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Great Radio Election Service

THE broadcast of the election results on November 14 will undoubtedly go down in radio history as the most sensational and outstanding public service so far given by radio in New Zealand. Allowing an average of approximately 6 people to the set—and in the backblocks and country districts, where hundreds would be invited to listen, this average would be low—it seems certain that not less than quarter of a million people, but more likely half a million, would know the full results directly by radio on that evening.

The course of events swept aside some part of the planned programme. The demeanour of the crowd outside the "Dominion" newspaper building was not favourable to permitting the Prime Minister to deliver his remarks in such form as to be most perfectly audible to listeners. Sir Joseph Ward and Mr. H. E. Holland, leaders of the United and Labour Parties respectively, were unable to be present, although definite invitation was extended. Each preferred to be in his own electorate on the occasion.

PARTICULARLY good work was done by the Electoral Department, under the Registrar-General, and by the Post and Telegraph Department respectively, in compiling and forwarding the results. The organisation for making these results available to listeners with the utmost rapidity was effective, and as a result a record, we think, was established, in that by five past one on Thursday morning the actual position of the 80 seats was known and a summary of the party strength available.

WITH the closing of the polling-booths at 7 o'clock, it was expected that early results would be available within a few minutes of that hour. Accordingly the full staff necessary for coping with the position was on hand before 7 o'clock. The organisation prepared was as follows: In the electoral office, situated in the Post and Telegraph Department, provision was made for a direct telephone into the office of the "Radio Record," and other newspapers interested. A number of direct telephone wires were also installed from important local booths to the "Dominion" newspaper office, the object here being to avoid delay in the receipt of local results. For the purpose of informing the crowd assembled outside the building, a loudspeaker system, installed by Standard Telephones, Limited, was linked up with the 2YA broadcasting system, so that all announcements put over the air were also heard by the huge crowd assembled at the junction of the three streets outside the "Dominion." This area proved admirable for handling a big concourse, and at an early hour was absolutely packed with humanity. An estimate only can be given of the strength of the crowd, but it is believed that it would range from 20,000 to 25,000 people. Newspapers

in other parts, notably, the "Star," Auckland, "The Lyttelton Times," Christchurch, and others followed the same idea and enabled some crowds of thousands of people to hear 2YA.

GOING on the air at 7 o'clock, a general announcement was made covering the poll and arrangements effected. At 7.14 the first result was to hand—a small booth in Wellington South. For half an hour following scattered results only were received, but at about 8 o'clock, as anticipated, a steady rush developed, which was maintained practically without cessation till nearly 10 o'clock. Two telephones covering both local results and the telegraphic results received from the Postal Department, were busily occupied with scarcely a breathing-space. As a result, the slips of paper recording each result steadily mount-

ed in front of the announcer. Infected by the enthusiasm of the moment and the sight of the accumulation ahead of him, the announcer at this stage, it is feared, somewhat accelerated his rate of delivery, with the result that a number of telephone rings were received requesting a slightly slower pace, to permit of results being recorded. It is trusted that no undue inconvenience was occasioned listeners by the rapidity with which these results were given at this stage. Listeners must appreciate the fact that the conditions were strenuous, and the desire was to attain the greatest rapidity possible in disseminating the news.

The Crowd Addressed.

AT intervals successful and unsuccessful candidates in the Wellington seats appeared to address the crowd from the balcony of "The Dominion" Newspaper Building. On such occasions a special microphone installed on the balcony was used. The noises of the crowd—the applause, the cheering, the booing, as the attitude to the candidate dictated—were conveyed over the air to listeners, thus transporting them in effect to the scene itself. Of course, while these speeches were going out, accumulations

—(Continued on page 2.)

Advance the Radio Banner.

SCORES of letters and telegrams have flowed in to the Broadcasting Company conveying congratulations upon the successful demonstration given on election night of the value of radio. The keynote of most of these letters, particularly those from the country, where neighbours were invited in, was the "eye-opener" the evening was as to the utility and value of radio. This atmosphere offers a splendid opportunity to dealers everywhere to "advance the Radio banner."

(Continued from page 1.)

of results were taking place. At every break in the speech-making, attack would be resumed on the results. Periodically, as opportunity offered and any breathing-space occurred, a description was given of the crowd.

From 10 o'clock onwards the pressure eased to some extent, and final returns, instead of progress reports, became more prolific. At this stage the defeat of the Government became clear, and the demonstrations of a large Labour element in the crowd outside, at each successive Labour victory, became pronounced. As the majority of Labour successes were won in compact constituencies with good facilities for communication, their results tended to be available earlier than those of scattered rural constituencies. The effect of this was that in the early evening Labour at one stage held 14 seats, while Reform had but 7. Gradually, however, as returns from distant constituencies came in, the Government Party began to creep up, draw level with, and finally substantially pass, the Labour total. The race with United for supremacy continued neck and neck throughout the evening, until finally at five past one in the morning a last result—a dead-heat as it appeared then—was announced.

In the Thick of the Fray

FROM some points of view, those in the thick of the fray were too close to describe the result from the listener's point of view. It is hoped, however, that listeners were able to receive the information readily and successfully, and follow the fluctuating fortunes of war with clearness.

Substantially the same organisation as that described in respect of 2YA and "The Dominion" newspaper was repeated in the other centres. In Auckland gratitude must be conveyed to the "New Zealand Herald" newspaper for its co-operation; in Christchurch to the "Lyttelton Times" for its help; and in Dunedin to the "Evening Star" and the "Otago Daily Times." The result of the co-operation between the newspaper Press and the radio service was of distinct advantage to listeners, by placing them in an unrivalled position for prompt knowledge.

One novelty of the evening was the passing of a radio motion—the first in New Zealand history—at approximately 9 o'clock. This took the form in

effect of an appeal to unlicensed listeners to recognise their obligations to licensed listeners, and enrol, so that the extra revenue thus derivable should be available for improvement of the radio service to the benefit of all concerned.

Complete Broadcast by 3YA

IN Christchurch, the part that radio played on election night was demonstrated to a remarkable degree. There were few receiving sets idle in the city on that occasion, even people in proximity to the Square preferring to listen-in rather than stand in the crowd before the results boards. Yet that concourse was enormous. From the "Lyttelton Times" building to the Cathedral was a dense mass of humanity, with all faces turned towards the result boards before the newspaper offices, and with ears listening intently to the loudspeakers.

All results came from 2YA by radio, and the newspaper offices took full advantage of the opportunity. 3YA worked in with the "Lyttelton Times," whose news-gathering service, especially in the matter of local results, was organised to the last word. Local and Dominion results were broadcast within a few seconds of their reception at the office.

And how was it all done?

For the occasion, one of the type-setting rooms became "Station 3YA." All announcements and practically all the operating was done from there. This room was on the Square frontage. Outside the window was the platform on which was the lantern. As results were received a card was sent to the writer of the lantern slides, who was at a table near the announcer, to whom the card was then passed. In this way results were broadcast to listeners before they appeared on the screen, and the cheers of the crowd followed.

LOUDSPEAKERS also conveyed the news to the crowd in the street, and these same loudspeakers magnified the voices of the candidates when returning thanks. A cordial invitation to speak had been sent by the Broadcasting Company to all candidates, and there was a generous response. All the candidates spoke from the plat-

form in front of the results board of the "Lyttelton Times." Two microphones had been installed there, one for the purpose of the loudspeakers, and the other for broadcasting to listeners.

It was not by any means a safe "possie," this platform in front of the results board. An announcer found that out early in the evening, when endeavouring to introduce the "crowd" effect into the evening broadcast. In Christchurch there is a limit to the period that an egg will keep fresh, and it would seem that a culling out takes place on election day, when the owners hastily get rid of those not wanted.

THERE was a mass of radio apparatus transported by 3YA to the "Lyttelton Times" office—batteries, amplifiers, microphones, a "mixer" for the microphones; in fact, a complete exchange. There were three pairs of telephone lines from the studio operating room to the "Lyttelton Times." From the switches these lines ran to four microphones. Along one line from 3YA the complete 2YA transmission was received, and it was possible to put it on the air at any moment. This was done several times during the evening, notably in the case of the Prime Minister's speech, and of the resolution moved and carried concerning the unsportsmanlike action of using unlicensed sets.

It was possible to put any transmission on the air without using the loudspeakers in the street, or to use the street loudspeakers without broadcasting on the air, if that were desired. It was also possible to communicate from the street microphones to the temporary studio, and a telephone connected the temporary studio with 3YA. Altogether, it was an intricate lay-out of wires.

Appreciated in Auckland

THE trans-Tasman flight, the Armistice Day rebroadcast, and other important events in New Zealand radio history drew crowds round every loudspeaker in the Dominion, but never yet has there been that concourse that swarmed wherever there was a radio set on Wednesday evening. The public were quick to recognise that the best way in which to receive earliest news of elections was to have recourse to the excellent radio service provided by the Broadcasting Company. It is rather a pity that they did not also recognise that there was some obligation upon them to assist that service by becoming licensees themselves. Perhaps that aspect will appeal to them now that the excitement of the contest has simmered down. If the New Zealand radio service needed a good advertisement it secured it last week, for as far as conveyance of results was concerned, the 1928 one was essentially a radio election.

EVEN to Aucklanders, Wellington was the premier station on Wednesday night, and during the later hours 1YA tuned in and rebroadcast 2YA, so that provincial listeners here could hear all the latest details from the capital city. Conditions were first-class for the effort, and no set-owner could complain that he was not served with the greatest efficiency. The pandemonium which occurred following the Prime Minister's appearance at "The Dominion" office, provided a most vivid

demonstration of the vividness with which broadcasting can convey impressions, but the noise itself was generally regretted, for everyone was agog to hear the head of the Government and what he had to say after a most exhausting campaign.

THE local newspapers found the radio service a great help in the quickness with which it provided them with results. Each office kept a constant listening service upon 2YA, and, as figures were given out from that station, they were rushed on to the various screening devices for the information of assembled street crowds. Through a "public address" outfit supplied by Radio, Ltd., to the Auckland "Star," 2YA itself was made audible to a crowd of at least 15,000, the announcer's voice carrying distinctly to all of them. This is probably the biggest crowd that has ever listened in New Zealand to the output of one receiver. They greatly appreciated the successful innovation.

Listeners Grateful

Taken to Morere.

PERMIT me to congratulate you and the Radio Broadcasting Company on your election night broadcasting achievement. You practically brought the "Dominion" building to my lounge at the Morere Hot Springs Hotel, and my many guests had nothing but praise to express on the wonderful manner in which the results and the proceedings were broadcast. Wishing you every success, and trust you will be rewarded, if only to bring those on the "mat" who are receiving without being licensed.—E. B. Shortt (Morere).

Even Heard a Whisper.

PLEASE accept mine, and friends', appreciation, of your radio service on election night. To put it mildly, it was magnificent. We picked you up at 7.15 p.m., and we did not miss one single word until you closed down. (We ever heard someone whisper to the announcer about a telegram and Ward!) The numbered list was a great boon, and, taken all through, everything was O.K. Reception was perfect; there being not a blemish all the evening, and to those friends who listened-in it was an eye-opener. I feel I cannot let the occasion pass without thanking you and your staff, especially the announcer, for your efforts.—C. H. Cleaver (Reefton).

I HAVE been tempted on several occasions in the past to write to your valuable paper, to thank the Broadcasting Company for a specially fine performance, but these have been so

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often that I would have been writing too often, and as I am not given to letter writing for publication I have refrained, but I felt after the way the election results were put over, in common fairness, we, the licensed listeners, should show our appreciation. If every one who was listening in heard it as clearly as I did, then I am sure you will be getting quite a number of such letters. The announcer deserves the highest praise for the way he kept the listeners entertained practically without a break, with election results and music, from 7 p.m. till 1 a.m. I have been listening in from the inception of the new station 2YA, and I can assure you I am one of the many satisfied listeners. There have been many outstanding broadcasts from 2YA and the other three stations, particularly the Maori pageant, flight of the Southern Cross, and, in fact, many others. I feel that a repetition of the Maori pageant broadcast would be greatly appreciated by all listeners.—Satisfied Listener.

Pleased at Kaikoura.

IN sending the enclosed list of names of a few people here in Kaikoura who were more than pleased at the broadcast of election results, I might say that no matter what political party was successful, the Radio Broadcasting Company was triumphant in its efforts to convey to the people of New Zealand the results of the polling as soon as it was humanly possible. I was running two sets on demonstration last night, and had a big crowd round both till the very last minute of 2YA's closing down. Throughout the broadcast of the results it was plain to us here that the great crowd in Wellington was listening to your voice and not watching the results board, as the cheers always followed your announcement of results. Thanking you

once again for this service, and also for the wonderful Tasman flight broadcast, which also drew a big crowd.—L. Workman (Licensed radio dealer, Kaikoura).

[Then follows a long list of listeners thanking the company for the service given on election night.—Ed.]

Asked the Neighbours In.

