and has had broad experience.

H. L. Pettey, commercial representative for the corporation for the last several months, was appointed district manager of Michigan, with headquarters in Detroit. Prior to joining RCA Photophone, Inc., Mr. Pettey was a special representative for Metro-Goldwyn Picture corporation in Omaha and Kansas City.

A. R. Johnson, commercial representative in Minneapolis, was appointed district manager of the Chicago territory, with headquarters in that city. Mr. Johnson succeeds W. I. Brown, who becomes a special representative for Northern Illinois and Southern Wisconsin. Mr. Johnson has been identified with the motion picture industry for several years, having represented various corporations in selling and as an exhibitor in Florida.

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"Arkayo" Is Suggested As Name for Planet

SEVERAL American astronomers have been addressed by artists of vaudeville, and directors and stars of Radio Pictures, with the suggestion that "Arkayo" would be a most appropriate name for the ninth planet of the solar system, which was discovered by Professor V. M. Slipher a few weeks ago.

When it was discovered that a name was sought, a petition was started in Hollywood proposing "Arkayo" and this petition is now in New York being signed by prominent artists.

The circulators of the petition believe that "Arkayo," suggesting the initials "RKO," is particularly significant because the new planet will become associated through its discovery with an age which will bring the fullest realization of electrical entertainment.

Theremin in Vaudeville Act

THE Theremin, the new ether-wave musical instrument which the RCA Victor Company is merchandising in the music trade, has been incorporated in a vaudeville act playing the Radio-Keith Orpheum Circuit of theatres. The act features a young man and young woman playing the Theremin in solo numbers and in duet.

Early reports indicate that this act is attracting considerable public interest wherever it appears, coming as it does after an extensive publicity campaign all over the country. Effective advertising and publicity tie-ins are being arranged between the local R-K-O theatre and dealers handling the Theremin wherever the act appears.

Opportunity for Radio Men in Naval Communications Reserve

Several Classes, Some Commissioned, Have Attractions for those Qualified by Experience

By WILLIAM JUSTICE LEE, *Lieutenant Commander, U. S. N. R.*

THE United States Naval Communication Reserve is a branch of the Volunteer Naval Reserve of the United States Navy and was originally created when the Naval Reserve was reorganized by act of Congress, effective July 1, 1925.

Between the time that the United States entered the World War in 1917 and the signing of the Armistice in 1918, the Communication personnel of the Navy and the Naval Reserve was expanded many times. During the war training schools were established for radiomen and many thousands of young men were trained as radio operators for service on shore, naval vessels, transports, and some ships of the American Merchant Marine. Among the men who enlisted on the outbreak of war and who performed valuable and efficient service for their country were

amateur and commercial operators who already had experience in radio.

These men were of the greatest possible value to the Navy because of their previous experience, and were enabled to complete their period of training and go on duty in a comparatively short time.

Since 1925, the United States Navy has been desirous of building up a reserve force of trained and partially trained communication personnel who would, in case of local disaster or national emergency, be prepared to serve their country in the communication field.

The Volunteer Naval Reserve provides, among other classes of officers and men, two classes especially for communication duty. This is the C-V(S) class of officers and V-3 class of enlisted men. The Commandant of each

naval district has been authorized to recommend certain qualified radio engineers and communication experts for appointment as officers in the Volunteer Naval Reserve. Class C-V(S), and to enlist in Class V-3 competent amateur and professional radio operators in ratings which are the equivalent of the class of license which these men hold in civil life.

In districts where a number of officers and men have joined the Naval Reserve, local district organizations have been perfected which are complete in themselves, have their own commanding officers, section and unit commanders, and in some cases their own meeting places or armory space where instruction in Navy procedure is given and the opportunity afforded to

operate Navy types of transmitting and receiving equipment.

Excellent progress has been made in most districts in connection with the enlistment of amateurs and at the present time there are over one thousand of these enlisted in Class V-3, together with a considerable number of commercial radio operators.

The Navy Department desires particularly to appeal to the interest, enthusiasm and patriotism of the commercial operators connected with the

American Merchant Marine. Provisions already have been made for the appointment of Merchant Marine Naval Reserve officers on board many ships of American Registry, but up to the present time not much information has been made available to the radio operators on duty aboard these vessels. The Navy Department believes that when the commercial operators on American

merchant ships have become familiar with the aims and requirements of the U. S. Naval Communication Reserve they will feel it is to their advantage to apply for enlistment. Briefly, the requirements for a rating in the Communication Reserve as compared to the equivalent commercial operator's license, are as follows:

Commercial —
Extra 1st grade —
Chief Radioman.

Commercial —

1st grade—Radioman, 1st Class.

(or Chief Radioman, if qualified)

Commercial — 2nd grade — Radioman, 2nd Class.

Commercial — Broadcasting Station operator. (Unlimited) — Radioman, 1st Class.

In most cases ratings as chief radioman and radioman, first class, are fully equal to a commercial operator's professional status aboard a merchant ship and there are at the present time few commercial operators qualified to go

The Army Encourages Radio Training

THAT radio training is looked upon by military authorities as a valuable asset in our national defense, is evident from the fact that last year the War Department presented two scholarships in radio to Citizens' Military Training Camp men. The scholarships called for a course at the RCA Institutes, and were awarded to the two men who showed the greatest aptitude, interest and obedience in their military training, with a leaning toward communication.

The man with a radio training, particularly if he is an experienced operator, is much in demand by military bodies, according to R. L. Duncan, President of RCA Institutes and himself a Captain, SCR, U. S. Army. The radio trained man, although he may have to start as a private, can gain rapid promotion because of his specialized ability which distinguishes him.

aboard a naval vessel and hold down the rating of radioman, first class, or chief radioman, without a course of instruction.

One of the functions of the Communication Reserve is to teach its members Naval Communication methods and procedure in time of peace to qualify them for duty in time of war or national emergency. The Naval Communication Service furnishes a certain amount of literature to men enlisted in the Communication Reserve to afford them the opportunity of learning Naval Communication and Navy methods. Many of our commercial operators would greatly enhance their own value to the companies that employ them by acquiring a wider knowledge of the military communication system, and of the necessary tie-in between the commercial and the military systems.

Many men now most prominent in large commercial communication companies ashore are members of the Naval Reserve and are deeply interested in seeing our commercial operators identify themselves with that branch of the service. Representatives of the Commercial Communication Companies have stated that their Companies would be much pleased to have their operators join.

The Volunteer Naval Reserve obligates no man to active duty in time of peace except by his own request and consent. There is no pay attached to membership in time of peace except when a Naval Reservist is ordered to two weeks' temporary training duty at his own request. No drill attendance is required and there are no military obligations except in time of war.

The commercial operators who are now members of the Naval Reserve are proud of this connection. Undoubtedly commercial operators would

enlist in the Navy or Naval Reserve anyway in case of national emergency or war and the ratings obtainable at such a time probably would be lower than the ratings for which commercial operators can qualify themselves by enlisting now in time of peace.

This branch of the Naval Reserve conducts radio drills on shore, using a frequency of 4045 kilocycles. Radio stations in nearly every naval district are conducting instruction by radio during the early hours of the evening on week day nights and these drills are frequently copied by commercial operators aboard ships who are members of the Naval Reserve.

It is hoped that this article written by a Commercial Operator and Reserve Officer may help to interest our commercial operators in joining the Naval Reserve. Information can be obtained from the Commandant of any Navy Yard or Naval District Headquarters and often at Ports of call from officers of the Naval Reserve in charge of Fleet Naval Reserve Divisions. Any operator interested in procuring further information can readily do so by writing to his employers and asking them to put him in touch with the nearest Naval District Headquarters where information may be obtained.

* * * *

Radio Exports Increase Nearly 50 Per Cent

EXPORTS of radio apparatus last year increased nearly 50 per cent over 1928 and touched a record total of more than \$23,000,000, according to Commerce Department figures.

Canada was the most important market of the United States, as she is for the bulk of our export commodities, but Argentina and other South American countries were customers.

Radiomarine Installation Contracts Total 37 in Two Weeks Recently

*General Superintendent T. M. Stevens Announces List
Including Wide Variety of Craft.*

CONTRACTS signed by the Radiomarine Corporation of America included installations for seventeen vessels in one week recently, and installations on four yachts and sixteen commercial vessels in another week, it is announced by T. M. Stevens, General Superintendent of the Radiomarine Corporation.

In the week ending March 8 the seventeen installation contracts included equipment on three vessels of the Tidewater Oil Company of New York—M. V. *Hull No. 125*, M. V. *Hull No. 126* and M. V. *Veedol No. 2*, all now under construction. Similar contracts were negotiated with the Mystic Steamship Company of Boston for the S. S. *Stephen R. Jones*, the Calmar Steamship Company of New York for the S. S. *Alamar*, the Hammond Lumber Company of San Francisco for the S. S. *Watsonville*, and Walter G. Ladd, of New York City, for the yacht *Etak*.

Service contracts for the maintenance of radio equipment were negotiated with the Coastwise Transportation Company of Boston for the S. S. *Hampden*, and the Moore & McCormack Company of New York for the S. S. *Cliffwood*.

Rental contracts for RCA direction finders were signed with the Tidewater Oil Company of New York for the M. V. *Tidewater*, M. V. *Veedol No. 2*, M. V. *Hull No. 125*, and M. V. *Hull No. 126*; also with the New England

Steamship Company of New York for the S. S. *City of Lowell*, and the Moore & McCormack Company of New York for the S. S. *Cliffwood*.

An agreement was signed with I. Zellerbach of San Francisco for the sale of an RCA direction finder to be installed aboard the yacht *Janidore* and wireless telegraph apparatus was sold for the same yacht.

The report for the week ending February 22, including installations for four yachts and sixteen vessels in commercial service, follows.

Rental contracts were negotiated for wireless telegraphy apparatus to be installed on the yachts *Grenadier* of Robert C. Roebbling of Princeton, N. J.; the *Comoco* of R. Judson of the Continental Motors Corporation of Detroit; and the yacht of Arthur V. Davis, the name of which was not disclosed in the contract.

Agreements were made for the sale of wireless apparatus to be installed on the S. S. *Hampton Roads* of the Cities Service Transportation Company of New York and a vessel of the New York and Porto Rico Steamship Company being built by the Bethlehem Shipbuilding Company, and also the yacht *Quicksilver II* of Albert E. Peirce of Chicago. In addition to the sale of the apparatus, a contract was negotiated for its maintenance, aboard the *Quicksilver II*.

RCA radio direction finders were sold

to the owners of fourteen vessels, including seven of the Cities Service Transportation Company: (S. S. *Cities Service Fuel*, S. S. *Cities Service Petrel*, S. S. *Cities Service Denver*, S. S. *Cities Service Koolmotor*, S. S. *Halo*, S. S. *Watertown*, and S. S. *Hadnot*); four vessels of the Maison Navigation Company of San Francisco: (S. S. *Malama*, S. S. *Manini*, S. S. *Makua*, and S. S. *Makawao*); two vessels built by the Bethlehem Shipbuilding Company for the Sinclair Navigation Company of New York City, and one vessel by the same builders for the New York and Porto Rico Steamship Company, New York City.

Contracts in the week ending March 15 called for RCA direction finders for one yacht and four steamships and wireless telegraph apparatus for two steamships.

Four RCA direction finders were sold to the Ford Motor Company of Dearborn, Michigan, for installation on the steamships *Lake Benbow*, *Lake Gorin*, *Oneida* and *Onondaga*. A direction finder was also sold to the Consolidated

Shipbuilding Corporation of Morris Heights, New York, for installation on the yacht *Stevana*.

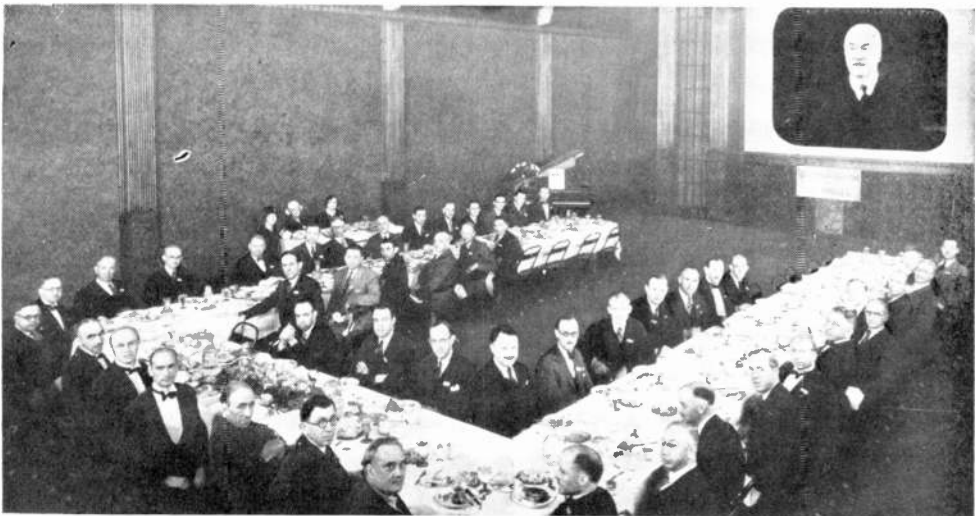
Pillsbury & Curtis of San Francisco purchased wireless telegraph apparatus for the steamship *Timberman* and a rental contract was negotiated with the Atlantic Refining Company of Philadelphia for wireless telegraph apparatus to be installed on the steamship *Bohemian Club*.

* * * *

Photograph Shows Novel Alumni Address

WHEN Dr. Nicholas Murray Butler, President of Columbia University, recently delivered the principal address at the annual Columbia University Alumni dinner in Hollywood, California, the accompanying photograph was made.

Dr. Butler's address was recorded by RCA Photophone sound equipment at the Gramercy Studios in New York City and the film was taken to Hollywood by John Boyce-Smith, a Columbia alumnus.



PRINCIPAL SPEAKER NOT THERE IN PERSON

A Photograph of the Talking Motion Picture of Dr. Butler Addressing Columbia University Alumni.

RKO Celebrates General Manager's Anniversary In Unusual Way

"Joseph Plunkett Month" in the Nation-Wide Circuit Proves Loyalty by Increased Returns

RADIO - KEITH - ORPHEUM theatres from coast - to - coast have completed a rather unusual campaign, demonstrating again the importance of teamwork and showing what results may be obtained through concentrated effort.

It began when the RKO division managers met in New York weeks ago. They wanted to mark the end of the first year of service of their chief, Joseph Plunkett, Vice- President and General Manager of RKO theatres, with some sort of testimonial from the theatre operation organization. Knowing Mr. Plunkett would not sanction any public demonstration of their respect and loyalty, they proposed going back home and organizing a drive for February that would express their testimonial in increased profits.

That suited Mr. Plunkett. He accepted the proposition with these conditions:

"It must be entirely and exclusively an organization campaign—confined to the personnel of the theatre operations, executives, staff and employees.

"It is not to be a public celebration.

"It shall be, as you propose, an expression from the boys in the field, of loyalty and interest in RKO as an insti-

—tution, and an evidence of their support and allegiance to its officials.

"If you wish it to be a real testimonial, which will be most appreciated



*"CONGRATULATED" BY PROFITS
RKO organizes "All in the Family"
campaign as a tribute.*

—say it with profits in February!"

All the reports are in and the aftermath is not only expressive in increased gross that will appear on the RKO statements, but also in those far-reaching results which help build an operating machine through friendly rivalry, competitive activities, and devotion to an institution and its leaders.

Annual Report Shows 1929 Progress

(Continued from page 7)

manufacturing, and quicker response to the changing needs of the public and of the merchandising situation. It will make possible increased efficiency and economy in engineering, manufacturing and merchandising. The new organization will continue to receive the full benefit in the respective fields of the broad research facilities of the General Electric and Westinghouse companies and of your own corporation."

In international communications, conducted by RCA Communications, Inc., development of directive high-speed, short-wave transmission and reception was continued last year with the installation of additional facilities for both Atlantic and Pacific use, which resulted not only in increased efficiency and economy, but also in a large increase in traffic over that of the previous year. It was pointed out that, despite this progress, the long wave alternator stations are still rendering valuable service, being particularly useful during peak-load periods and giving insurance for continuity of service under varying conditions. The American Telephone and Telegraph Company continued to use long wave facilities of the RCA Rocky Point station in connection with its international telephone service.

"The reliability of international radio communications was convincingly demonstrated," the report continued, "during the last six weeks of 1929 when, with a large number of transatlantic cables out of commission on account of a submarine earthquake on November 18th, our circuits to Europe were called upon overnight to carry a

greatly increased traffic load.

"Notwithstanding the fact that our own traffic was naturally heavier than ever before, and that the Christmas holiday season still further taxed our resources with a heavy volume of traffic, we were able to assist our cable competitors and handled thousands of messages transferred to us by the cable companies on both sides of the Atlantic. RCA has established and consolidated its position as an important factor in international communications."

During the year RCA took over management of radio services in Colombia, established a deferred press rate to Japan of half the ordinary press rate, and opened a domestic radiotelegraph service between New York and San Francisco.

"Good progress was made in the field of radio facsimile operation," said the report, "and the rate to London for photographs, etc., was reduced. It is expected that a direct facsimile service between New York and Berlin will be inaugurated shortly."

Much progress also was made in marine and aircraft radio. Substantial increase was noted in the sale of ship radio equipment and direction finders and at the end of the year 1,395 American vessels were under contract for radio service.

"Two Radiomarine coastal stations on the Atlantic and a similar number on the Pacific, are now equipped with short wave facilities enabling communication with ships over long distances," the report continued. "Ships cruising around the world are frequently in direct touch with the United States during their entire voyage."

A notable development was the es-

establishment of branch brokerage offices on board a number of large transatlantic liners. During the severe decline of the stock market, quotations were received on board ships thousands of miles from New York within three or four minutes, while the ordinary tickers were two hours behind the quotations.

The report reviewed progress in the amusement field, pointing out that RCA Photophone, Inc., has now established an important position in the motion picture industry. This company is entering on a wider program of research and development work. The National Broadcasting Company joined with several well known music publishers in organization of a music publishing company known as the Radio Music Company.

One of the features of the year in radio was the progress made in the development of international broadcasting.