WE listened-in to the election returns last night, with twelve neighbours, and wish to say how much we appreciated the well-organised evening. The reception was excellent, and our thanks are all for Mr. Announcer, who we all realised had a most strenuous time. An evening like this does more for radio in the back-blocks than anything else.—R. W. Wallace (Kakatahi).

Auckland Notes

(By "Listener.")

VARIOUS radio competitions exercise an indubitable fascination for a large body of listeners. The attractiveness of the two mystery nights at 1YA has already demonstrated this, and interest promises to be even keener when the "popularity" competition eventuates on Wednesday next. So many who tune in regularly have most pronounced opinions upon the types of musical fare which they like that the evidence gained from their opinions should be of the utmost value. There is no doubt that the expression will be tendered freely.

IT has been really a wonderful week for Auckland radio folk. 1YA achieved further distinction on Armistice evening, and during the small hours of the following morning, when it brought London within the range of audibility of tens of thousands who had never heard the like before. In the city next day the reception of 5SW and its re-broadcast was a topic of general conversation, and congratulatory messages were showered upon the station and its staff. The generally expressed desire was "Do it again." There is no doubt that 1YA will, as soon as a fitting occasion offers, for one success is bound to lead to others. As a result of several most meritorious achievements during recent weeks, dealers are looking forward to an increased radio trade for this Christmas season, and no doubt they will experience it. Broadcasting is digging itself in impregnably.

A New Service

Unique Dealer Move

AN entirely new departure in radio service is being made by Mack's Radio Co., Ltd., 77 Kent Terrace, Wellington. From experience gained in the heart of the industry in U.S.A., Mr. McCarthy (Mack) has accumulated a fund of knowledge that equips him to handle practically any radio problem, and, in order to give sound and unbiased advice to both listener and dealer, he is selling off his present stock of sets and will, in future, de-

vote his activities largely to service and advisory work.

There is indeed a wide field for him to exploit in this direction. Not infrequently a set is sold by a dealer whose knowledge is perhaps not complete, and, if any one of the number of possible adjustments may become necessary and is not given immediate and satisfactory attention, another disgruntled listener condemns radio, the dealer and the station.

The home constructor or experimenter will do well to avail himself of the unique service now offered. Circuits and their component parts, giving every satisfaction overseas, may not always measure up to expectations under New Zealand conditions, and, in this phase in particular, "Mack's" advice, before commencement of work of this kind, will be found invaluable.

For the dealer who is contemplating a franchise for a new and untried

line, the same service is available. In short, "Mack" is now offering to New Zealand listeners and dealers his wide and comprehensive knowledge. No restrictions or conditions are imposed. Whatever the radio problem—service, construction, installation, adaptation or adjustment, and irrespective of by whom it is propounded—Mack's experienced counsel is now at the command of all.

Statics!

A reader writes: Recently our little girl, aged nearly four, was sitting at the piano banging the keys, and singing. Unknown to her, her mother was listening, and when the girl had finished, she (the child) said: "This is 2YA Wellington." She then gave a bit of a cough. "That's statics" (static), she said. Not bad, eh?

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Development of Wireless in Australia



NOTABLE developments have taken place lately in Australian broadcasting. Six months ago there were in Australia eight broadcasting stations designated "A" class; the revenue collected from listeners' license fees was divided among these eight. To-day, seven of the "A" class stations are under united control. The eighth is 4QG Brisbane, which is owned and operated by the Queensland State Government.

From the beginning of broadcasting in Australia, the two principal stations, 3LO Melbourne and 2FC Sydney, were owned partly by the same interests. For years the rivalry between 3LO and 3AR Melbourne, and between 2FC and 2BL Sydney was keen—at times almost bitter—and the competition certainly had the effect of stimulating the companies concerned to give listeners their best.

The Royal Commission on broadcasting held last year was asked by many interests to recommend that the Commonwealth Government take over broadcasting in Australia. This advice was not acted upon by the Commission, which, however, pointed out the necessity for the companies to co-operate at least to the extent of not duplicating their programmes. Nevertheless, until recently, complaints continued to be made that 2FC and 2BL sometimes broadcast jazz music, talks, etc., simultaneously. A few months ago the Postmaster-General, whose Department supervises broadcasting, urged upon the proprietors of the various stations the necessity for co-operation.

Station Amalgamation.

LATELY things have happened rapidly. First 3LO Melbourne bought up GWF Perth. Perth is the smallest capital in Australia, with the exception of Hobart. In the whole of West Australia, only 3740 listeners' licenses have been taken out. 3LO Melbourne, with its greater revenue, has been able to send comparatively highly-paid artists on the two thousand miles' journey to 6WF, and the programmes of this station have in consequence been greatly improved.

In Tasmania broadcasting was in a bad way; with revenue from less than 3000 licenses to keep 7ZL Hobart in operation, the programmes left much to be desired, and most Tasmanian listeners depended upon the mainland stations for their entertainment. 7ZL, however, has now been acquired by 3LO, and here, too the position has improved. A month ago it was announced that in future 3LO would also control 5CL, the South Australian station at Adelaide.

In the meantime the directors of 2FC and 2BL Sydney had been in conference, and first "co-operation," then "amalgamation" was announced, the New South Wales Broadcasting Company being formed to take over the two stations. Now arrangements have been made for the Melbourne and Sydney interests to combine, bringing under unified control all the "A" class stations except 4QG Brisbane.

One result of the amalgamation has been to facilitate an interchange of

artists, and many listeners have welcomed the new arrangement. In the past neither 2FC nor 2BL Sydney felt justified in incurring the expense of a high-class orchestra. This has now been done, and the New South Wales Broadcasting Company's Symphony Orchestra is really a delight to listeners to both stations. At present the new orchestra consists of sixteen performers, and it is to be strengthened to twenty-six.

The five-year licenses of the "A" class station will all expire in about twelve months' time, and the Government has been asked to renew them.

Future Control.

IN July the Commonwealth Prime Minister, Mr. Bruce, announced that the Federal Government is to take over at valuation the plant, equipment and mechanical means of broadcasting of all "A" class stations and relay stations. The provision of programmes will be let out on three years' contract by the Government, but the Postmaster-General will have full power, should the programmes not be up to standard, to withhold a portion of the fees payable to the contractor, or to cancel the contract.

The system so far adopted—that of paying to broadcasting companies a proportion of the listening fees—had generally worked satisfactory, it was stated, but because of the greater concentration of population in some States results had been irregular. Applications will be invited for the provision of news and entertainment for

the whole of Australia on three-year licenses, for which payment will be made on the basis of a percentage of the license fees received.

THE mechanical work of broadcasting will either be carried out by technical organisations under contract with the Government, or the station will be leased to the entertainment contractor for the period of the contract. It is proposed to give all "B" class stations which do not participate in license fees equal opportunities to "get on the air."

Advisory Committee Appointed.

AN honorary committee has been formed; its members are: Mr. H. P. Brown, Director of Postal Services; Mr. Hammond, K.C., chairman of the Royal Commission on Wireless; Professor J. P. B. Madsen, of Sydney University; and Mr. W. H. Swanton, who was business adviser to the Postmaster-General during the first two years of the Bruce-Page Government.

The committee will advise the Government on regulations affecting broadcasting, on the location of main and relay stations, on research and its application, and will generally supervise programmes in the interests of the public. The location of stations, including relay stations, and of wavelengths, will be investigated, and continuous research will be carried out and financed with the balance of license fees, after payment has been made to the entertainment contractor.

A Federal election is to be held shortly—probably before the end of the year—and the National Government's policy will be challenged by the Opposition (Labour), which favours State ownership, control and management.

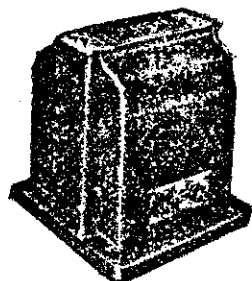
More Picnics.

Big Increase in Railway Returns.

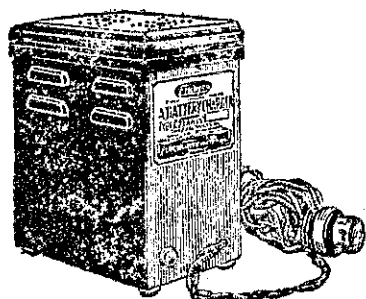
THE Railway Department announces that the steady growth in pleasure travel by train—week-end and day excursions—is indicated by the record traffic carried last year. Indeed the business has grown to such proportions as to warrant special provision being made to meet the public demand. Last year a trial was made of special half-fare week-end passenger trains to popular and accessible scenic resorts. Twenty-three thousand six hundred and sixteen miles were run by trains of this type, 21,634 passengers were carried with a resultant increase in revenue of £15,609. The excursions were so successful that a more generous programme has been arranged for the present summer season.

As a result of the provision of remarkably low fares and the removal of the previous restriction which limited organised school, friendly society, trade union, and other bodies' excursions to one annually, this traffic also showed a big increase.

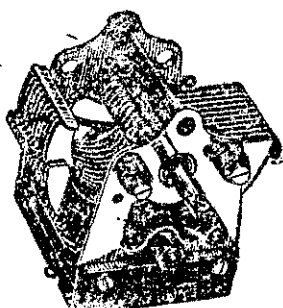
The present indications are that the "picnic train" will be one of the Railway Department's busiest agents during the coming summer season.



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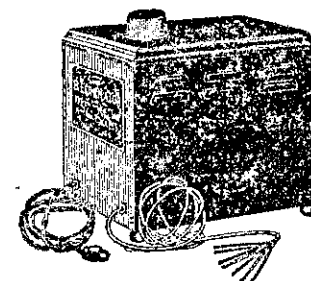
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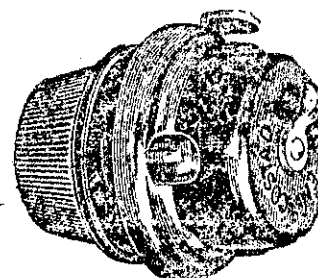
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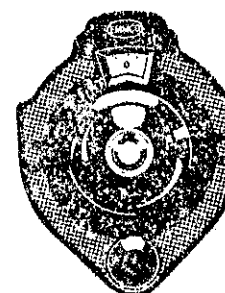
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Emmcostad.



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Radio Round the World

A WRITER to "Wireless Weekly" (N.S.W.) says: "The broadcasting of race results and talks by Mr. Ferry has become one of the most important features in the programmes of the New South Wales Broadcasting Co. Ltd. Mr. Ferry is one of the best known sporting journalists in the State and devotes his time exclusively to the collection of information for 2FC. His handling of the recent carnival brought forth hundreds of congratulatory letters from listeners in all over the States and New Zealand. The technical work behind the racecourse broadcasts also requires a great deal of attention and forethought." No wonder letters come from New Zealand!

THE number of stations deleted from the lists of broadcasters as a direct result of the notification to close down served on 164 American stations amounted to 36. All but 57 of the cited stations appeared at the hearings with witnesses and affidavits, and 21 stations filed affidavits by mail.

CONTRIBUTIONS ranging from fifty cents (2s. 1d.) to two dollars (8s. 4d.) were received by Tex Rickard as expressed thanks from members of the radio audience for making possible the broadcasting of the Heeney-Tunney fight. Rickard, upon receipt of these donations, expressed the opinion that they were evidence that the broadcasting companies have been receiving something good for practically nothing for a long time.

THE German Navy has fitted up an old cruiser as a sort of wireless hare. It has no crew, but is controlled by wireless. The engines are fed with oil fuel automatically. The idea is that this vessel shall venture forth and be blazed at by the fleet, while another ship, which controls her movements by radio, tries to keep her dodging the shells.

LICENSED broadcast listeners in Germany on April 1, 1928, totalled 2,234,732, as compared with but 2000 on January 1, 1924. The license fee paid by these numerous listeners amounts to 2s. a month each, and the Government budget for the support of the nine broadcasting stations maintained in that country amounts to £2,500,000.

STATION 2BL, Sydney, arranges for advertising during the news service, but this is unpopular, as the following extract from a correspondent indicates: "If the management of 2BL or the people for whom they advertise heard some of the things that are said about them by many country districts they would shrivel up like our present drought-stricken pastures."

PRACTICALLY every school in Pittsburgh (U.S.A.) has been equipped with a receiving set, and at specified times lessons on a particular subject will be broadcast to all pupils of all schools of a certain grade. Educational work of this nature has been carried on in England for several years. More than 4000 schools in London and Davenport are equipped to receive programmes radiated through the British Broadcasting network.

A NEW short-wave station has come on to the air; this time it is from a country not before heard on the short waves—Copenhagen, Denmark. It belongs to one of the leading wireless papers in that city, and is operated solely by the technical staff of this

periodical. The station is on the air on Mondays, Wednesdays, and Fridays, between 10.30 a.m. and 12.30 p.m. New Zealand time. The wave length is 78.5 metres.

UNTIL Commander Byrd establishes his base in the far south, the station at Prince Olaf harbour, South Georgia, has the honour of being the most southerly of radio-telegraph stations. It employs a 500-watt Marconi telephone telegraph transmitter, and is used to control the movements of whalers in Antarctic waters. Only during the summer is this distant station not covered with ice and snow.

AMONG programme innovations of the Toronto stations was a recent broadcast by CKCL of a lark which did its best to compete with the B.B.C.'s nightingale; another, is the institution of one-act plays by CKGW. "The Mayor and the Manicure," by George Ade, one of the first of such performances, proved so successful that a few days later it was repeated by the Canadian National Railways' net work.

SHOWING at a Sydney theatre at present is an excellent film, depicting the exploits of the German raider Emden, in the early stages of the war, until her final encounter off Cocos Island. The story is realistically portrayed, and truly shows the chivalrous side of that terrible struggle. In one part of the production, the wireless operator is shown, in the wireless room of H.M.A.S. Sydney, taking the information from Melbourne regarding the presence of the Emden at Cocos.

SOME idea of the tremendous cost of special "stunt" advertising programmes in the United States of America may be gained from the fact that a prominent motor firm insured their radio programmes against interruption of Morse signals at a premium of £600. The programme cost £200 per minute, lasted one hour (£12,000), was available to 30,000,000 listeners, and was served up by means of chain broadcasting in places as far apart as New York and Hollywood.

ANNOUNCING is evidently not the most pleasant occupation. The slightest slip of the tongue brings down the wrath of a people who realise the importance of the announcements. New Zealanders are already aware of this, but evidently our announcers are not unique in causing offence to listeners. A correspondent of an Australian paper writes strongly about the pronunciation of the announcers. "His daughter had come home from school very puzzled to know the proper way to pronounce 'Australia.' What she had been taught at school did not correspond with what she heard over the air. The writer, a teacher of elocution, enters upon a discussion on pronunciation, and ends: 'In my capacity as a professional, I find that few Australians can speak correctly—say what you will.'"

A GRATEFUL listener to "Radio Times," writes: We live in the country with no neighbours, and Sundays are awfully dull. The wireless

comes as a boon and a blessing to us. My husband, who is partly an invalid, enjoys the services. When we hear the great preachers of the day telling the old sweet story in a new way we feel much happier for listening. Then, again, we can only go to the theatre once a year when on holiday, so the short plays on the wireless are eagerly looked forward to.

ONE of the most gratifying features of listening, when the music comes from the studios, is the omission of clapping and the terrible demand for encores. Why should people demand encores? It is like asking the shopkeeper for an extra free supply of goods after having supplied what has been bought and paid for. It would improve the concerts if you insisted upon conductors outside the studios disallowing encores entirely. An encore spoils a good turn; a poor turn does not merit one.—H. H. J., Leeds, to "Radio Times."

THE erection of radio range-finding stations by the Department of Marine and Fisheries at Resolution Island and Cape Hopes Advance is nearing completion. These are the first of a chain of six stations which will be placed throughout the Behring Strait

in order to render navigation as safe as possible. Placed at different angles of the channel, the stations will keep in constant communication with ships. Navigators will be advised as to the exact position of their vessels and warnings will be given of ice floes. This will be particularly effective during fog.

"HARDLY a greater proof of the dependability and value of radio broadcasting could be given than the decision to utilise so extensive a network in the development of radio programmes. The adoption of radio broadcasting by an industrial organisation of the magnitude of this company is ample proof that radio is definitely accepted as an efficient and powerful method of maintaining contact with the public."

IT has been decided to have another radio and electrical exhibition in the Town Hall, Sydney, next year. The past exhibitions organised by the Radio Broadcast Bureau were so successful that the promoters have engaged all the floor space of the Town Hall, including the vestibule and basement, for the coming exhibition. Already the greater portion of the floor space available has been provisionally booked. For the last exhibition there were no bad debts, with the result that members of the Radio Broadcast Bureau were granted a substantial rebate for the floor space occupied by them at the 1928 exhibition.

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The New Zealand Radio Record

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WELLINGTON, FRIDAY, NOVEMBER 23, 1928.

THE ELECTION SERVICE.

WE think it will be agreed on all sides that the broadcasting of the election results on Wednesday night last took rank as the most outstanding service yet rendered by radio to the people of New Zealand. Thanks to the co-operation of the Electoral Department, the Post and Telegraph Department, and the Press of the various centres, results were made known to the general public by radio with unrivalled rapidity. The customary crowds congregated round the various newspaper offices in the main centres, where they were served not only by the usual result boards, but in some cases by loudspeaker equipment conveying the radio announcements, or by lantern slides which derived their information from the same source. In addition to the street crowds, many, many thousands of people elected to stay in the privacy of their own homes, where they were placed in immediate possession of the results without the inconvenience of street crowding. In Wellington it was quite a sight, even after midnight, to see the illuminated windows, revealing the unseen radio audience.

IT was in the backblocks, however, that the greatest appreciation of the service was experienced. Every radio set in the country on that night was surrounded, not only by the owner's household, but by neighbours from near and far; with the result that information was available even in the scattered parts which ordinarily would have taken a week to reach by the old methods of communication. The importance of the service rendered on the evening was intensified, of course, by the sensational nature of the result of the poll. It is outside our province to comment upon that result, but comment might be made upon the service rendered by radio in the transmission of the reception accorded the Prime Minister by the crowd in front of "The Dominion" newspaper building. This reception emanated from only a small section of the 20,000 or 25,000 people who fronted the building—probably not more than 500 of a certain youthful element participated in the demonstration. While that demonstration inflicted the immediate disability upon listeners of not completely hearing the Prime Minister, it did render the service of conveying an indication of the treatment accorded throughout the campaign to candidates not of the same class as the demonstrators.

SOME comment has been made at various stages of the campaign upon the failure to broadcast speeches of the leaders of the rival parties. This course was dictated by the regulations under which the Broadcasting Company operates, and not by any lack of enterprise on the part of the company. The pros and cons of the policy of broadcasting political speeches are debatable. Britain makes but slight use of radio for political purposes. In the United States, on the other hand, radio was used extensively in the recent Presidential campaign. The Democratic Party spent no less than £25,000 in purchasing 22½ hours' time over the most extensive radio chains for their candidate, Governor Al. Smith. Mr. Hoover's expenditure in

this direction was on a more moderate scale, although his more important speeches were broadcast. After listening to his final policy speech on the radio, President Coolidge wrote an enthusiastic recommendation of his candidature. In Australia radio is also used in the political arena, as New Zealand listeners who have tuned in to Australian stations recently have been fully aware. What the future may hold in regard to New Zealand's policy is uncertain, but we think a respectable body of opinion would welcome an amendment of the regulations to permit the leaders, at any rate, being heard over the air. This would provide the service of giving an uninterrupted explanation of policy to the whole country.

Wanganui Relay on December 7th

Programme to Appear in Next Week's "Radio Record"

IN next week's issue of the "Radio Record" there will appear the programme which is to be relayed from Wanganui, a distance of 125 miles by landline, on Friday, December 7. This will be the longest relay yet attempted by the Broadcasting Company.

The entertainment itself will be one of an exceptionally high standard. One of the vocalists will be Mr. Hubert Carter, a tenor who has a great reputation in New Zealand as well as overseas and who has not previously broadcast in New Zealand. Apart from him, all the other artists belong to Wanganui. They will be headed by the Queen Alexandra's Own Regimental Band, the champion band of New Zealand.

A long and diversified programme, every item of which will be a top-notch of its class, will be presented, so that the broadcast on the night of Friday, December 7, will be one of the most outstanding events in radio in New Zealand.

Trotting on the Air

Running Description of Hutt Meeting

SATURDAY next Station 2YA will broadcast the racing at the meeting of the Wellington Trotting Club at Hutt Park, from 3 p.m. Arrangements have been made whereby a brief description and the result of each race will then be put on the air. A brief resume of races run prior to that hour will be given before passing over to the Park.

This will be the first broadcast of its kind since the ban was put into operation some considerable time ago, and it is felt that it will be welcomed by all listeners interested in trotting, especially by those who cannot, because of health or other ties, attend the meeting.

"Musical Treat from 2YA"

Englishman Praises Orchestra

A LISTENER in a Wairarapa town writes:—

"May I offer my congratulations on your splendid wireless orchestra. Not only does the orchestra seem perfectly balanced for broadcasting, but the selections played are greatly esteemed and seem to answer the musical taste of the majority.

Before coming to the Dominion three years ago I lived in Bournemouth, where I had frequent opportunity of hearing the famous Bournemouth Municipal Orchestra, under the conductorship of Sir Dan Godfrey. Once a week it was broadcast, but over the wireless I consider your orchestra even superior.

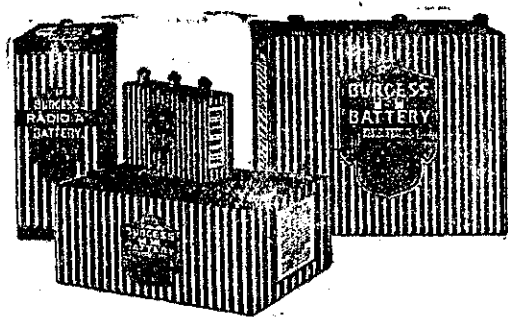
"I think New Zealand is fortunate to have such a musical treat provided, and it is greatly appreciated by many in this town."

All Ready?

This week sees the big £50 prize competition in full swing at the four stations. It is arousing great interest, and the result will be keenly looked forward to. The competition being to ascertain the popularity of radio items, great interest will be taken in what the analysis shows. The £50 prize gramophone has been donated by the New Zealand distributors of Columbia Products.

New Uncle for 2YA

IN consequence of the resignation of the Rev. E. Weeks, "Uncle Ernest," Mr. T. J. Melville will shortly take up the duty. He will be on the air on Thursday evenings. Mr. Melville is house secretary at the Y.M.C.A. in Wellington, whither he came from Queenstown.



**BURGESS
RADIO
BATTERIES**

A Delayed Intention

Amateur Society Discusses Question of Dinner Music

NO doubt due to the fact that the election was to take place on the following day, only about 30 listeners attended the monthly general meeting of the Wellington Amateur Radio Society, Tuesday last. However, the meeting was truly representative, there being ladies and several of the younger element present. Both ladies and young people are made very welcome at these meetings, and it is desired that more may be seen of them.

Mr. Byron Brown, president, in opening, made reference to a promise made by Mr. Ball at a farewell dinner to Mr. Owen, and expressed his intention of again reminding Mr. Ball, but before he would discuss it, asked for "grouses," as he was sure there were many who had some trouble to air.

Interference.

A COMPLAINT was voiced about electric line leakages in the vicinity of Daniel Street. It was seconded by others present, some adding that amateurs had continually made themselves a nuisance. These complaints, it was explained, should be directed to District Telegraph Engineer, G.P.O., who would no doubt take the steps necessary for their prevention.

Another complaint; a listener had been troubled with a station morsing on 2YA's wavelength. The complaint found numerous seconders. When it was suggested that a letter be forwarded to the secretary of the G.P.O. complaining about the warship, for such it was decided to be, the objection was raised that it was presumption to question the action of His Majesty's ships. A member, however settled that—"We once caught him sending cricket scores!"

Dinner Music.

WHEN everyone had been satisfied, Mr. Brown voiced his complaint: "At that dinner wine flowed, and perhaps when the wine is in the wit is out." A promise had been made to broadcast dinner music—Mr. Ball's promise had not been broken, it had been held over.

In explanation, the company's representative replied that when he made the promise he must have been affected by the approaching departure, certainly not by the wine (laughter). "However," continued Mr. Ball, listeners will remember that something happened shortly afterwards (April) which put quite a different aspect on the matter—10,000 listeners failed to renew their licenses. As for extras, no one could complain, and when the financial position warranted it dinner music would be provided.

The point was raised by Mr. Levy that the provision of dinner music would be a healthy stimulus to the popularity of wireless; it would have a healthy reaction, especially among the farmers, who had little other time to listen in. The position to-day showed that only a relatively small proportion of farmers possessed wireless sets. Farmers had to retire early, and the company in providing dinner music would be doing a good service. The

Australian stations 2FC and 2BL provided a dinner session, and it was very popular.

Mr. Ball, in promising to pass on the recommendation, added that perhaps a law could be passed requiring the cows to be milked by 6 p.m. to enable farmers to enjoy dinner music.

Mr. Taylor, honorary secretary, raised an important question: "If dinner music were introduced, what would become of the children's session, which is becoming so eminently popular with young and old?"

After some discussion, it was decided that a re-cast of the arrangements prior to 8 p.m. would have to be made.

It was finally decided that Mr. Ball be asked to convey the wish of the society that dinner music be introduced as promised.

Tribute to Uncle Ernest.

THE impending departure of a vice-president, in the person of the Rev. Ernest Weeks, was considered, when appreciation of his work and regret at his departure was expressed. This was formed into a resolution, unanimously adopted, expressing appreciation of the magnificent work of the Rev. E. Weeks, in the capacity of Uncle Ernest, for the children of New Zealand. The chairman said that as a radio uncle the Rev. Week's work was unparalleled in New Zealand.

All Electric Sets.