Other outstanding events of the year mentioned in the report included the licensing of manufacturers of vacuum tubes and the agreement with General Motors for the organization of the General Motors Radio Corporation, which was licensed under all patents covering radio sound and picture receiving and reproducing sets for use in automotive vehicles and the home.

* * * *

U. S. Army to Test New Radio Equipment

Latest developments in Army radio equipment on planes will be put to the acid test of practical application in the course of Air Corps field exercises to be staged at Sacramento, Cal., throughout April.

These trials will include tactical

methods evolved during the past year, and also various types of equipment of wide appeal to the public imagination.

Prominent among the newest departures in the latter field is the radio telephone which permits two-way conversation not only between ground and plane but also from plane to plane. Apparatus used on bombardment, attack and observation planes covers ranges of more than 35 miles, while pursuit planes can maintain vocal communication over distances of from 15 to 20 miles.

Regular telegraphic equipment, also installed, has a much longer reach.

The scientific feat of executing verbal orders to pursuit planes rushing through space at speeds of three miles a minute, holding conversation with huge bombers rumbly through the air at 125 miles an hour, and receiving verbal reports from fast observation planes high in the air and far away has never been attempted on the extensive scale arranged for by the Air Corps this year.

"We expect some interesting results from these tests," it was declared by Assistant Secretary of War F. Trubee Davison, in charge of Army Aviation.

"Development of radio as an adjunct to aeronautics is of value not alone in a military sense but also to commercial aviation. An interesting feature of the coming radio tests is that they will be conducted on wavelengths within reach of the average home radio owner, who will be able to hear orders issued to and reports delivered from Army planes."

While only those living within the vicinity of the area over which the show is staged will be able to get the program direct, some of the experiments are to be rebroadcast throughout the country by the two big chains.

Sound Picture Progress to Continue

(Continued from Page 13)

tion of direct comparison with a highly developed art.

In the theatre, too, the sound motion pictures ran into physical difficulties. Theatres for many centuries have been designed either by chance or, at best, to meet the requirements of the spoken performance. The acoustic output of the average actor—that is, the amount of power radiated by him in the form of sound—is very limited. Hence, theatres were designed in such fashion as to make the most of this limited sound output. And audiences adjusted themselves to a charitable attitude toward the actor when they failed to hear a portion of the dialogue. After all, he was "human".

When, however, a close-up of an actor is projected on a screen, about ten feet high, and apparently speaks to the audience, all kindly tolerance of acoustic defects vanishes. Everybody in the theatre expects to hear every word and intonation clearly. Otherwise stated, the audience desires nothing more than "sound reproduction which is *more* human than a human being". The obvious conclusion is that theatre acoustics must be the subject of close study and that changes in the construction and acoustic treatment of theatres may properly be anticipated as a part of sound motion picture development.

Theatres are vendors of glamor. All they have to sell, after all, is illusion, and the better the illusion the more satisfied the audience. Showmanship is presumably the art of creating acceptable illusions and inducing the public to witness them (at a price).

If we coldly examine the elements of an illusion—which is exactly what the

audience should never be permitted to do—we find that it is merely the synthesis of a number of sense impressions. If we could, by physical means, duplicate the sound, appearance, solidity, and odor of a scene in a flower garden, for example, with so high a degree of perfection that all our sense organs were deceived, the audience would believe itself to be looking upon an actual flower garden. We are far from having attained this ideal, but it should be kept in mind as the most important aim of showmanship.

As soon as we examine sound reproduction by electrical means in a theatre we find that it differs rather markedly from sound reproduction in actual life. For one thing, an actor is a sound source of curious shape and small dimensions, he is highly mobile, and his range of sound intensities from a shout to a whisper is enormous. An orchestra, on the other hand, is a highly distributed source of sound, each component of which has its own directional characteristic. The sound volume range of the orchestra is even more extreme, as is clear when one contrasts the faint notes of a softly played violin solo with the thunderous crash of the full orchestra. He would be a bold man who would claim that our present methods of sound reproduction in the theatre, generally satisfactory as they are to present-day audiences, represent more than a first approximation to a perfect imitation of the original performance.

The range of frequencies adequately reproduced in the sound motion picture theatre is at present limited by the house acoustics, the reproducing system, and the limitations of the recording process. Obviously, if the record-

ing process is one in which a large amount of "ground noise" is inherent (perhaps in the form of a hiss during supposedly silent portions of the performance) the reproduction of soft speech or faint music is difficult, if not impossible. All musical and speech reproduction is affected because, in an attempt to get rid of the annoying ground noise, it is rather usual practice to insert cut-off filters which reduce the high frequencies above 3500 cycles which give so much crispness to music, and characteristic quality and naturalness to speech. It is unfortunate that the sound spectrum of ground noise should lie predominantly in a region which is of real importance in the reproduction of speech and music.

If a theatre is acoustically "live" and reverberant, and if there is, therefore, a tendency toward booming male speech reproduction as a result of house resonance, it is equally common practice to cut off the lower frequencies which are causing the booming trouble in an attempt to improve intelligibility. Increasing intelligibility is indeed obtained by this method, but at the cost of "tinny" voice quality and unimpressive musical reproduction, lack of mellowness, impressiveness, or solid foundation. Obviously, theatre acoustics are a subject of further investigation and improvement. This may involve, as well, modifications in the general architecture of theatres.

It is desirable to pass over the control of the color and intensity of theatre lighting, the dissemination of perfumes, and the production of other sensational effects through electrical control in the theatre at this time, since these refinements may well await further progress along lines of major and more important development. The pro-

duction of color in motion pictures, and of the impression of solidity, are not primarily electronic problems in their present state. Colored motion pictures are developing space and probably will be found in widespread use on a large scale within the next few years. Pictures giving the impression of actual solidity (that is, true stereoscopic vision) are in a much more rudimentary condition, and it cannot be said that any generally satisfactorily and practicable method for the production of such pictures has as yet been demonstrated or particularly plausibly suggested.

In the recording end of sound motion pictures, there are a number of divisions which require careful consideration. The subject of studio acoustics is certainly in dispute at present and articles by authorities of supposedly equal rank will differ sharply on the nature of desirable acoustic treatment for studios and on the proper placement of microphones.

The extremely light and portable recorder is only partially developed, and lack of these devices is felt in news-reel work and in certain types of location recording. There are types of outdoor scenes where a highly portable recording outfit would be of great value, but presumably such an outfit depends, in part, on the production of vacuum tubes of suitable characteristics.

In general, it may be said that the vacuum tube, through its important application in the amplification of sounds, has revolutionized the sound motion picture field and is likely to bring about fundamental changes in the construction and utilization of theatres and the equipment used in the theatre, all with the aim of the production of a more perfect illusion of the actual event.

Adventure with Explorers Calls Radio Men

THE life of a radio operator is sometimes pictured as a bed of roses, traveling about the world on luxurious steamers, wearing a natty uniform, but in all seriousness, and leaving out the romantic imaginings, there is plenty of thrill ahead for the keenest men, according to Rudolph L. Duncan, who trains the budding radio men at the R.C.A. Institutes.

"There is scarcely a month," Mr. Duncan says, "in which I am not called on to furnish a capable radio operator, preferably a youngster, in search of real adventure. The latest call is for an expedition about to explore the Sepik River of New Guina, where white men have never been. Here we have tropical jungles in violent contrast to icy wastes of Little America, where one of our graduates was.

* * * *



A daughter, Marjorie Joy, to Mr. and Mrs. Simon H. Broder, on March 9, 1930. Mr. Broder is an attorney in the Patent Department at 233 Broadway.

Patent Department, Radio Corporation

HEIGH, ho, everybody. Here we are again after an absence of months and months from our own WIRELESS AGE. But hold everything, we have plenty of news in store.

Harry Tunick just has returned from a trip to Cuba, looking like a red beet. We wonder why he went to Cuba. That's all right, Harry, we will not give you away.

Carl Cohen has become engaged. It will not be long now. Good luck to you, Mr. Cohen.

We take this opportunity to welcome Mr. Huff into the Patent Dept. We hope he likes it here in New York and wish him success in his work.

We welcome Miss Leighton and Miss Janover, also newcomers.

Joseph Dexheimer, the well known chap from the twentieth floor, known as plain "Joe" with RCA-Victor, is also with us. Welcome, Joe.

William Lanese has given his girl friend a beautiful ring for her birthday. It looks serious.

Here are some of the eternal cries heard in and around the Patent Department:

"I'd like to kill people who bring me pink sheets at five o'clock."—Miss A. MacB.

"Have you a minute to check this back with me," Miss I. Iffrig.

"I wonder who has that docket?"—Cagey (K. G.) Le Ard.

Miss Finkelstein is our songbird. Every day she comes in with a new song to sing for us.

What is this thing called bridge? For the last few weeks a bridge has been held by certain of the girls from the department. A little birdie told us that Martha Hellandsvik is quite a player, having won a nice pair of hose.

Miss A. MacB. and Miss K. MacB. also ran off with prizes. Don't give up, girls. You still have a chance to win at the bunko party which Babe Urig is giving at her home. But you haven't heard nothing yet. The girls this day, instead of playing bunko only, are



going to bring musical instruments (hold your ears). If Babe Urig isn't going to be dispossessed it is not going to be because we do not make any noise, but only because she has a good pull.

* * * *

Washington Office, Radio Corporation

RADIO has played rather a large part in the social life in Washington in the last month. On three occasions, radio celebrities furnished the entertainment for large gatherings, and did so most acceptably.

The first was the party which the employees of the Federal Radio Commission gave the Commissioners at the Wardman Park Hotel. Celebrated artists were furnished by both the National Broadcasting Company and the Columbia Broadcasting System.

Next was a luncheon tended Mrs. Hoover by the Congressional Club, at which Rudy Vallee and his orchestra

furnished the music. The arrival of Vallee in Washington was duly chronicled at great length by all the papers, with photographs and interviews, and he wound up the day by playing before the National Press Club.

The annual dinner of the White House Correspondents Association at the New Willard Hotel was entertained by talent furnished by the National Broadcasting Company, the headliners being "Amos 'n Andy," who put on their two performances at 7:00 and 11:30 p. m. from the studio of WRC, and between these times attended the dinner across the street. These gentlemen called on President Hoover at mid-day, and the President was expected to have been the guest of honor at the dinner that evening, but because of the death of ex-President Taft that was impossible.

Visitors from New York during the month have included Colonel Samuel Reber and Colonel Manton Davis of the R.C.A., L. A. Briggs of R.C.A. Communications, Inc., T. M. Stevens of the Radiomarine Corporation, V. Ford Greaves and C. S. Davis of RCA Victor Company, W. H. Taylor of R.C.A. Institutes, Inc., and J. M. Rafferty of RCA Photophone, Inc.

Mr. Guthrie was a guest at the elaborate luncheon given by the Postal Telegraph Company in connection with the opening of the beautiful new office of the Postal in the Washington Building, directly across from the United States Treasury.

He attended also the Silver Anniversary Meeting of the Washington Rotary Club where all the Ambassadors and Ministers in town were the guests of honor. Forty-six diplomats were present, and each of them, being present or prospective customers of R.C.A.

Communications, Inc., was furnished a copy of the latest rate sheet.

The new RCA Photophone portable machine has been demonstrated twice in Washington—before officials of the Navy Department, and before the monthly meeting of the Washington Board of Trade. This latter meeting was a particularly large one, about 800 being present, and many complimentary remarks were heard regarding the operation of the machine. Washington now boasts three theatres equipped with the RCA Photophone. In addition to the R.K.O. Keith's, the equipment has been installed at two suburban theatres. Also J. M. Rafferty came to Washington in connection with this demonstration to assist George Garvin, district manager of RCA Photophone.

Richard A. Ford, Washington attorney of the Radio Corporation since the days of the old Marconi Company, has given up his office at 1719 K Street and is now located adjoining Glenn I. Tucker in the National Press Building. This is a very convenient arrangement and will enable Mr. Ford and Mr. Tucker to coordinate their activities.

Mr. Tucker has visited New York several times since our last report, as has also E. H. Butler, local sales representative of RCA Victor Company.

Colonel Reber and Colonel Davis both attended a meeting of the Communications Committee of the American Bar Association, and also a meeting of the American Section of the International Committee on Wireless Telegraphy. Both of these meetings took place in Washington.

The Disarmament Conference in London continues to be the source of considerable traffic for R.C.A. Communications, Inc., and the daily dispatches of Frederic William Wile to the Washington Evening Star bear the heading,

"By Radio to the Star," with fair regularity.

* * * *

Pacific District, RCA Victor

SALES DEPARTMENT

LES YULE has again left us for a trip to the Intermountain territory to return via Los Angeles.

During the first week of March we had a continuous rainy spell but B. C. McDonald, our Assistant District Manager, has acquired a beautiful sunburn. How he did it in rainy weather is a mystery.

We have noticed "Duke" Wordsworth practicing writing his name for hours at a time. Being somewhat curious, we inquired the reason and were informed he was in spring training as he began signing all checks March 1. Indications are that the "Duke" has whipped the signature into excellent shape with all the necessary flourishes. "Whitney" Garrett is waiting a chance to pen his signature on a check and we hope he does not have to wait too long.

Miss Bruning, of our Stenographic Department, resigned the first of March and was on the high seas when this was written, returning to New York on the Steamship *Virginia*. Dorothy's home is in New York and we are confident she will be very happy there. Dorothy says no wedding bells for her.

Mrs. De Jonge and Hannah Simon also resigned March first. Mrs. De Jonge is taking up housekeeping and Hannah is now a busy girl in a newspaper office.

We welcome Ruth Boyd, who has taken over Hazel Fowler's work. Hazel is now in charge of the Stenographic Department.

N. A. Woodford has been gone nearly a year from this office but some of his good habits are still here. Miss Edwarda Pickett and Isabel Aronson are now in strong competition saving canceled postage stamps. If the fever doesn't spread they will have everything their own way.

Dick Klinger isn't as good as he believes he is at the art of skiing. It seems Dick was showing the natives around Mt. Shasta some fancy tricks, when he "faw down and go boom." He is now carrying his arm around in a sling.

Roy Sampson has blossomed out with a new Ford "Roaster" and feels mighty proud. Hazel Fowler, not desiring to let Roy outstep her, has purchased a new Chevrolet. Some class to our office force.

It is with deep regret we announce the passing of E. J. McCoy on Tuesday, March 4. Mac was one of the pioneers of the Division and was well liked by all those with whom he worked. Our sympathy is extended to his wife and relatives.

SAN FRANCISCO SERVICE STATION

The Bank of Italy stocks must have gone up again as we note that Bert is driving a very sporty new Chrysler. Our Scotch engineer, MacTavish McCullough, also is the proud owner of a Chrysler roadster. Who said Scotchmen were tight?

MacGeorge was seen walking around the shop with a very melancholy look on his face. Upon being asked if he had lost a quarter, Mac replied, "No, I lost a dime."

Earl Seymour is a busy man these days aside from his duties as cabinet refinisher, he finds time to hold down the job of editor of the Daily News

and is now branching out into the motor business.

The sleuths were on a very hot trail in regards to the missing sandwich, when last reports were received they have found a suspect, but so far have been unable to find the sandwich.

Now that the girls have gone on a diet again, MacSummers suggests that he take them out to an Italian dinner. Gussie tells us confidentially that she is on a starvation diet for a week and when he mentions it again she is going to take him up.

Bertolotti paid his income tax the other day. Judging from the amount of his tax receipt, the government lost money.

Mention "Derby" to any of the boys in the shop and watch their expressions.

* * * *

Radio Central, 64 Broad St., R.C.A. Communications

Acalaca ching, acalaca chow,
Acalaca ching ching chow chow chow;
Rip rah rest,
Who's the best?
Radio, radio, yes, yes, yes.

SHADES of Guglielmo Marconi! What is the communication business coming to! Great excitement at Broad Street and the cause of it all is the newly formed hockey team.

The hockey team is composed of Hallisey, Monaghan, Furzey, Howley, Robertson and Roe. In addition to the above named, we have Wallace, Taylor and Clark, who take the places of those wounded in action. In addition to those we have Lyons, Thompson and Paton who are training hard for a place on the team.

The first game which was played with the I. T. T. was a sort of experi-

ment—experiment for the players and curiosity for the rooters. We were all given to understand that as soon as the opposing team gave one look at the beautiful uniforms we wore, there would be nothing to it but victory for the R.C.A.



It was a grand and glorious victory all right, but not for the R.C.A. The final score was 7 to something, with the R.C.A. contingent on the something side.

Let it not be said that our team was not well supported insofar as rooters were concerned. About seventy-five of us made the pilgrimage to Brooklyn to render what assistance we possibly could in the form of cheers, hoots and other forms of noise making. But all to no avail! We could not stem the tide. Our own precious gladiators were falling by the wayside, one by one.

Too late! Too late! Drinking George's coffee and then trying to play hockey (or any other game for that matter) was the gravest of the grave errors any man could make. And so thus endeth the first game, no runs, no hits, some errors.

But were we downhearted? No! A thousand times, no! The following day, the hockey team gathered for a consultation. The day after another consultation was called, which in turn was followed by a series of sub-consultations.

The result of these confabs was that another game was arranged with the I. T. T. for the following week. This time we went over in a body of nearly 150 men, women and children.

What a game that was. Action! Fury! Determination! Fighting! Buckling! Checking! Double checking! And the spirit to keep going . . . on . . . on . . . on . . . (Say, what's this all about?) Onward fought our brave hockey team. One goal scored. . . . two goals scored. . . . three goals scored. Still the boys kept fighting. . . . Another goal and then the R.C.A. scored its first goal. Whoopee . . . whoopee.

Suddenly the puck shot out from the meleec and landed at the feet of the I. T. T. goalie. Tough luck. But hark, what is this? Howley, the Iron Man, Howley, the conqueror, appeared, apparently from nowhere . . . fire in his eyes . . . murder in his heart. He assailed the puck before the goalie had a chance to dispose of it and scored with flying honors. His attack had been so vicious that goal and goalie were carried away under the impetus of his attack.

The final gong sounded and the score was five to three in favor of the I. T. T. group. The score should have been 3 to 3, but two of our men scored the extra goals in the heat of the game into our own goals, mistaking them for the opposing goals.