THIS concluded the business and Mr. Preston Billing, the speaker of the evening, was introduced. "All Electric Sets" was the title of the address and Mr. Billing presented an interesting lecture demonstrated by his excellent eight-valve "all from mains" set.

In outlining the history of wireless sets, the speaker contended that there were three distinct types:—Battery operated, electrified (using eliminators) and all-electric sets, using A.C. valves. In extolling the latter it was pointed out that when once put into operation these sets required no attention. They would operate from either 230 or 100 volt mains.

The principle of rectification was made clear, it being pointed out that there were two types of rectifying valves, whole-wave and half-wave rectifiers, this set made use of the latter. An unrectified A.C. could not be used by the valve elements.

A loop aerial was used to demonstrate the set and listeners were provided with a musical treat. "Unfortunately," remarked Mr. Billing, "the dynamic speaker I had planned to use is not working well, so that I must apologise for having to use an inferior speaker." At the end of a few minutes those present were wondering what Mr. Billing would term a superior speaker, for the reproduction was flawless. 2YA, it was declared, was "on its best behaviour," but as someone remarked, "can we, from our sets determine when it is off its best behaviour?"

A cello solo was in progress, and those present were of the opinion that little could be finer. 2YA's orchestra,

The Radio Pastor 1YA Musical and Dramatic Committee

WHEN the Rev. S. Parkes Cadman arrived at New York from England on the Majestic recently, he did so because he had been "called" to the largest church ever conceived by man. The congregation of this celebrated English-born divine will number many millions, every Sunday, scattered all over the United States between Florida and Alaska. Dr. Cadman's official title is now "National Radio Pastor," and he receives a stipend of £5000 a year. His ministry is non-sectarian—Protestants, Catholics, and Jews are all represented on the executive and financial committees organising this great movement of moral and intellectual appeal to the multitude. Such appeal will ultimately be made so that the wide-scattered audience will not only hear but (by means of television) will also see the minister. Arrangements for the broadcast and far-sight services are in the hands of the Federal Council of the Churches of Christ in America, representing upwards of 30,000,000 worshippers. Dr. Cadman's addresses, delivered on Sunday afternoons, are broadcasted by forty stations. He continues his past custom of answering questions sent to him through the post by his hearers. His service, which lasts ninety minutes, comprises music by a symphony orchestra recruited from the best musicians in the metropolis, with a choir of first-class singers. Actually present at each service are about 300 persons of prominence, invited by ticket to the studio auditorium of the National Broadcasting Company. Dr. Cadman is president of the Federation of Protestant Churches in America, which includes 28 denominations. He has been called the "American Solomon." Realising from the first the religious educational possibilities of wireless, he has every Sunday for the last five years been broadcasting services to 5,000,000 listeners. His replies to questions from listeners-in are reproduced in over 100 newspapers. During his recent visit to London, Dr. Cadman delivered a series of striking lunch-hour addresses at St. Martin-in-the-Fields, also broadcasting from 2LO. "There is to-day," Dr. Cadman told a newspaper representative, "far more real religion in the world and more silent heroism and self-sacrifice among the millions of the workers than people imagine."

Commander Byrd

COMMANDER BYRD, the famous Arctic airman, will be visiting Christchurch this week. He will be accorded a civic reception, and will lay a wreath on the statue of the immortal Captain Scott. The ceremony will be broadcast by 3YA.

it was remarked, was truly one of the best in Australasia.

Mr. Preston Billing answered several questions put to him and on completion was accorded a hearty vote of thanks.

Mr. Brown, in expressing his appreciation, said he was going to start right away to save up his pennies to have an all-electric set, so impressed was he by the demonstration.

A meeting of the 1YA Musical and Dramatic Committee was held on November 9. Mr. Karl Atkinson was in the chair. Others present were:—Mr. C. B. Plummer (Auckland Choral Society), Mr. L. Lambert (Bohemian Orchestra), Mr. C. R. Straubel (Students' Association), Dr. Kenneth Phillips (Society of Musicians), Mr. J. F. Montague (Auckland Comedy Players), Mr. G. T. Lee (Aeolian Orchestra), Mrs. Carr Tibbetts (League of Penwomen), Miss E. de Laney (Ainsley Operatic Society), Mr. S. J. Hayden (Station Director, 1YA).

Correspondence was received from the Radio Broadcasting Company intimating that they were pleased to adopt the committee's recommendations regarding the radio play competition and title competition, details of which have already been published.

A report was received from the company's Musical Director dealing with the question of the proposed 1YA Choir and the matter was referred to a sub-committee to be convened by the chairman for further consideration.

A report was received from the League of Penwomen in which the league intimated that it was willing to supply a monthly agenda of forthcoming lectures to the station for broadcast of such lectures as might be suitable. The matter is to be referred to the league's committee for confirmation and further discussion on the question of giving studio performances.

The question of Christmas programmes was also discussed and it was decided that a carol concert should be given preferably on Christmas Eve.

The committee decided to meet again on December 7.

Broadcasting and Education

BROADCASTING in co-operation with the Educational Department has done much commendable work in England. Of this important aspect the educational director of the Broadcasting Corporation said:—"Lecturers and school lessons are so successful that we are continually extending the programme. We include a nightly programme of brief talks to groups that assemble at convenient centres and listen-in. Universities and workers of the Educational Association wholeheartedly co-operate. One-eighth of British schools have sets to listen-in during school hours. Four years of experiments show that school talks should be slow and punctuated with frequent questions and pauses. Children follow with the assistance of illustrated handbooks which we supply at a nominal cost. The Board of Education encourages the wireless, particularly for outlying schools."

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NEW PLYMOUTH.

S-O-S

TRAVEL IN COMFORT BY CAR

WELLINGTON — PALMERSTON

What Broadcasting should do for Religion

In this article Dr. Archibald Fleming considers the possible influence of broadcasting upon the future of religion—and in particular the tremendous responsibility of the religious broadcaster.

I AM asked to say what, as it appears to me, broadcasting should do for religion. I confess to a first inclination to suggest that perhaps the shoe might be put on the other foot—that one might inquire what religion can do for broadcasting. Had this been the question, the immediate answer would have been: See what it has done already. It is not too much to say that it is largely because the spirit of religion in the widest sense has inspired and permeated the policy of the B.B.C. from the beginning that it has become, by common acknowledgement, the finest broadcasting system in the world. An always cheerful, yet steadily maintained idealism in everything—not merely in spheres theological and ethical, but in the educational, aesthetic and recreative departments as well—has given British broadcasting that unique tone and character of which all of us are so justly proud.

So much for what religion has done for broadcasting. But—"What should

broadcasting do for religion?" Perhaps I have been asked to attempt to answer this question because every year, since the beginning of broadcasting in this country (save in 1927, when I was ill), I have been allowed to give the midnight New Year message to the listeners at all the stations. And those who broadcast are the recipients of verbal and epistolary messages after their work is done which enable them to judge of its effect. It is my experience—and it is vastly supplemented by what I hear on all sides regarding the weekly or incidental religious services, the wonderful 10.30 p.m. Sunday "Epilogue," and the (too little known) 10.15 a.m. short daily service—that an untold number of listeners, and these of an infinite variety, derive benefit from those services, whether formal or informal, for which they hasten to express the most encouraging gratitude.

There was a grotesque fear at one time harboured that broadcast services

would empty the churches. The opposite has been the case; by vastly widening the appeal of religion, and often re-awakening long-dormant religious instincts, they have helped to refill the churches, and to nourish the already reviving interest in things appertaining to religion. There was, again, an equally unfounded apprehension that listeners might resent the obtrusion of religious subjects upon them. On the contrary, opposition has been still; and vast, unsuspected multitudes have shown that broadcasting is giving them that for which they had thirsted for long.

God only knows how many broken lives and hearts have been cheered and mended; how many half-made good resolves have been confirmed; into how many monotonous or sordid bread-earning jobs a glimpse of idealism, and the inspiration to raise higher the standard of duty and integrity, have been introduced; how many lonely beds of pain and how much weariness in outposts of isolation have been made less intolerable by the hearing of confident messages of patience and courage, of hope for this life and the life to come; how many pure and hallowed associations of earlier, better days have been revived—by the quiet, pervasive, vitalising power of unaffected, earnest utterances of religious import, sent forth, not without a prayer, from studio or pulpit.

So broadcasting has done much for religion. But it might do more. Some of those who are asked to use it for religious ends are not, perhaps, quite successful in visualising the vast audiences they address. They sometimes speak to them as if they were mainly made up of habitual churchgoers. They are not. They approach them as if they were versed in the jargon of theology, and familiar with the sequences of public worship. They are not. They address them as though they were academic intraining, deeply and widely read, interested in the controversies of the schools. In most cases, they are not. The vast majority are intelligent, but busy and often simple folk; working with their hands, or deep in the routine of shop or office.

Yes: but they have all within them the "human heart by which we live"; the spirit hunger from which all of us suffer; the frailties common to us all and the regrets or troubles so often consequent upon these frailties and downfalls. They all know what temptation is, what frustration is, and hope deferred. And they all have a longing, faint or strong, for some contact with the Unseen—though, perhaps only, at the moment, for the "touch of a vanished hand, and the sound of a voice that is still." It is to that universal cry—pathetic, heroic, or perhaps only commonplace—that the broadcaster must answer. Virtue must go out from him, as from heart to heart, mind to mind, soul to soul. Nothing that counts him nothing will be worth more than nothing. He must not preach, still less must he pray, at his unseen hearers. His pulse must—beat for beat—respond to theirs. If it does so, he will find that he has commended the "Love divine, all loves excelling," to the invisible multitude; for he will have communicated somehow his love and sympathy to them. And this Bread which he breaks for them will be no whit less than sacramental. For it will show forth his Lord's love to them till He come.

A New Chum's Complaint

IT is interesting to note the satisfactory increase in the licenses being taken out, and this naturally means that literally thousands of people in this country are "new chums" so far as wireless is concerned. I am one whose interest was sufficiently aroused at the time of the Southern Cross flight to urge me to invest in a six-valve set, but, like hundreds of other listeners, I wish to know something of the machine and "how it works." Thinking to be able to pick up something from current literature on radio, I find, almost without exception, that the newcomer is not catered for, and under the circumstances I consider you would be conferring a great boon to us newcomers if some simple, non-technical explanation were published occasionally of the various terms used in radio. For instance, grid leak, radio frequency, choke, condensers, parallel feed, plate, etc., etc., are all so much double Dutch to hundreds of new chums to wireless broadcasting, and I feel you would be filling a long-felt want if short articles were published each week in explanation of the various terms used, which would encourage those with the time and inclination to tackle building their own sets. Radio is by no means a simple subject to "get the hang of," but there does not appear to be any attempt to educate the vast number of listeners, many of whom, I feel sure, want to feel in a position to know something about the complicated machine that modern science has given them.

Hearty congratulations are due to the R.B.C. for the very interesting relay of the armistice service from 5SW. —New Chum.

[Every effort is made by us to cater for the newcomer, and with that object in view we published a few months back the "New Zealand Radio Listeners' Guide" (price 2s. 6d. or 2s. 9d. post-ed), covering, in 160 pages, practically all the information that should be available to a newcomer. This publication included a complete glossary of wireless terms. In response to requests for the very need you have mentioned, we republished the whole of that glossary throughout the "Radio Record." This has just been concluded, which possibly accounts for your not having noticed it in the "Radio Record." This edition of the "Guide" is practically exhausted, but it will be republished, with the necessary additions to bring it up to date, early in the New Year.

As a further effort to meet the requirements of the "new chum" in radio, we conduct weekly in the "Radio Record" a Beginners' Corner, where queries are invited to be submitted, and are dealt with in return. Our Constructional section is also designed to help those who wish to make their own sets. We quite appreciate the problem of the "new chum," and as far as possible we are catering for it along these lines. You will understand, however, that with a continued supply of newcomers entering the ranks of radio, it is impossible to keep repeating all the essential matter that it is necessary for the newcomer to absorb. The ground, however, is covered as well as possible.—Ed.]

No other Radio Set can Equal it.

The "Courier" Three

The Simplest to Operate

Logs the Greatest Number of Stations

Mr. Harrison, of Lower Hutt, writes:—

"Auckland, Wellington and Christchurch are heard every night on the loudspeaker; Christchurch and Wellington during the day; 2BL on phones every night from 7.30 N.Z. time, later on speaker. Short waves: 3LO (Monday mornings). 2ME during the Eucharistic Congress was excellent on the speaker both for volume and clearness during the day and evening; there was very little fading on any occasion. My Courier Three is indeed a wonderful set. It is in first-class order.

A. HARRISON,
Lower Hutt."

£19/5/- buys the marvellous 3-valve "Courier"—the most up-to-date Radio Set on the market.

The set that employs no troublesome coils and the only radio set sold in N.Z. which the mere flick of a switch will change from broadcast wave-length to low-wave reception.

Why miss the wonderful opportunities that can be attained on a "Courier" 3?

The
"Courier"
"Brings tidings from afar"

If your local dealer cannot supply you, write to us and we will see that you are immediately supplied.