As we go to press, we have organized our forces for the third and last game of the season with the I. T. T. and this time we positively intend to win. In fact, we are so determined we are going to win, that in addition to our regular staff of rooters, which at this time will number 200, we have organized an additional staff of 35 messenger boys who will take up positions on the left flank.

The women will lay down a barrage of hoots and cat calls that will last for fifteen minutes, this will then be followed by the men who in turn will be relieved by the messenger boys, thus giving the women a chance to concentrate on the right flank.

For the hair ripping results of this most excruciating and final game, don't miss our next issue.

Gee ha, gee ha,
Gee ha ha ha,
Radio, radio,
Rah, rah, rah,
Radio, radio,
Hear our cry,
V-i-c-t-o-r-y.

* * * *

Commercial Department, R.C.A. Communications

WE are pounding away constantly in our endeavor to augment Radiogram sales. Obstacles are being overcome, resistance worn down and each day brings fresh evidence of the results of hard work and stick-to-it-iveness, which characterizes the desire of every Commercial Department-ite.

The New York representatives will have to get on their toes, however, to overtake the lead in the domestic field accomplished by "our rivals" in San Francisco—Messrs. Wilhelm and Colby. The eastward domestic traffic has surpassed the high mark of the westward and we are hot on the trail to beat the Californians.

Batting averages are being posted every month in every branch office in New York showing just where the offices stand in the fight for more Radiograms.

Arthur A. Isbell, Commercial Manager, has returned from a tour of New England.

We hear from our Chicago office that Miss Belle Fleishman is of great assistance to F. R. Carney, our Commercial Representative in that City in obtaining new business. Keep up the good work.

A. W. Metz of our CL office and J. J. Dorsey of FA have been successful in securing some good business for our Photoradio circuits.

Our double-header team of representatives, made up of Benjamin Holcomb and C. Kirshner, is showing splendid results in the drive in the fruit and produce sections of New York. Considerable ground is being covered. Now watch HF grow.

Harold E. Fulton, Lt. Jr. Grade, one of our downtown representatives, has returned to Broad Street after a week's duty at the United States Naval Reserve headquarters, New York.

One of the young women of this Department, Miss Lillian Wisdom, had a very narrow escape while passing the Equitable Trust Company building. A porter of the Bank, in trying to adjust a flag flying from the second floor, slipped and fell to his death striking Miss Wisdom a glancing blow in the back. She suffered a severe shock, but is now back at her desk.

A. C. Burnett, better known as "Bob", who covers the lower section of New York, has succeeded in raising a full grown mustache. For a while it looked like an advertisement for a certain brand of toothbrush but now appears to be smoothed down. In any event the foliage hides the results of his recent session with the dentist.

Birthday congratulations to our Chief Commercial Representative, George E. Mc Ewen as well as FA and CL representatives, John J. Dorsey and Albert W. Metz, respectively.

R.C.A. Communications, Bogota, Columbia

VIVA OLAYA HERRERA! Viva
Colombia! Viva la patria!

Those cries from numerous throats have been heard daily since our capture and transmission of a large message bearing hundreds of signatures to



PROGRESS IN TRANSPORTATION

The station Ford is reincarnated with new motive power.

the Colombian Plenipotentiary in Washington. Eventually this minister, Dr. E. Olaya Herrera, accepted the invitation to enter into the political marathon that was running to the presidential seat of Colombia. His return to Colombia after eight years in Washington was made thrilling by the wonderful reception given by his multitudinous supporters.

Entering Bogota, he was not only greeted by thunderous cheering but also by showers of red carnations thrown from the flag-bedecked balconies by enthusiastic *senoritas*.

At last, the election is a thing of the past. The temporary polling booths that were erected around the various public buildings are being stacked away again. Those persons who were caught trying deceitfully to register two votes instead of one will surely remember

the ducking they received from the hands of the infuriated mob at the water fountain in the Plaza Bolivar.

It has been stated many times that Olaya's eight years "experiencia con los Yanquis" (which is the local way of saying, "Experience with the Yankees") won him the fight. He won by a majority of more than 120,000 votes.

Reading through the congratulatory telegrams published in the "El Tiempo," it was pleasing to see that the Radio Corporation of America and the Marconi Company were well to the fore. The telegrams sent by David Sarnoff and Henry W. Allen, of Marconi, to Dr. E. Olaya Herrera were given quite a prominent place in this daily newspaper.

It appears that "Farmer" Brown at Morato really has started a chicken ranch as a side line to radio. Just recently, a money-making proposition was explained to us by our Americanized counter clerk, *Senor Corredor*. We had to put into his concern, The Corredor Chicken Co. (apologies to the CCC) a few thousand dollars. We were then entitled to watch the dear little chicklets run out of an incubator.

Gee whiz! Kid, we sure guess you're right, bo—a bird in the hand, eh?

That word "BO" acts as a reminder to the true story of a senior messenger in Radio House, London, who, knowing that his office was "speaking" to New York all day and all night, began to develop an American accent. One day, a message came down for the post of-

fice across the road. "Boy, quick!" cries this prefect. A junior lad jumps smartly to the counter.

"Here ye're bo, post office—get!" orders the prefect.

The messenger returned after an unusually long time. "Where've you been all this time," he was asked. "Bow post office," came the startling reply.

Another "aneudora" circles around one of our check clerks. Since August last year, a funicular car service has been in operation to and from the top of the church-crowned mountain of Monserrate. While looking through some propaganda pamphlets issued by the Swiss Tourist Bureau, the aforesaid check clerk ejaculated, "Carramba! So they have funiculars in 'Suiza' also." Si ala—desde hace mucho tiempo.

"Fred" Ward come out—talking. Another Bogota "hard luck" story is entitled:

"THE SILVER WATCH"

by

Heel Hœckit

Illustrated with scenes from
the photoplay

A Talkie in Spanish

starring

"Bill" Hart

This novel has all the thrill of the film itself.

Here is an extract taken from the editor's notes: "'Bill' Hart in the great talkiphone picture, entitled 'The Silver Watch,' has caused the greatest film sensation of recent times. Crowds have alternately laughed and wept at 'Bill' Hart's wonderful talking and acting.

"The audience is thrilled right from where the hero dashes into a radio office in the 'wilds of Colombia' and with

trembling voice cries, 'Que ha hecho!'

"The story was written especially for 'Bill' Hart who enjoyed such a conspicuous triumph in his 'Gold Rush.' It is the old, old story of a wealth seeker's vicissitudes in the wild and woolly tropics, but is made new by introducing modern methods of surmounting the many hardships that arise. Pathos is intermingled with laughter. An extremely sad and touching part is where the hero is on his last lap and is compelled, through straightened circumstances, to hand over his very close friend to the care of an entire stranger. The ticking of the watch as it is passed over the counter can be heard quite plainly.

"Who was it that first wondered whether sound could not be made a dramatic element in the previously silent screen drama? Whoever it was should have heard the fateful un-metallic sound made by 'Bill' Hart's dud 50-cent piece as the shopkeeper tested the coins submitted as ransom for the release of his silver 'reloj.'

"We anxiously look forward to seeing 'Bill' starring in many more talkiphone movies of the 'Gold Rush' and 'The Silver Watch' calibre."

The "enfermo" (mm—not inferno) "Safety" Rogers has been at last released from Dr. Pena's hospital after a stay of 45 days in that "Casa de Salud." He is now wonderfully shaking off the effects of his fight with that bogey typhoid. Nevertheless, he has yet to shake a little harder to dislodge the "fluff" which has taken root upon his upper lip.

We have an optimist amongst us who made the remark that "Rog" is rather lucky because he is now fairly safe from typhoid for ten more years and therefore can peacefully continue his sojourn in Colombia until 1940!

Kahuku, Oahu, T. H. R.C.A. Communications

IT has been so long since an article from Kahuku has appeared in this magazine that most of its readers will probably wonder where Kahuku is. However, it's still here, although the wind almost blew it away recently. Every so often, we have a "Kona" wind; which is also the name of a coffee grown here. One is as strong as the other. We have been spending quite a bit of our time praying that the antennas would hold. Luckily they did.

It can be seen that all our weather here is not like that pictured in the steamship advertisements.

The writer will have to admit also that, while not exactly a literary tyro, he has been more or less overawed lately by some of the fifty cent words appearing in articles from the other stations and it has been only after a great deal of deliberation that the requisite courage was forthcoming.



We gradually are recovering from the effects of a rather severe Winter, the worst one in twenty-one years. According to the old-timers the thermometer was down as low as plus fifty-seven and anyone who does not believe that is cold weather is evidently mistaken. Even the mosquitoes froze. We understand that there was a cold wave

in California also. Except Los Angeles, of course. No place has a climate quite like Los Angeles, fortunately. Joe Thornton, the Assistant E. C., left for the East about the fifteenth of last month and we hope that he's not freezing to death back there.

Most of the other changes on the station have been in equipment. The two alternators are silent and the powerhouse is as quiet as a pig at a Luau. They are getting a well earned rest and on the rare occasions when they are started for warming up they grunt and groan as if they didn't like it any more than we do. The one KW exciter set has been operating very satisfactorily and the 20/40 Set, which arrived around Dec. 15, is also going strong, when needed. With nothing but tube sets operating we use so little juice that the station KWH meter is practically backing up and before long the power company will be owing us money at the end of each month.