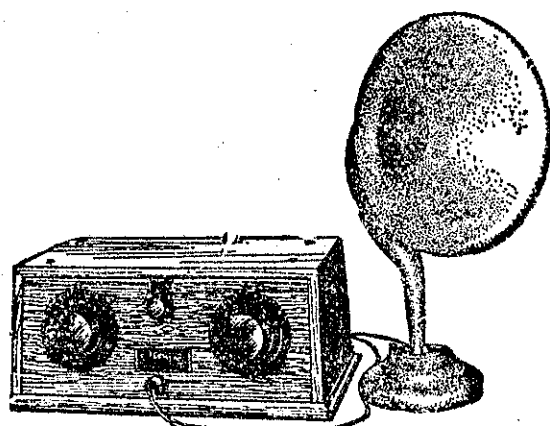
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THE 5 valves used in a five-valve receiver cover four distinct functions, high or radio frequency amplification, absorbing two valves, detection or rectification carried out in one valve, followed by the first stage of low or audio frequency voltage amplification, and the final valve provides what is called power amplification.

Tuning In

TO listen to Mr. Dawson's lecture, the listener had to tune in to a wavelength of 420 metres. The transmitting aerial on Mount Victoria was being traversed by waves or rapidly fluctuating currents. A simple analogy was taken. These waves were compared with the familiar snake made in our young days with a rope. With such a rope it is possible to get several waves along its length at one time, and the term wavelength compares with the distance from one hump in the rope to the next. If the humps in the rope were 420 metres apart the rope would roughly represent 2YA's carrier wave when no one was talking into the microphone.

Now, just as with a rope snake, the distance of the humps of the wave were apart depends upon the rapidity with which the end of the rope is agitated. The measure of rapidity is called the "frequency" and in simulating 2YA's carrier wave one would require to shake the rope up and down some 714,286 times per second. We alter our receiver tuning dials until the receiver is most responsive to this particular frequency of 714,286 vibrations per second.

Modification of the Carrier.

NOW the energy transmitted by 2YA is not on nearly as simple a form as the rope comparison so far. That merely deals with the carrier wave. Now when a person speaks into the microphone variations in microphone current in sympathy with the tone and inflexions of the voice are caused. The frequency of these current fluctuations will vary between some 200 and 4000 per second. Now these slower or speech frequency fluctuations are impressed on the carrier wave and carried by it.

Suppose in the rope snake the person at the far end starts shaking the rope at a frequency corresponding to audible voice tones then the original shape of the rope waves will be considerably modified and represents roughly the character of the transmitted energy from 2YA's aerial.

Therefore in our receiver two widely separated frequencies of vibration, namely, that of the carrier wave some 714,000 times per second and the voice frequencies varying between, say, 200 and 4000 per second, are dealt with. Vibrations of 714,000 odd are inaudible to the human ear and to differentiate between them we call the carrier wave frequency high or radio frequency and the speech frequency low or audio frequency since the latter are audible to the human ear.

Radio Frequency Amplification.

NOW to return to the receiver. In the receiving aerial voltage fluctua-

Previous lectures of Mr. Dawson have dealt with valves in the abstract. On a recent evening Mr. Dawson, engineer of Philips Lamps (N.Z.) Ltd., took up a new attitude and dealt with the different uses of receiving valves in a set.

tions are induced similar to those in the transmitting aerial. The purpose of the first two valves in a five-valve receiver is to amplify or strengthen these extremely feeble voltages without changing their character in any way. So these are called high or radio frequency amplifiers. The strengthened voltages are applied to the grid circuit of the next valve, the detector, whose purpose is to strip from the main carrier wave or snake the slower vibrations impressed by the speech. The radio frequency energy does not get beyond this point in the set, but the speech frequency or low frequency voltages are impressed on the grid of the next valve through an audio frequency transformer, and they are amplified and impressed on the grid circuit of the power amplifier valve. Now the purpose of this valve is not to amplify or increase voltages as in the radio frequency amplifiers, but to use those amplified speech frequency voltages to cause large fluctuations in plate current, which fluctuating currents flowing through the windings of the loudspeaker reproduce the sound of the voice accurately—that is, if correctly controlled.

Other Sets.

FOR those who do not operate five-valve sets let us explain for a moment the functions of the valves in your set.

If a single valve set is used the valve acts principally as a detector, but in nearly every case—that is in regenerative sets—it acts as a radio frequency amplifier as well by use of the principle known as regeneration.

If the set is a two-valve one, the first valve is almost certain to be a detector and radio frequency amplifier as in the case of the single valve set, while the second valve is a power amplifying valve.

The usual three-valve set has a detector followed by a stage of audio frequency voltage amplification and by a stage of power amplification.

Four-valve sets nearly always use the first valve as a radio frequency amplifier the second as a regenerative detector, the third as an audio frequency voltage amplifier, and the last valve as a power amplifier.

Six-valve sets may use two or three of its valves as radio frequency amplifiers followed by a plain detector, next one or two stages of audio frequency voltage amplification, and finally the power amplifier.

True, some six-valve sets operate on the superheterodyne principle, and the functions of the valves differ from those just sketched out. The scope of these articles does not permit dealing with special types of receivers in which but a limited number of listeners are interested.

Seven and eight-valve sets have additional radio frequency and audio frequency voltage amplifiers, the last valve in all cases acting as a power amplifier.

Purposes of Valves.

NOW, as the different valves in the set serve widely-different purposes, it follows quite logically that the valves in the different sockets can be designed specifically for the job they are to undertake, and that a "general purpose" valve to work in any of these sockets must of necessity be a compromise in design.

To fit a set with general purpose valves throughout is therefore to deny the set the chance of showing what it really can do. One does not buy the entire family stock of footwear of the same size and pattern merely because they are to be used by members of the same family, no each pair is chosen for the particular needs of the wearer and the particular time when they are apt to be worn.

The valves in the set deserve equal consideration in their choice and the main aim of this and succeeding articles is to enable the listeners to make intelligent choice of future valves for their sets.

Examining the Stages.

Commencing at the input or aerial end of the business, and working through to the loud-speaker, examining each stage, will be examined in turn.

Taking the radio frequency amplifiers, then there are usually two of these valves, the output of the first usually being fed into the second through a radio frequency transformer. This transformer consists essentially of two coils of wire: that containing the fewer number of turns being included in the plate circuit of the first valve, and the other winding forming part of the grid circuit of the succeeding valve.

Although there is a step up ratio of turns from primary or plate coil to secondary or grid coil, practically no voltage increase takes place in the radio frequency transformer itself, so that we are almost entirely dependent on the valve alone for the amount of amplification obtained in this stage. Consequently, to obtain maximum results a valve with a large amplification factor is needed. This is, however, not the only factor concerned, because wherever energy is transformed from one circuit to another, the relative impedances of valve and coil have a decided effect on the voltage transferred to the second circuit.

Now most high amplification valves have a high impedance. This is not in itself a serious objection in a radio frequency amplifier, but the number of turns provided in the primary winding of the transformer is frequently insufficient to enable a high impedance valve to work to full efficiency through this particular transformer.

This could, of course, be rectified by adding more turns to the primary of the transformer, but where a receiver has been built for low impedance valves in the radio frequency amplifier, it is obvious that making this alteration will not appeal to the average owner.

Consequently in some receivers full advantage cannot be taken of a high amplification factor, high impedance valve. Under these circumstances it is wise to choose the valve that combines the highest amplification factor with low impedance. It is possible to get valves with an amplification factor as high as 15 and the impedance yet under 7000 ohms.

Howling.

THERE is one further point in connection with the choice of a radio frequency amplifier and that is the means adopted in the set to keep the radio frequency from oscillating, and distorting the reception and annoying our radio neighbours.

The substitution of a more efficient valve in a radio frequency socket may make the set uncontrollable, in such a case do not discard the better valve, but have a competent person reneutralise the set to take the better valve.

Turned Anode Coupling.

WHILE most sets use this transformer to couple the valves together, and are referred to as transformer coupled sets, there are some which use a different system known as "tuned anode" coupling. The primary and secondary windings in this case combined into one winding tuned by a condenser.

With tuned anode coupling the impedance of the coupling is high and it is not detrimental to use a very high impedance valve, provided the amplification factor is correspondingly high, the impedance of such a valve may rise to 30,000 ohms and the amplification factor be as much as 35.

Our next talk a fortnight from tonight will deal with detectors and audio frequency amplifiers. In the meantime I wish you good-night.

In his next lecture on Saturday, November 24, Mr. Dawson will deal with detectors and audio frequency amplifiers.

LEARN LIVE MUSIC.



If you can already play the piano, learn to play it, like your favourite dance pianist. Dance music must be syncopated to be successful—not merely played as written. BILLY MAYERL, the world's greatest syncopated pianist, can make any pianist a brilliant dance musician—BY POST.

Send three penny stamps for booklet to the representatives—

Billy Mayerl System,
400Y Hereford Street,
CHRISTCHURCH, N.Z.

2YA will broadcast records by Billy Mayerl on November 26th to 30th inclusive.

The Spirit of Man's Steady Conquest of Nature

FROM 3YA, recently, a particularly thoughtful address, on the meaning or spirit of man's now frequent conquests of Nature in diverse realms, was given by Mr. E. Hitchcock. The address was based upon incidents in connection with the Southern Cross flight, and we think worth reproduction in full.

WE probably have reason to be thankful for the fact that we cannot realise the full magnitude of events through which we are passing. This is true of any happening of great moment, whether of disaster or triumph. Were it not so some periods of life might be too exacting for human endurance. The Tasman flight has claimed our attention in New Zealand, and particularly in Christchurch. Four men have crossed the Tasman in a period little more than between sunset and sunrise. They landed amid the plaudits and enthusiasm of a great concourse of their fellows. Enthusiasm for their achievement was boundless, but just why it should be so is not readily expressed. Subject as they were to all the ordinary human limitations and needs, the flyers immediately sought rest and sleep.

Later the city accorded them a civic reception. The Chief Magistrate, the Government, the Opposition, a scientist, and a flying officer expressed the representative welcome. The four flyers spoke in reply, and their words were heard throughout New Zealand and Australia.

In their remarks these men modestly belittled their achievements and jollied one another. An unduly emphasised £2000 grant from the Government was quietly put in its proper perspective. Bantering reference was made to the protest from organised religion against their possible arrival on a Sunday. Reverent tribute was paid to the men who, before them, had tried and failed. A fierce contest with elemental nature was described with terse brevity. The heroes were then taken away to a civic dinner.

WERE these doings worthy of the occasion? Is the feeling warranted or unwarranted that the true significance of the event has not been perceived with sufficient clearness? Have not great occasions some significant message for us? Should the apparently care-free lightness of the heroes themselves deter us from thinking around their achievement somewhat more seriously? Should we fear the gibe "Don't fuss or moralise. The men themselves do not hold lofty post-mortems on the flight." This is a subtle sophistry which, if unduly heeded, might easily kill all vision or expression of vision.

This amazing achievement has a significance. It should be sought out, pursued, and perceived. To do so is not the function of the men who flew, and to say so is no reflection upon them. Men of action have ever left for their fellows much food for thought and it is one of the best tributes to heroism and great achievements to seek out their full meaning and strive

to see them in their true relationship to life.

The flyers, the representatives of Government, Opposition and civic authority, the protest of organised religion, and the angry chorus of counter protest, present a picture of exceptional interest.

THE flyers availed themselves of certain human knowledge of Nature's laws. They added human organisation, intuition, and courage, and thereby extended the application of that knowledge to a wider field by a new achievement. The civic authority applauds the achievement, and expresses the pride and admiration of the city, which, as the point of destination, receives added fame. The Government sees the military and commercial possibilities, and expresses Imperial approval and financial appreciation. The Opposition acclaims the achievement, endorses the pronouncements of the Government, but points out that it does not always do so, and thereby uses an occasion of great moment to emphasise its political identity. The scientist perceives all "the patient searching after hidden lore" which has preceded and made possible the perfection of the mechanical instrument of the flight. Emboldened by the past, he looks into a future of unlimited possibilities. The flying man welcomes and applauds the achievements of brother flyers, and sees the possibilities of the development of the machines under controlled and directed administration.

The protest of organised religion, and the vigorous rebukes administered to it, add a perplexing and regrettable touch. This increases the difficulty of rightly apprehending the magnitude of the achievement, and the amazing possibilities it foreshadows.

RELIGIOUS and non-religious people (both terms are loose and indefinite), unreasonably persist in grouping all life as sacred and secular. They are unheeding of the fact that tribute and honour and worship are paid to unseen power in an infinite variety of ways, by an infinite diversity of human creatures. These men whom we honour, recognised that they had to overcome certain limiting laws of nature by the application, embodied in their plane, of certain other laws of nature. Knowledge of these latter has been won by the persistent sustained effort of the human mind by faith, and by achievements as daring as that of these airmen. Their faith in these laws, and the powers behind them, was no mere formal acquiescence in a creed. They staked their lives on their belief, and that is a high degree of tribute, if not of worship. The laws of physics, chemistry, and mechanics, upon which the aeroplane is based, are confidently believed to be as inexorable as the law of

gravity which it appears to overcome. These men "saw wonders over the deep," not only in the elemental and relentless forces of Nature which menaced them so alarmingly, but equally in the relentless but controlled and directed forces which enable them to triumph.

So viewed, the flight is not a secular achievement, threatening to trespass on sacred traditions or practices, but is nothing short of sacramental in the faith to which it gave expression, and in the operation of the powers which did not fail that faith.

That the human instruments, through whom these powers operated, do not themselves acclaim this view, need not perturb us. Continually everywhere, human agents are being used by a power that they neither identify nor acknowledge, in terms of our limited accepted form of recognition. In this, as in other cases, shall not their faith be accounted unto them.

IT does not follow that the recognition and observance of a particular day is suggested as out of date, or of no avail. The failure to perceive, or the difficulty in perceiving, the sacred and sublime in such an achievement as this flight, indicates how much we need the help and encouragement of such a day—some specific time allotted to an endeavour to understand this "great scheme of things entire." The mistake appears to lie, not in advising people to recognise a day of some special moral and spiritual import, but in limiting the spiritual to that day and its observances.

In our modern social organisation, the observance of a precise day is violated at every turn. The whole community is dependent upon services which involve regular Sunday work. As life becomes more complex, the observance of simple rules as a means of giving expression to moral principles, becomes less practicable. At the same time, moral and spiritual laws must find expression in some kind of outward and visible observance. The outward form is not without value, but the inward principle is of greater value. Of equal value is it to perceive that the desire to defend what is believed to be right, is vital to all human life and progress. This desire gave rise to the protest. It crossed a popular interest, and required courage. The flyers, greatly daring in a high endeavour, appeared to conflict with the

principle enshrined in our Sunday observance; but the courage that achieved, and the courage that defended a principle, are not unrelated, and certainly less in conflict than might appear.

THE airmen, the administrators, the clergy, the scientists, are actuated by motives and are carried on by faith. If any one, more than another, should be able to perceive the divine in all spheres of life, it should be the representatives of organised religion. Might we not look to them, not only to uphold those outward observations which express inward principle, but also to direct us in recognising the divine in every new application of science, every new triumph of Nature's laws directed and controlled, against Nature's laws elemental and uncontrolled, and in all the affairs of man.

"Not by Sabbaths alone, not by science alone, not by bread alone, shall man live." "Not the narrow pane of one poor creed can catch the radiant rays that shine from countless sources."

THE Tasman crossing, in completing a triumphant trans-Pacific flight, opens up possibilities imperial, commercial, and military, of a significance difficult to realise. None of these is greater, and perhaps none less realised, than the possibility of still more light on the relation between God and Man and Nature. Science alone without the spiritual qualities of faith and courage, could not have achieved such a triumph. More and more man is being entrusted with divine power. More and more forces natural, and forces spiritual are being related and associated. Every fresh step in man's mastery of nature unknown, by nature understood and applied, is evidence of a royal power. By whatsoever name we name the object of our allegiance, may we not, at each new evidence of such power, confidently and triumphantly exclaim:—

"Behold your King!"

THE upheaval in the distribution of wavelengths and power allotments is to come November 11. The eastern United States is most affected, but the Federal Commission has certainly cut a wide swath out on the coast too. New log books are going to be in order and Dx'ers will have the fun of finding their favourites all over again.

Mullard
THE MASTER-VALVE

The only Valve with the wonderful P.M. Filament. Gives longer life — more power — greater volume.

Correspondence.

A LARGE number have written in asking interesting questions. Owing to pressure we are compelled to hold these over till next week, when they will receive attention.

While being perfectly ready to help anyone in difficulty, we ask that owners of factory-made sets refer these problems to their local agents for the set. Many correspondents are now sending set diagrams. This is a wise step and saves a great deal of trouble. Remember, be specific. Above all, don't forget the stamped and addressed envelope. No charge is made; we make only this one request. The right to answer any question in the columns we reserve, so correspondents should watch the corner carefully.

Quite frequently questions referring to constructional articles will be answered in "Tips and Jottings." Questions referring to the identification of stations and general questions will be answered in "Answers to Correspondents," under "Our Mail Bag."

"Artificial" Static.

I have a four-valve receiver, with a good horn speaker. This set is in no way connected to the electric light in my house, yet when I switch on the night in any room I get a crackling in the speaker.—J. Levin (Christchurch).

[This probably is caused through a slightly defective switch. When pressed into operation the bridge is not completely formed, and a little arc of electricity jumps from one point to another. This arc causes vibrations, which are picked up by the coils of the receiver and amplified to give the noise you speak of. Examine or have examined the switches in the house.]

Distortion in the Set.

IN nine cases out of ten, distortion of some form originates in the set. We refer particularly to sets which are home assembled, or good factory sets which have been in use some time without adjustment. A good set installed by a reputable dealer is not liable to cause trouble for some time, but, sooner or later, some small fault arises which needs attention if pure reproduction is required.

The causes of distortion are many, but the following hints may save a good deal of unpleasant reproduction.

(1) See that the batteries are kept within the prescribed limits of voltage and amperage, not neglecting grid bias.

(2) Make certain that the valves are suitable. The makers of valves recommend certain valves for certain places. Keep them in these places. In general, high amplification valves are in the Radio or High Frequency side, while the last valve has usually quite low amplification, but requires high plate voltage and correspondingly high grid bias.

(3) Don't exceed the amount of plate voltage recommended.

(4) A receiver worked at oscillation is not worth while. Signals are invariably distorted.

(5) See that the flexible lead from the speaker running to the B+ output terminal is the one marked positive (+) or coloured red. Speakers wrongly connected become gradually demagnetised and cause distortion. In our issue of November 2 a method of determining polarity of speaker leads was discussed.

A Corner for Beginners

By Observer

Notice to Beginners and Correspondents.

- (1) Readers in difficulty or who have solved a difficulty which may be of interest to others are invited to write to us.
- (2) Questions of general interest will be answered in these columns, those referring to construction will be referred to "Pentode."
- (3) All questions inviting reply must be accompanied by a stamped and addressed envelope, for individual reply.
- (4) Address all correspondence "Observer," Radio Record, Box 1032, Wellington.
- (5) Where a query refers to trouble which cannot be located the following information should be given:—
 - (a) Name and model of set if factory made.
 - (b) A diagram of layout if home constructed.
 - (c) Particulars of valves, voltage, and grid bias.
 - (d) As many other details as readily available.

(6) To the constructor:—Do not place transformers or coils too close. The interaction will spoil the signal.

(7) Overloading. There is only one thing can happen if very strong signals are fed to a weak speaker—chronic distortion. Conversely, a powerful speaker used with a weak set will give unsatisfactory reproduction.

Some constructors consider a speaker a permanent investment, to be used for the one valve amplifier and with every additional valve till they have a super six with maybe a pentode fed from an eliminator. No; it simply won't do—this speaker must be capable of taking the volume supplied, likewise the final valve.

Radio Reception.

THE following advice from "Wireless Weekly" is for the growler who says radio is not what it should be. "Radio reception is better to-day than ever it was, but few listeners really take advantage of the improved conditions—and, of course, there is a great deal more to be done."

"Listeners, in general, comment most unfairly on our broadcasting stations and receiving conditions—whilst actually it is the listener himself who is at fault."

"A great many people have receivers that have passed or seen their day in early broadcasting and still continue to think they should get good results such as those possible on present-day receivers. If reception is not good, these people blame all noises due to loose connections, dust, dirt, rundown batteries, and other causes to poor old static, and yet do not service their sets in the least."

"Listeners must keep up with the times as broadcasting stations do. Improvements and changes in our broadcasting stations are having a marked effect, but old receivers are not capable of the lifelike reproduction that is possible to-day."

"Radio reception is what you make it."

Sizes of Condensers.

CORRESPONDENTS from time to time ask for the number of plates

in the different condensers. Here they are—the approximate capacities only can be given, as size of plates vary: It is to be understood that the spacing between plates is with one-eighth washers: 85 plates, .0015; 57 plates, .001; 43 plates, .00075; 29 plates, .0005; 19 plates, .0003; 13 plates, .0002; 7 plates, .0001.

When a condenser has only five plates, it is generally termed "Vernier," and is used in conjunction with some other variable condenser.

Fixed condensers run as follows, assuming the dielectric to be of mica: .002 inches thickness; 7 foils, each 2 inches x 1 inch, .001 mfd.; 14 foils, same size, .002 mfd.; 21 foils, same size, .003 mfd.; 2 foils, half inch by three-quarter inch, .001 mfd.; 5 foils, half by three-quarter inches, .0003

mfd.; 3 foils, 2 inches by 1 inch, .0005 mfd.

Crackling Noises.

DURING stormy weather, the aerial is likely to snap, and this will produce very weak signals or no signals at all. Intermittent signals accompanied by crackling noises may be caused by branches of trees coming into contact with the aerial, or by the aerial touching a wet building. The aerial must at all times be kept well away from trees and buildings, and all connections to and from the lead in insulator (if used) should occasionally be cleaned with sandpaper.

Hand Capacity.

MANY set operators, especially those who assemble their own outfits, are troubled with what is termed hand capacity. It is found that on tuning in a station the signals come in at full strength but when the hand is removed they are lost. Undoubtedly, the easiest way to overcome this is to reverse the connections on the secondary tuning condenser. In other words the moving plates should be connected to the ground. By doing this the parts of the variable condenser that are near at hand will be reduced to zero.

If, for some reason, this connection does not overcome the effect the panel should be shielded. Do not allow the metallic parts of the condenser to touch the shield, which should consist of a sheet of tinfoil fastened to the panel with some adhesive, such as shellac. This shield should be connected to earth.

Bypass Condensers.

A BYPASS condenser should always be across the "B" battery. This should be mounted within the cabinet and serves to reduce the effective length of the battery leads from the set to the battery. It is most important in a set using one or more stages of radio frequency amplification or where the battery leads are exceptionally long. A 1 mfd bypass condenser should be employed.

TWO loud-speakers working in series will very often give a more pleasing result than would either one of them alone.

Special Railway Concessions for Picnic Parties

Happy indeed are the memories associated with that popular institution, the "picnic train"—sunshine, happy faces and joyous laughter.

Here are a few examples of the remarkably cheap return fares for picnic excursions arranged by schools, business houses, friendly societies, trades unions, etc.:—

	CHILDREN. (Up to 15 years.)	ADULTS.
9 to 12 miles	7d.	1/3
21 to 25 miles	1/-	1/10
46 to 50 miles	1/11	3/3

Communicate with the nearest Stationmaster, Passenger Agent or District Manager for full particulars.



Youth at the Helm

MISS KATHLEEN O'BRIEN is to be congratulated on the success of her dance recital, given in the Wellington Opera House, for the funds of long-delayed, but now imminent, National Art Gallery.

Very lovely looked the tiny tots in their too short turn, as with nods and becks and wreathed smiles these charming children carefully played their pretty parts, Littlest One of All bringing down the house as she went through grave gyrations, chivalrously shepherded the while by debonair small brother, the two irresistibly reminiscent of the sweet, gay verses of Mr. A. A. Milne.

For tableau and entertainment, Troy Town burlesque held infinite possibilities, not fully exploited by the grown-up members of the cast, who at times appeared in dire doubt as to what to say or do. The small children in the playlet, however, were delightful, showing commendable team spirit and

working whole-heartedly and happily for the cause. Sweet was Wendy, and Peter Pan graceful and puck-like, a lisson sprite; while glad girls fluted a song or two, and dance items of variety and charm were introduced.

In the rest of the programme, much admired was the dark-haired, shapely interpreter of "Humoresque"; and everyone applauded skipping-rope turn and "Danse Russe" by a youthful follower of Terpsichore possessed of inherent talent and grace; the whole recital being a pronounced success, both for artistic accomplishment and the large "gate" money assured.

Youthful Fashions.

THERE is a young man making women's dresses in Paris who claims to be the youngest dressmaker in the capital. He says also, that he cannot help it. He feels young, thinks youthful thoughts, and since he expresses his thoughts in dresses, he naturally creates young styles.

What is more, he makes clothes which are essentially suited to the women of his generation. If older women can wear them, so much the better, but youth is his preoccupation.

His sport clothes are simple in line, intricate in detail. With soft, bright colours he combines the kind of sport ensembles which are now being worn, and have been worn all summer long on northern and southern coasts.

He takes a blue jersey, and works into it two or three more blues in patterns which are geometrical in a crazy way. He uses bright red, dark red, with grey and black, he has many green ensembles, and to everything he makes he gives that young-self-confident appearance which is so charmingly modern.

Short skirts have a spring at the side, a flare at the front, tight hips, and a jumper which clings to the figure in a soft yielding way. Belts are used and scarves be long, and there are long coats, short coats, and cardigans, with sleeves and without. The great thing to remember about these clothes is their almost insolent youthfulness.