The other day while in Honolulu the writer was discussing coast Broadcast Reception with an R.N. (Radio Nut) and he wanted to know if any of the West Coast Stations were broadcasting any music produced by one of these new fangled thermostats which he heard that the R.C.A. was making. He is very anxious to hear one played. This is the first time I knew that there was any music in a thermostat. The music is usually made by the man adjusting one. However, if anybody reading this can play a tune on a thermostat, now is his chance to attain fame, if not fortune, which reminds us that we haven't heard one of those Theremin jiggers, either.

It is rumored that a new 1-KW broadcasting station will go into operation here shortly so if anybody feels

romantic and would like to listen to some Hawaiian music, all he has to do is to tune in some other station, not this one. We get all our Hawaiian music from Los Angeles and if we want a snappy Jazz Record we tune in a local station, rather the Local Station, which we can not hear, being on the wrong side of the island. We have it on good authority, however, that they do play jazz music. It's funny how things work out.

This practically brings us to the end. However, before closing it might be well to state, for the information of those who might not otherwise observe the astounding fact, that the originality of this article lies in the fact that from beginning to end, not a single remark has been made about the long skirts that women are wearing.

* * * *

Riverhead Station, R.C.A. Communications

IT has been quite some time since this oasis in the desert has been on the air via THE WIRELESS AGE, hence needs must take pen in hand, or rather the ancient and somewhat asthmatic Underwood.

The boys at RD have been kept pretty busy recently with the OE making frantic and sometimes almost tearful pleas for day signals at night and equally frantic and tearful pleas for night signals in the daytime.

The RL Cafeteria, with Rudy Colvin presiding over the percolator, furnishes alleged coffee to the gang. A number of pointed comments concerning the flavor and aroma, coupled with coincident loud howls from the athletic committee in regard to missing pairs of baseball socks, makes us wonder. How-

ever, it is a long time between paydays and the boys must have their hot beverage, coffee or otherwise.

Now let's see what's happening around the ranch.

Byron Russell boasts of his dog who delights in bringing home the packages the butcher leaves on neighboring doorsteps, thus assisting the Russell household budget.



Wes Long's infant son fell out of the old man's motor car and tumbled overboard from the Long boat, with no injury in either case. Don't take up aviation, Pop!

"Nope," sez Kennell, "YVF ain't ZAN, I just heard him go whizzing past."

You really should meet Van Arsdale, the lad who led the Midwatch Debating Society discussion on "How Deep Can a Whale Dive?"

"Best everything" Stagg threatens to get a Chevvy and cease wearing out the seats in the Pie Wagon.

"I talked with the gods, and one of them is named Bill," said a feminine visitor to RL after W2US Hannah had worked the RD end of the Teletype for demonstration.

That Lake Erie swing on the wire signing LD is Lindow of Cleveland fame.

Rather odd, y'know, that our Mr.

Shanklin and a fair one should attempt fancy diving with skates on in mid-winter, but natorial sports have a fascination, even though the water be but two feet deep and ever so chilly.

The Mainiacs, Messrs. Ashmore, Mundo, Erickson and Walker, are beginning to feel at home in our midst, although still pining for their Belfast home where static wasn't and signals were.

Since so many of the gang have joined the Naval Reserve we are quite accustomed to seeing someone dance a sailor's hornpipe up to a set, and with a hearty, "Yo, heave ho," grasp the dials and best CMA, DFE, and what not. In fact, some of them are so imbued with the Naval Spirit that they are considering installing rat guards on their phone cords.

* * * *

Eastern Division, Radiomarine

RADIOMARINE, at 326 Broadway, leads in marriages: E. A. Kaminsky, W. Lintz, W. McSorley, G. P. Shandy, G. League and Miss Ruth Graf. On February 15th "Our Ruthie" was given a farewell reception and was presented a gift of gold by her co-workers.

Present at the time were Mr. Arthur Hibson, the bridegroom, and our own "Father" Duffy. (Called Father only in the sense of his fatherly manner and not his age.) The tables were arranged in real wedding style and the room was nicely decorated by our inimitable Miss Levy. After the usual speeches were made and all the refreshments eaten it was the unanimous opinion that the affair was a huge success.

Morris P. Goldberg, Radio Operator,

S. S. *Minnequa*. and L. D. Bland, Chief Operator, and Paul Rothman, Junior Operator, S. S. *American Trader*. with the aid of their radio equipment, are credited with having saved the life of William Leth, chief mate on the S. S. *Minnequa*, when he developed jaundice while en route to Baltimore. Mr. Leth is now recuperating in Johns Hopkins Hospital at Baltimore.

This department extends a welcome to Miss Dorothy Fox, who is doing the accounting work formerly done by Miss Graf.

It is with regret we report the death of Henry Cervenka on March 9 in New



HENRY CERVENKA

York, of double pneumonia, after a short illness. Mr. Cervenka was well known among the operators, having been in the service since 1918.

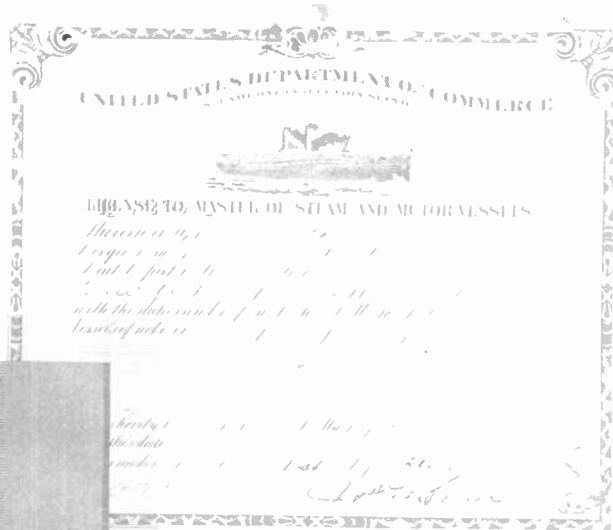
Juan C. Vergne resigned from the service and accepted a position with the New York-Rio B. A. Air Line; Ernest O. Kroger left the marine service to accept a position at one of the Coast Stations; Harold Earl Torborg, formerly on the *Robert E. Lee*, has accepted a position in the traffic department. "Jerry" Simpson, assistant chief stock clerk, and well known among the operators, left the Marine Department to accept a position as special officer in the Holland Plaza Building. We wish Jerry the best of luck.

Fred A. Gritzner, for many years on the tanker *Currier*, has taken over the work formerly done by Mr. Simpson.

"Ike" Edwards celebrated his first year's service at 326 on the 22nd. Harry L. Drake, detached from the steamer *Jean* and resigned from the service. Mr. Drake is one of the pioneer operators in the A. H. Bull Co., having served most of his radio service on the Bull Line steamers.

Carlton K. Sturms, not having been satisfied with making a success as a radio

ary 22, at the Knickerbocker M. E. Church in Brooklyn. The wedding was



HAS MASTER'S LICENSE UNLIMITED

Carlton K. Sturms, successful radio operator, adds to accomplishments.

operator is now the proud possessor of a Masters License unlimited.

Mr. Sturms entered the service of the Radiomarine July 26, 1926, during this time his progress in the radio field as well as Navigation has been rapid, having served in both capacities with various companies.

Miss Graf was married on Febru-

attended by a large delegation from 326 Broadway and 66 Broad Street.

The following assignments were made during the month: Robert A. King, *S. S. Elizabeth*; Olin MacMillan, trawler *Heron*; Bernard Ulnick, junior operator *S. S. Columbia*; Herman Dahlke, *S. S. India Arrow*; Alan F. Burgess, *S. S. Jean*; George Dill, *S. S. Yalza*; Harold P. See, junior operator, *S. S. Santa Inez*; Earle A. Beaver, chief operator, *S. S. Santa Inez*; Virgil Ellis, *S. S. Camaguay*; Isaac Margolis, third operator, *S. S. Southern Cross*; Charles G. Bode, *S. S. Dillwyn*; Edwin F. Lumb, *S. S. Sacandaga*; Dean Richard Cortwright, junior operator, *S. S. Yoro*; Leslie H. Brennan, *S. S. Edward Luckenbach*; Clinton O. Haith, *S. B. Barreado*; Stephen J. Kaider, chief operator, *S. S. Western Ocean*; Paul Gassen, junior operator, *S. S. Western Ocean*.

Homer L. Benfer has been assigned as junior operator on the *S. S. Seminole*; Frank A. Petraglia, junior operator, *S. S. American Banker*; George

F. Knox, re-assigned *S. S. Horace Luckenbach*; Anthony Kandrat, tug *Susan Moran*; Harry Larson, *S. S. Shooters Island*; John E. Morse, junior operator *S. S. Coamo*; George K. Marshalsea, *S. S. Berury*; Arthur George McMullen, *S. S. Alpha*; William George Cook, trawler *Tern*; Lynn F. Rogers, second operator, *S. S. President Harding*; Edward Hallen, yacht *Quick Silver 2nd*; Leroy E. Hurd, yacht *Mizpab*; Carroll L. Banfield, trawler *Curlew*.

Charles W. Weir has been re-assigned to the *S. S. Matinicock*; Ernest G. Best has been assigned to the trawler *Brant*; Raymond W. Terry, third operator, *S. S. President Harding*; A. Eisenberg, to the *S. S. Windrush*; C. A. Harkins to the *S. S. Cities Service Fuel*; James A. Wilcox, third operator, *S. S. Pennsylvania*; James Harold Raby, chief operator, *S. S. Santa Cruz*; Roland A. Penner, to *S. S. Robin Goodfellow*; Charles William Hilkemier, to *S. S. Oaksprings*; Ralph Sobel, *S. S. Jalapa*; Arthur Finch, *S. S. Lake Gaither*; Roger N. Fowler, junior operator, *S. S. Mumargo*; Robert K. McCarrick, *S. S. E. M. Clark*; A. F. Dittberner, to *S. S. Westerner*.

H. O. Winston has been assigned to the *S. S. Favorita*; Leon J. Gormley, to *S. S. Oakmar*; Charles R. Hoffman, junior operator, *S. S. Santa Teresa*; Milton Dreyfus, *S. S. Exanthbia*; Carlos E. Dorsey, chief operator, *S. S. Santa Teresa*; Howard F. Williams, chief operator, *S. S. Iroquois*; Thomas Nugent, to *S. S. Nnoko*; Milton C. Roth, junior operator, *S. S. Jefferson*. William A. Smith, Jr., to *S. S. Fairfield*. Ernest H. Cole, chief operator, *S. S. City of Birmingham*; Earl H. Davis as junior; William J. Carey to *S. S. Montgomery City*.

Two operators have been discharged

for leaving their respective ships without notifying this office.

RADIOMARINE M. R. I.

The surprise of the month at 326 Broadway—from the murky depths of obscurity issues a whisper from the MRI shop. It introduces the boys who, in the serene atmosphere of our plant and to the accompaniment of an occasional harmonious song by our trio, convert "has-been" spark transmitters into powerful tube sets of every shape and size.

Walter Hewston, our big supervisor from the sticks of Metuchen, N. J., disclaims responsibility, but he is always on hand when the boys are stumped and they all admit he knows his stuff and is a regular guy. Our singing trio of which Munson, Cannon and Bullock are the members, can knock gloom out of any shop—even Pop Miller says so, and wants to know why they don't broadcast. "Shorty" Klein, who has been at home ill, insists they are a lot better than many radio entertainers he has heard. Schneider, busy retrieving old receivers, doesn't say much but we notice that he removes the ear muffs long enough to listen.

Gent. Siteman, our whispering hope, has lost his voice but he still makes a lot of noise—and golly, what a line. "Now back in '08, I had a pistol," but the story is long and besides he is busy on B-1s. Jack Cannon with his "wrap it up" banjo eyes is working on the row of seven P-8s.

Al Bullock, alias Archie, is back on P-8s. His favorite fruit is an apple. Bill Willey is sojourning at the court house, doing jury duty. Al Munson is doing a solo on 2 KW Navy Standards. Let's hum one, boys, he says, and the pace is on.

Great Lakes Division, Radiomarine

CLEVELAND

THE Carferry *Marquette & Bessemer No. 2* has gone into commission, marking the beginning of the 1950 season on the Great Lakes. W. P. Wickmann, a new man, has been assigned to the *M. & B. No. 2* as Purser-Operator.

Charlie Blue has rejoined our forces to assist in aircraft work. Charlie was formerly on MRI. We are all glad to have you with us again Charlie.

L. P. Lewis was transferred from Marine to Aircraft. We have not yet quite figured out how Louis can wiggle around in the tail end of a plane—one more problem for Jerry.

We always have doubted FJ's ability as a public speaker—but we believe now that his services will be in demand.

Construction soon will begin on our Detour, Michigan, station. Call letters W A A. An ET-3626 and an ET-3655 will be installed. Walter Love, former Second Trick man at WCY will be in charge.

Floyd Gray of the National Air Transport, Radio Department, recently entertained the RCA and NAT families at his home, and everyone had a most enjoyable time. Mr. and Mrs. Gray's hospitality was keenly appreciated, especially because it afforded the opportunity for the two "families" to become better acquainted. We must not forget Smitty's hospitality—his acquaintance with the farmer helped.

A. G. Amerski, Harold Smith, Peter Rice, Horace Clark and Walter Love will manage WCY, WBL, WGO and WAA respectively. Clyde Richelieu, formerly Second Trick at WBL, will transfer to WRL as Second Trick man,

with C. H. Stevens as Third. We expect to see friend Newt back at WCY as Second Operator and Eilwood Fisher holding down Third. R. G. Nelson and George Thompson are expected to assist at WGO as Second and Third and Elmer Fritz and Elmer Webster at WBL.

CHICAGO

D. S. Little and his assistant, G. I. Martin, who guide the activities of the Great Lakes Division, changed planes at Chicago recently enroute to Cleveland from the International Air Exposition at St. Louis.

Kenosha, Wis. again was brought into the limelight. This time the radio equipment of the *SS Illinois* was the means of information to Steamship officials that the *SS Petroskey* (not equipped) was disabled and drifting helplessly off Kenosha, due to engine trouble. Just by fate, or call it what you may, the *Illinois* came upon the *Petroskey* in the wee small hours of the morning and towed her into Kenosha. Wade C. Cole is the operator aboard the *Illinois*.

L. W. Bear, former operator of WEDC and recently one of the operators of WIBO, accepted a newly created combination Purser-Operator assignment aboard the *SS Bainbridge*. R. S. Turner re-installed the equipment in the Purser's office. The change put Sam Lapinsky on the beach.

Delmar DeHart, operator of the *Alabama*, has centered his social activities in Muskegon. Vague reports indicate DeHart is much in demand as a social bug. Keosaqua papers please copy.

H. G. Ende has finally migrated to New Orleans. It is probable Mr. Ende will prove to the Gulf Division that our former references to him in these columns were quite correct. As a near

poet he is a better pharmacist and much better as an operator. No doubt his Chicago friends, mostly femmes, have sighed over his absence—mostly sighs of relief.

By the time this appears in print, at least we hope, the new Short Wave transmitter will have been received and installed in WGO. The transmitter will be one of the latest 200 Watt models.

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Philadelphia, Radiomarine

THE following service changes were made at this office in February:

Thomas E. Lipscomb of the *Wm. Boyce Thompson*, was relieved by James Robert Gall, a new man in the service.

Thomas P. Henderson, another new man, relieved Jacob Horwitz on the *Gulftrade*.

Arthur S. Mattes returned from vacation, is again on the *Olean*. His relief, Stanley Lowe, is now on the *Gulfpoint*, having relieved Harry B. Loree.

Arthur L. Robinson detached from the *Volusia* and assigned to the *Wyoming*.

Charles A. Luck was assigned to the *Volusia*, but due to illness was unable to sail and was relieved by Edward J. Wiest.

Herbert R. Happoldt assigned to the *Gloucester*.

Robert S. Johnston assigned as junior on the *Nantucket* while she carried passengers for one trip.

Elmer White has returned from vacation and rejoined the *Penmar*. He was relieved during his vacation by Rehn M. Mathers.

Henry A. Bomberger assigned as junior on the *Ontario*.

Stanley I. Switzer detached from the *Dorchester* as junior operator and has been assigned to the *Losmar*.

Marvin Seimes detached from the *Delaware Sun*, having relieved Lewis J. Schucht for one trip for vacation. Schucht has since returned with a much depleted bank roll.

Harry J. Mills assigned to the *Bohemian Club*, relieving John W. Murray, who is now on the *Gulfwax*.

Edwin M. Hollis assigned to the *Habira*, relieving Jay Lopez.

Charles H. Hess assigned to the new Sun Company tanker *Chester Sun*.

Edward J. Wiest assigned to the *Commercial Quaker*, relieving B. P. Burnham.

Halbert G. Reid detached from the *Losmar*.

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Pacific Division, Radiomarine

SAN FRANCISCO

WE had a very pleasant visit from T. H. Mitchell prior to his departure for Honolulu. We are sorry to lose his active support of Radiomarine activities on the Pacific. We welcome his successor, Sydney A. Blank, who was formerly connected with the RCA Communications at San Francisco. Mr. Blank's previous experience in the marine field will make him a valuable man for the south.

The M. V. *Frank Lynch* resumed service after a short period in the shipyard. S. S. Loomis went out as operator. We imagine Loomis will be well versed on cannibals, hula girls and so forth by the time he returns from the South Seas.

Otto Smerker returned to the tanker *Richmond*, relieving C. S. Simmons.

O. A. Johnson resigned as junior op-

erator on the M. V. *City of Panama* and accepted a position at KPH station. G. H. Wiley remained as chief and P. O. Hillsman was assigned as junior operator.

G. R. Much resigned as purser-operator on the Gulf Line vessel *Point Reyes*. He was replaced by W. P. T. Nottingham who is more popularly known as "Black Narcissus."

The *West Cusseta* of the South African Dispatch Line, was laid up for repairs and operator C. I. Seibert detached.

D. W. McInturf (God's gift to the radio profession), sailed on the S. S. *Point San Pablo* as purser-operator.

The P. A. B. Liner *West Ira* returned to port for repairs and operator A. R. McKinley was detached. He later sailed on the *West Honaker* for South African ports.