Cookery Corner

Good Boiled Puddings

THE great aim in boiled puddings should be to consider the digestibility, wholesomeness, and attractiveness of the sweet to be served; also to consider what other food the boiled pudding is to follow, and—a very important factor—what is to follow after the boiled pudding. For example, if it is soft or jammy, that would leave the mouth in a very unclean condition and tend to encourage decay of the teeth, so it should be a rule to have some cleansing food to finish with—e.g., fruit, salad, or a little bit of stale bread cut in very thin slices and baked in a slow oven.

Above all, remember that if you are not leading an active life you should avoid puddings, or indulge in them only occasionally. They are very useful for children, supplying so much in the way of nourishment, and are an appetising way of giving them fat. It is also good to remember that it is unwise to indulge in violent exertion, such as games, for half an hour to an hour after a meal with a pudding.

Suet Pudding.

Half a pound of flour, 2oz. bread-crumbs, 3oz. suet or margarine, $\frac{1}{2}$ teaspoonful baking powder, pinch of salt, cold water to mix. Rub margarine into dry ingredients, or, if suet is used, grate it finely and mix it with the dry ingredients. Add the water gradually, mixing with a knife till a stiff paste is formed. Knead lightly with the hand for a minute. Shape into a roll, wrap in a pudding cloth, which must first have been scalded with boiling water and wrung fairly dry, then well dredged with flour. Place the roll on the floured side. Roll up and tie each end with string. Put into boiling water and boil 2 $\frac{1}{2}$ hours if suet used; 1 $\frac{1}{2}$ to 2 hours if margarine used.

Variations.

This pudding may be varied by the addition of $\frac{1}{2}$ lb. of any kind of dried fruit or $\frac{1}{2}$ lb. of chopped dates; or the

mixture can be rolled out and jam spread on it, or chopped apples ($\frac{1}{2}$ lb.), mixed with 2oz. currants, 1 tablespoonful of sugar, 2 tablespoonfuls of bread-crumbs, and a little grated nutmeg.

Caramel Pudding.

Here now is a favourite caramel pudding:— $\frac{1}{2}$ lb. rice, 1 pint milk (boiling), 3 tablespoonfuls sugar, 2 eggs, 1 tablespoonful water, flavouring (vanilla, lemon, etc.). Add the rice and flavouring to the boiling milk; simmer 20 minutes. Stir in the beaten eggs, then take the mixture off the fire. Now put the sugar into a saucepan with the water. Boil till it turns brown—this must be watched carefully. Pour this into a warm, greased basin, coating the sides and bottom with the sugar. Quickly fill the basin with the rice mixture. Cover with greased paper. Put into a saucepan of boiling water with the water coming halfway up the basin; keep the lid on, and let the water boil slowly for 30 to 40 minutes. This pudding is sufficient for four to five persons.

Christmas Pudding.

Here is a cheap Christmas pudding: $\frac{1}{2}$ lb. flour, $\frac{1}{2}$ lb. brown sugar, $\frac{1}{2}$ lb. suet or 3oz. butter, 1 tablespoonful black treacle (warm), $\frac{1}{2}$ of a grated nutmeg, 1lb. dates stoned and chopped, 1 teaspoonful of ground ginger if desired. Mix these ingredients thoroughly well together. Put into a greased basin, cover with grease paper, and boil 3 hours. Note that no egg or milk is needed.—"The Radio Times."

Herb Lore

THE best time for gathering the herbs growing in the garden is when they are big and leafy. When dried they can be kept for many months without losing their flavour, and they are more effective than packet flavourings.

Sage, thyme, parsley, sweet marjoram, fennel, and mint are all invaluable in winter in the preparation of stock, soups, seasonings, and sauces, and if you possess a bay tree you are indeed fortunate, as the leaves impart a delicious flavour to custards and milk puddings.

Choose a dry day for picking, and select shoots which are free from dust and disease. Pull the young growth of mint and parsley, leaving the coarser stems for immediate use. Tie the shoots into small bunches and place them in the sun to dry, but be sure they are safe from rain. Some cooks use a cool oven for drying. To finish them off they can be hung over a gas stove.

The leaves will shrivel in a short time, and, when thoroughly dry, strip them from the stalks and rub them gently between the palms of the hands until they become a rough powder, taking care that no stalks are among them. Store this powder in wide-mouthed glass bottles which are abso-

Sunny Days and Happy Times



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slip into the
forgotten
past if you
take a Kodak
with you*

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Annotations of Annabel

Books.

HERE COMES AN OLD SAILOR.

(A. T. Sheppard.)

THIS is a strange book, in some ways a wonderful one. Written in mediaeval language, it tells of deeds of chivalry and derringdo in times when England was in a turbulent state of piracy and bloodshed; battle, murder and sudden death being the rule and not the exception.

A young and solitary monk on his vigils rescues a sailor from the sea. Apparently dead, this wanderer on the waters is resuscitated by the gentle student; and afterwards in wind-swept solitudes, during long days and nights, he tells strange tales to his rescuer and his brother monks, the characterisation of whom is quaintly and vividly achieved.

The story told by this derelict of the waters is of his beloved master, Tom Mariner, and their adventures together on land and sea, ever with Death as neighbour and bed-fellow. A tale of rough times, the literary style is of Chaucerian quality and admirable throughout, at times rising to a rare beauty of religious fervour and vivid visualisation of a picturesque period of history. As an example of its beauty:

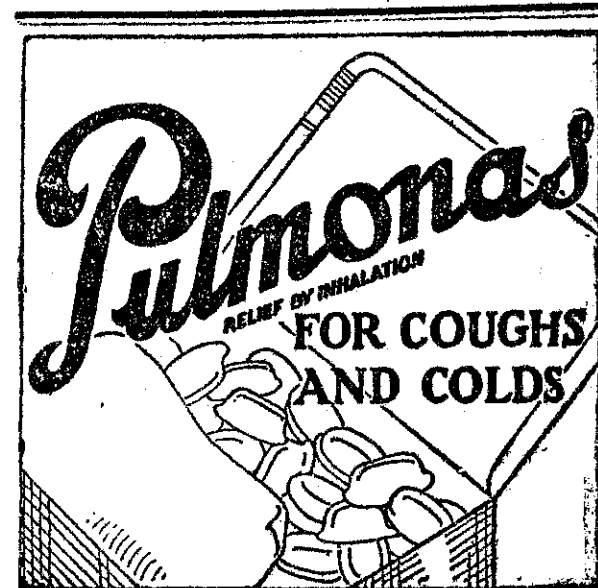
"... Alas, if spells could hold them thus, so that they grew not old, and pass away like shadows of summer clouds on grass! ... Days of sea I love, be they rough or fair; the slap of the waves and crunch of shingle when a boat is launched. ... But we cannot hold old Time by the skirt. ... Even the bright boys and girls must die. ..."

Women do not come much into this tale of rough bickerings, ancient manners and modes. The lovely Peronelle, fickle, French and wanton, flits through the pages, is loved and married by Tom, more than twice her age; and when the bluff, loyal seaman finds her unfaithful, he leaves her to her new lover and sails the seas for the last time, meeting in heroic fashion the last and greatest adventure.

Not for the squeamish, but a narrative to appeal to those who appreciate a tale of mighty men and doings of an unbridled age.—R.U.R.

To Freshen Faded Carpets.

THOROUGHLY brush with a stiff handbrush, then take a pie-dish with about 1 pint of tepid water, add 1 dessertspoonful of liquid ammonia, dip brush in liquid, brush and then wipe with clean duster, renewing the water as required and colour will be restored.



DEAREST:

A night of nights was the fatal fourteenth, and the most passe or blase could hardly be unaware of the thrill of the moment. The unexpected happened. We were all so comfortably confident that the Reform Government again would be in the middle of the map; and behold, it was not!

THE office of this paper, fitted with fascinating telephonic and wireless apparatus, was a veritable illuminant to the mind of your Annabel, lingering on the outskirts of efficient coterie upon which devolved privilege of informing listening microcosm of the way things were.

VIVID impression remains of sea of upturned faces in street below, incessant tinkle of this telephone and that, laconic inquiries, hurried passage from one room to another with sheaves and slips of papers bearing figures from City Suburbs, Auckland East, Oamaru, Dunedin, any old place. Deep voice and measured articulation of announcer telling those surprising numbers, and—at long last—ultimate result of the Election of 1928. And what a result! For surprise, sting in its tail, card up its sleeve, it beat cock-fighting; the Tasman flight receded into the limbo of a tale that is told, and the Byrd Expedition for the moment loomed but shadowy mirage of the future.

TWAS hard to realise that those meticulous accents, ringing through office rooms to serried block of humanity that stretched away and away into darkness beyond, also carried tidings to countless homes in the backblocks, isolated whares and solitary stations; likewise to many a sick or sorrowful soul, and to gallant soldiers of war who, in hospital, find content and entertainment in that friend who never fails, the kindly, companionable radio.

NO flair do I possess for knowledge of steering of ship of state; and for political personalities and potentates that were, and are, and are to come, I have, so to speak, no nose. Yet regrets afflict me. Triste am I, for instance, that no more shall I listen and learn from Mr. Rolleston, whom to look at was to love, although evidently many of his constituents thought otherwise. Also some of us are sad over political de-

mise of Mr. Hawken and Mr. McLeod, who did the country much good during short sojourn in limelight arenas of Lands and Agriculture.

ON what was assuredly Wellington's coldest night, though but a month from longest day of Sidey summer-time, I heard a lecture given to the University Women's Club by Mrs. M. L. Hannah, on that interesting and neglected subject, the Literature of New Zealand.

GRACEFULLY gowned in jetted, diaphanous black, pink-posed and wrapped in shawl of an Eastern colour and allure calculated to arouse envy in frail, feminine hearts, the lecturer appeared very youthful to have attained to such sureness of judgment and serenity of mental poise; and covered a surprisingly wide field in the flying hour in which, with discrimination and illuminating comment, she spoke of known and unknown writers of this country, where, in the old, old fashion, prophets are usually unhonoured and unsung until the wider world heaps laurels upon them.

TOWARDS the conclusion of the lecture characteristic and interesting extracts were read from writers of widely divergent qualities, amongst them Alan Mulgan, Katherine Mansfield, Jessie Mackay and Siegfried Eichelbaum. Mrs. Hannah's interpretation of "A Windy Day" was pure delight, bringing out the subtle nuances of intuition and observation of that New Zealand-born genius who died so young; and most attractive was a wistful poem of the coming of the Christ-child, written by Eileen Duggan, and possessed of a Celtic strain of haunting mysticism. Tribute was paid to the plays of Mr. Charles Allen; "The Singing Heart" and "When Mr. Punch was Young" being described as very beautiful and lovely work.

THE lecture was brought to a close by the reading of charming, puckish verses, given at the request of the audience, and written by Mrs. Hannah herself. To that increasingly numerous band who grapple to themselves with hoops of steel friends of the spirit in prose and verse, it is hoped that another opportunity will soon be given of listening to Mrs. Hannah on literature, of which, with her literary acumen and cultivated taste, she is so delightful and able an exponent.

Your

ANNABEL LEE.

Beauty's Eyes

THE importance of starting the methodical care of one's looks before they begin to depart cannot be emphasised too often.

The eyes have always been considered one of the most important features. Strained, tired-looking eyes beneath baggy lids and surrounded with tiny downward tending lines will spoil the charm of the fairest complexion and loveliest features. Those deep frown lines too many people wear between their eyebrows destroy the effect of the most successful hat.

The frown lines in question are among the first things to guard against, especially as they frequently appear on quite young brows.

The first thing to do is to try to stop oneself from frowning. With some people this constant drawing together of the brow is merely an unnecessary mannerism which can be cured by taking pains, and the lines already formed will soon be banished (unless they are very deep), if one pats a good skin food into them for a few minutes at least once every day after cleaning the face.

If you find it impossible to stop frowning, and particularly if you find that these lines are always more marked after you have been reading, writing or sewing, by all means consult an ophthalmic surgeon. It is probable that you should wear glasses whenever you are working your eyes hard, and you will also be wise to avoid going out into the sunshine without a hat, which shades them slightly.

Cleanliness, exercise and rest are as essential for all kinds and colours of eyes as they are for the body as a whole.

Everybody should bathe their eyes every day in an eye bath of boracic lotion, especially after travelling or being out of doors in a grimy atmosphere. A bath of warm milk, followed by a short rest with closed eyes in a darkened room is very beneficial to eyes that are overtired or inflamed.

The skin of the eyelids and round the eyes is extremely delicate and easily stretched. It is essential to remember this, and when you are applying the skin food or muscle oil which can do so much to keep the eyes surrounded with smooth, firm skin, avoid the rubbing movement, which can do irrevocable harm, and learn to apply the oil or cream with gently patting movements.

These rules for preserving the beauty of the eyes take longer to write about than to perform. A very few minutes spent in daily eye care will keep these important features clear and lovely, if health, the foundation of beauty, has been attended to as it deserves.