R. E. Madden returned to the fold and went out on the S. S. *Manoa* as junior, relieving A. L. Teeple who resigned from the service.

Boyd Faley relieved operator Alfred Kiep on the steamer *Mani*.

SEATTLE

The new motorship *Northland* recently went into commission on the Alaskan run. E. P. Winch is purser and a Roy Campbell freight clerk. Incidentally both of them are also operators. The centralized broadcast receiver phonograph arrangement has worked out very successfully on this vessel.

W. E. Hamilton, formerly of the *James Griffith*, relieved Simon Rambeau on the *Pomona*. Dewey Davis was assigned to the *James Griffith*. John Kella relieved Davis on the *Commodore*. The *Diamond Cement* went into commission, with F. Beers still holding down the job.

Operator R. J. Gleason has been

handling a very busy station in the Arctic Circle, as you no doubt have noted from the articles appearing in papers all over the country, covering the lost aviators in the Arctic. Gleason is operating the ET-3628 on the *Nanuk*, frozen in in the same vicinity where the *Elisif* was lost last year.

Chuck Huntley, of *Elisif* fame, is looking forward to joining another Arctic fur trading expedition, early this summer.

F. E. Scaife is making one trip on the *Catherine D*. He will later transfer to the *North King* as purser-operator.

The Mason brothers, Bob and Roy, will hold down the communication department on the *Catherine D* for the remainder of the season. Clayton Jaeger has been assigned to the *Redwood*, as freight clerk-operator. Purser-operator position on the *Mary D* will again be filled by Leland Dunlap. Robert Stark will rejoin the *S. A. Perkins* when she next sails.

District Manager Street was designated and represented the Thirteenth Naval District at the Naval Communication Conference held in Washington, D. C., recently. While in the East, Lieutenant Street had the pleasure of visiting headquarters in New York, and also meeting several of the East Coast District Managers.

* * * *

Baltimore, Radiomarine

GEORGE STREET, District Manager at Seattle, Washington, was a recent Baltimore visitor. Lieutenant Street has been in Washington, D. C., in connection with a Naval Reserve Conference. We appreciate your visit and trust you will pay us a longer one next time.

Inspectors Kipp and Rosan installed a converted type B-1 tube transmitter on the Munson steamer *Munlisto* last month. Inspector Kipp also recalibrated the direction finder on the inter-coastal freighter *Willkeno* off the Virginia Capes.

District Manager H. R. Butt, of the Norfolk office, was a visitor last month while en route to New York on business.

John H. Wahlberg is back with us again for several trips to Cuba on the tanker *Delecto*.

Russell G. Davis has been assigned to the fruit steamer *Annetta*. Howard M. Shade joined the Shipping Board steamer *City of Alma* which vessel was recently recommissioned at Baltimore. Julian S. Johnson took assignment on the Boston District steamer *Quincy*. Edwin D. Stein re-entered our service, taking assignment on the Bull Line freighter *Lillian*. Thomas D. Baker was assigned to the *Volusia* when this vessel was recommissioned recently. Clarence F. Buse relieved James A. Wilcox on the tanker *Hoxbar*.

James Doyle, a recent RCA Institute graduate, has joined the freighter *Yorkmar*. Joseph J. Kares is on the tanker *Walter Miller* in relief of Charles A. Schroeder. Charles A. Thoman joined the *Quaker City* when Edwin W. Oligney transferred to the *Cold Harbor*. William W. Purvis is another to come back. Purvis joins the *Balsam* relieving Malcolm J. MacDonald, who returns to Boston.

Irvin Uhlfelder, after several months ashore, is back with us again and can be found on the tanker *Beta*. His predecessor, Jacob Strumpf, returned to New York for reassignment. Benny Wolfe ended his holiday vacation by joining the *Munsomo* in relief of William J. Carey. Carl E. Mattson, now

traveling service representative for Baltimore District, RCA-Victor, was another recent office visitor. Matt tells us he is much pleased with his new work.

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Gulf Division, Radiomarine

NEW ORLEANS

SHIP station assignments and transfers include: C. F. Beckman from the *Nosa Queen*; M. A. Brailmont to the *Cody*, relieving F. W. Tatlock; T. R. Harrison to the *Castana*, relieving A. J. Teeter; J. F. Bondi as senior to the *Comal*, relieving J. H. Edwards, who was assigned as senior to the *Tegucigalpa*, relieving J. E. Spence; R. R. Miller to the *West Campgaw*; W. W. Evans to the *Kosmos*; C. F. Bodenmann from the *West Zeda* to the *West Madaket*, relieving W. M. Cline; C. F. Bush, Jr., to the *Nosa King*.

L. B. Markowitz has resigned from the *Munorleans*, reporting to New York for reassignment; C. O. Carlson from the *Nashaba*; A. Stengard has assigned to the *Pioneer*; D. F. O'Brien to the *Derbyline*, relieving T. F. Millar, who resigned; L. H. Graves from the *Scantic*; O. B. Cashion to the *Shenandoab*; B. F. Beaumont from the *Princeton*, which vessel is now in dry dock; O. P. Simon to the *Munindies*, relieving H. J. Rosenberg; L. P. Johnson from the *Venator*, resigned; H. A. Jurgens from the *City of Joliet*.

G. L. Browning has been assigned to the *Harvester*; W. H. Castleman to the *Wawa*; Henry Reiter is entering the service with assignment to the tug *Adler*; L. L. Jordan from the *Bayou Chico* to the *John Worthington*; R. W. Bradley from the *West Quechee*, and T. J. Murphy from the *City of Weatherford*, both of these vessels laying up.

GALVESTON

This town has been in the midst of the yearly Gala Carnival. His Majesty, The King of Mirth, arrived via airplane, accompanied by the roar of the entire Third Attack Group. The arrival was quite impressive and was followed by a military parade through town and to the City Auditorium where the Mayor presented him with the key to the city. That was followed by a street parade and the Queen's Ball. Mac and KN scurried all over town, searching for invitations to the Queen's Ball and, from last reports, they took the Tuxedos out of the moth balls. We attended also a big Masquerade Ball and will have more to say later on, if we are able.

Assignments and transfers for the month follow: F. T. Unruh, after making a short trip to New Orleans on the *Coaxet*, where this vessel laid up, has been assigned to the *Endicott*; relieving J. R. Ordning, who is going to try his luck ashore for a while. T. H. Brown to the *Lake Gaither*, relieving B. L. Case, resigned. W. W. Dodd to the *Editor*, relieving H. G. Cooper, who is reporting to Baltimore for re-assignment. E. Halper to the *Eldena*, relieving Max Mealy, resigned. E. Halper detached from the *Judden* when that vessel was placed on idle status. S. A. Sanders transferred from the *Edgemoor* to the *West Tacook*, relieving R. A. O'Neill, Jr. L. T. Dehmlow transferred to the *Edgemoor* from the *West Ekonk*, when that vessel laid up; F. L. Dietz resigned from the service.

PORT ARTHUR

The operators at WPA wish to express their thanks for the efficient relay help given by the operator of the *E. R. Kemp*. Speaking of relay help,

by the time this goes to print the static season will have started in the Gulf. When the static season first starts it seems to be the habit of operators in the Gulf to go off watch when the static gets extra bad. In other words, they have to get re-acclimated before they can stand the noise. We admit that the noise is not very pleasant, but during such extra bad static spells we need you more than any other time. Especially while from 100 to 300 miles from the station during heavy static a great assistance can be rendered us by picking up traffic in the East Gulf.

When the tug *Robert P. Clark* recently went aground off Galveston we were able to give excellent service because the operator, H. J. Derryberry, stood constant watch for more than 24 hours. Whenever a ship is in trouble it is the duty of the assigned operator to stand a very close watch. Trouble does not happen very often and loss of a little sleep can be made up later. A brilliant operator recently asked us if sandpaper came under stationery or material.

Ship station assignments and transfers for the month were: D. Silverstein to the tug *Empire*; P. H. Daniels to the *Solitaire*, relieving J. T. Mixson; P. H. Cranston to the *Barge Socony 83*, relieving D. D. Knox; R. D. Huffman to the *Solitaire*, relieving P. H. Daniels, who resigned; C. H. Whitiner to the *Trinidadian*, relieving R. J. Matthias, who will take off two trips.

KEY WEST

The winter season is nearly over and the *North Land* is returning to Boston, taking with her K. B. Mooers as chief and D. M. Daley as junior. We are sorry to see them leave this garden of the U. S. A. and hope they can be with us again next year.

(Continued from inside front cover)

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America Has the Background for World Leadership

ADVANCING from its brilliant attainments in the World War, the United States is faced squarely today by the question whether it shall forsake as obsolete the 'non-entangling' rule of our national childhood" and assume the responsibilities in world affairs which its undoubted capacity invites, General James G. Harbord told members of the Ohio Chamber of Commerce in an address on March 20 in Cleveland on "The Background for American Leadership."

"Shall exercise of the talent for leadership be allowed to promote its growth," General Harbord asked, "or shall it atrophy in the field of international relations for lack of use? One or the other must inevitably happen. Have we the self-restraint and tact necessary to enable us to use this gift outside our own boundaries? These are questions for which representative bodies of fine American citizens, such as yours, must provide the answer."