Tonking's Linseed Emulsion
is a Certain Cure for Coughs and Colds

Features of Next Week's Programmes

Notes from 1YA

THERE will be a lot of good entertainment at 1YA on Tuesday evening. The orchestral items will comprise "Ole South," "Skater's Waltz," a "Musical Jigsaw," and the suite "Schumann's Songs." The vocal items include several great favourites: "The Kerry Dance," to be sung by Miss Marjorie Fair; "Open Thy Blue Eyes," by Miss Nance Macklow; "On the Road to Mandalay," by Mr. Len Keven; and Massenet's "Elegie," to be sung by Mr. Ernest Snell.

THE major portion of the second half of the programme will consist of excerpts from Planquette's "Les Cloches de Cornville," whose English title is "The Bells of Normandy." The production will be under the direction of Madame Irene Ainsley. "Les Cloches de Cornville" is full of bright melodies.

NEXT Monday evening Mr. A. B. Campbell, M.A., will continue his talks on the Maori. On this occasion his subject will be the religion of the Maori.

ON Wednesday evening 1YA will present another three-act play, to be produced by the Auckland Comedy Players, under the direction of Mr. J. F. Montague. This time the play is a comedy by Oscar Wilde.

FOR the major portion of the musical programme on Thursday evening the St. Andrew's Quartet will be responsible. These singers will give solos, duets, trios, and quartets, all of a popular nature. Another singer will be Mr. Hartley Warburton, who will present an operatic number by Verdi. Pinsuti's "Bedouin Love Song" and the amusing "Young Tom o' Devon."

ON the evening of Friday, St. Andrew's Day, there will be a Scottish concert at 1YA.

A VERY enjoyable studio programme will be broadcast on Saturday evening until 9.30, after which will follow a dance music session. Contributing to this concert will be Mr. Frank Sutherland (baritone), the Snappy Three (a bright vocal trio), Mr. F. W. Barker, who will provide humorous elocutionary numbers, Miss Molly Wright (cellist), and the Auckland Trio.

Notes from 3YA

VOCALISTS to be heard on Monday evening will be Miss Violet Laplie (soprano), Miss Myra Edmonds (mezzo-soprano), Mr. Bradleigh Crowhurst (tenor), and Mr. Jock Lockhart. The items of the last-named being, of course, of a humorous nature. The Christchurch Municipal Band has been engaged for the evening, and will present a diverse programme.

Auckland Comedy Players at 1YA.

On Wednesday evening, 28th inst., Mr. J. F. Montague will present the Comedy Players in Wilde's delightful Three-Act Comedy, "The Importance of Being Earnest." The play will occupy the entire evening, but there will be specially selected entr'acte numbers in addition, and the performance promises to be a memorable one in every way. This will be the third big play evening presented by Mr. Montague at 1YA, and the high standard attained in "Mary, Mary, Quite Contrary," and again in Drinkwater's "Oliver Cromwell," is likely to be more than sustained. "The Importance of Being Earnest" is one of the few oldest comedies that has never lost its charm and interest for the newer generation. The dialogue fairly sparkles with epigrams and flashes of wit; indeed, once the play begins there is a laugh in every line, and the interest is sustained to the end. It is an ideal play for broadcasting purposes. The cast is a very strong one. Mr. J. N. Gordon plays the George Alexander role, "John Worthing," and he will be supported by Messrs. Cyril Seaward, J. F. Montague, Alan Gladfield and Misses Daphne Knight, Mary Norwood, Dorothy Armitage, and Constance Gilbertson. Listeners-in can be assured of a rare treat from 1YA on November 28th.

ON Wednesday evening a public production of Mendelssohn's oratorio "St. Paul" will be broadcast on relay.

SIR EDWARD GERMAN'S comic opera, "Merrie England," will be presented in radio form on Thursday evening. As is well known, this comic opera is full of good melodies. Its story is laid in the glorious days of Good Queen Bess, when Raleigh and other gallants in ruffles and lace were actors in the drama of life of those days. "Merrie England" will be produced by the Madame Gower Burns Grand Opera Quartet.

SOME interesting items are included in the miscellaneous numbers which will support "Merrie England." Negro spirituals will be played by Mr. Harold Beck (cellist), Miss Aileen Warren will play "Coronach," and two Humoresques by Grieg, while selections will be played by the Studio Trio. There will also be some miscellaneous songs sung.

A MISCELLANEOUS programme into which will be introduced some Scottish items in commemoration of St. Andrew's Day, will be presented on Friday evening. Included among these Scottish items will be some bagpipe music. An interesting section of the programme will be the presentation of the song cycle, "Wind Flowers," composed by Arthur Somervell, and sung by the Melodious Four. Humorous items will be given by Mr. William Clarke, the items being reminiscent of London.

Notes from 4YA

THE service from the St. Andrew Street Church of Christ will be broadcast next Sunday, when Pastor W. D. More will be the preacher. At the conclusion of the church service, should fine weather prevail, the St. Kilda Band's concert from the St. Kilda beach will be relayed.

TUESDAY'S programme promises to be most interesting. Among the items to be rendered by the St. Kilda

Band, under the conductorship of Mr. James Dixon, will be Delibes's "Coppelia" Mazurka, a new arrangement by Rimmer, entitled "Memories of the Opera," and Thomas's overture, "Raymond." In addition there will be several marches, including the old favourite, "Sons of the Brave" (Bidgood). Miss Gwenda Burt (contralto) will sing Sanderson's "O Night of Life," while Mr. Albert Bicknell, a baritone possessing a particularly pleasing voice, will make his first appearance for some time in several songs by Coningsby Clarke, including "Cargoes" and "I Will Await Thee." Bass solos will be rendered by Mr. J. McNaughton. Miss Roberta Williams will contribute some elocutionary items. During the evening Pastor W. D. More will continue his series of humorous addresses on "Ghosts."

WEDNESDAY night's programme will be of the popular ballad type, when the outstanding items will be provided by the Serenaders' Quartet, entertaining with several of Scott-Gatty's negro plantation songs. The members of the quartet, Miss Mae Matheson (soprano), Miss Dorothy Allen (contralto), Mr. W. Harrison (tenor) and Mr. R. B. McDonald (baritone), will each present solo items. Instrumental trios will be provided by the 4YA Broadcasting Trio, including Moszkowsky's "Spanish Dances," Nos. 3 and 5, also Beethoven's "Andante," arranged by Kreisler. The studio pianiste, Mrs. Ernest Drake, will play two charming numbers by the American composer, MacDowell, entitled "To the Sea" and "Song." Violin solos by Miss Eva Judd and 'cello solos by Mr. P. J. Palmer will also be heard. Miss Madge Yates will recite John Masefield's "Sea Fever," and other elocutionary numbers.

THE programme for Friday will be of a high class nature. Miss Dorothy Skinner (contralto), Miss Gwen Hislop (mezzo-soprano), and Mr. Neil Black (bass) will provide the vocal numbers. Mr. Neil Black's choice of old-time popular ballads is frequently the subject of favourable comment, and for Friday's pro-

gramme he has selected Piccolomini's fine old song, "Queen of Angels." The "Pilgrims' Chorus" from "Tannhauser" will be played as a pianoforte solo by Mrs. Ernest Drake. Mr. Clarence Paine will recite some popular numbers, including "My Wireless Set."

THE vaudeville programme on Saturday night will be again up to the standard. Miss Jacqueline Burke, light soprano, will sing Jerome's "Dream Kisses," and numbers from musical comedy. Miss Eileen Cooper in songs at the piano will present "Foolish Questions," Weston's "Earthenware," and a song which was made famous throughout Australia by the late Miss Lee White, "I think of You." Mr. Norman Scurr (light baritone) will sing "Cock a Doodle, I'm Off My Noodle" (Sherman) and "I'd Do It All Over Again" (Conrad). Mr. James Paterson, Scottish comedian, will sing in one breath, "I'm Glad I'm Marrit Tae the Wife," and in the next, "Just Got Off the Chain." Humorous sketches will be heard from Miss Anita Winkel and Major F. H. Lampen.



M. HENRI DE ROSE (MUS. BACH).

The Octagon Theatre Orchestra, Dunedin, which is regularly broadcast by 4YA, is a remarkably fine combination of 15 players, just formed under the baton of M. Henri de Rose. Of French descent, M. de Rose was born in Siberia. In 1903 he graduated at the Conservatory of Music, Vienna, under Professors Helmsberger and Gruen (in violin) and under Professor Faulis (in composition). The next three years found him as first violinist in the Metropolitan Opera House and conductor of the Astor Hotel Orchestra, New York. In 1907 and 1908, he was at Daly's Theatre, London, and was the original conductor of Lehar's "Merry Widow." He then became musical advisor for London Electric Pavilions, Limited. From 1914 to 1920 M. de Rose was in the service of the British War Office on account of speaking nine languages. In 1922 he became assistant conductor at the "Theatre Colon," Buenos Aires, under Mascagni. For the next four years he was engaged by Paramount (Famous Players) Pictures Corporation, conductor of Rialto Theatre Orchestra (70 players), New York.

3YA to Broadcast St. Paul

Public Performance of Famous Oratorio

ON Wednesday, November 28, the Royal Christchurch Musical Society will produce, in the Municipal Concert Hall, Mendelssohn's oratorio "St. Paul." This will be a performance of outstanding merit. The Society, which is under the conductorship of Mr. A. G. Thompson, B.A., will be assisted by such soloists as:—

Madame Winnie Fraser (Oamaru).
Mrs. Ann Harper (Christchurch).
Mr. J. Hadland (Greymouth).
Mr. Charles Clarkson (Kaiapoi).

The orchestra will be under the leadership of Mrs. Wilson.

Part I.

The persecuted Christian Church in Jerusalem prays to the Lord for power to resist the fury of the heathen. Stephen is accused of blasphemy by the incensed people, and is brought before the council. Being questioned by the High Priest, he reproves his judges for the obstinacy with which they and their fathers have rejected the true faith, and resisted the Holy Ghost. They refuse to hear him, and insist upon putting him to death. Heeding not the reproof that Jerusalem had ever killed the Prophets which had been sent to her, they shout: "Stone him to death"; and Stephen suffers martyrdom, praying for mercy upon his persecutors. Devout men carry him to his burial, with much lamentation, and utter words of peace and hope over his grave. Saul, who is present at the martyrdom, resolves to continue his persecutions of the Christian Church, and for this purpose, journeys toward Damascus. A sudden light shines around him, and he is struck with blindness. A voice from Heaven calls upon him to proclaim the glory of the Lord to the benighted people, and his companions lead him by the hand into Damascus. There he prays in bitter repentance, until the Lord sends to him Ananias, who restores his sight, and confers upon him his divine commission as a Christian preacher. He is baptized, and preaches in the Synagogues; and the congregation praises the wisdom and knowledge of God.

Part 2.

Saul, who, after his conversion, takes the name of Paul, preaches before the congregation. Paul and Barnabas are se-

lected by the Holy Ghost, and sent as ambassadors to spread a knowledge of Christianity abroad. The multitude acknowledges them as messengers, who preach the gospel of peace. The Jews, not believing in the Saviour, are envious, and consult how to kill Paul. But Paul and Barnabas, telling them that they have rejected the truth, although they were chosen first to have the word of the Lord set before them, turn from them to preach unto the Gentiles. Paul miraculously cures a cripple at Lystra; and the Gentiles, believing that the gods have come down from heaven as mortals, call them Jupiter and Mercurius, and desire to offer sacrifices to them. But the Apostles refuse such vain homage; and Paul endeavours to divert the minds of the people from the worship of false idols to that of the one, living God. This excites the anger of the multitude; and both Jews and Gentiles accuse him of having spoken against Jehovah's temple and the holy law, and raise a cry of "Stone him." But the Lord, whose help is ever nigh unto the faithful, saves him from persecution. Paul convokes the elders of Ephesus, telling them that he is bound in the spirit to go forth in Jerusalem, and that they will see his face no more. They weep and pray; but Paul expresses his readiness to die for the Lord, and takes his leave, the elders accompanying him unto his ship.

It is their comfort now to be God's own children. To him who has fought a good fight, and kept well the faith, a crown of righteousness shall be given—and not only unto him, the believers sing, but to all them that love His appearing. So they bless the Lord, and praise His holy name for ever.

Scottish Songs for St. Andrew's Night

Programmes Arranged for 1YA and 3YA

WHAT will without doubt be a stirring entertainment has been arranged for St. Andrew's night at 1YA, on Friday, November 30. The occasion is also being celebrated at 3YA.

At 1YA the vocal numbers will be entrusted to the Savoy Octet, whose opening number will be "Scots Wha Hae." Many of the heroic songs of old Scotland will be sung, with a due admixture of the grave and the gay. There will be two Lauder numbers: "Tobermory" and "Roamin' in the Gloamin'." The music of the evening will be supplied in two instances by Piper J. C. Cameron, but the studio orchestra will imitate numerous of the old Scottish airs, and it is quite possible that it will give a creditable rendition.

THE Melodious Four, Mr. Jock Lockhart and Pipe-Major J. A. Paterson will be responsible for the Scottish items at 3YA. These items will comprise many of the old favourites—"Comin' thro' the Rye," sung by Miss Frances Hamerton; "Annie Laurie," by Mr. Russell Sumner; "The Land o' the Leal," by Miss Belle Renaut, and "Border Ballad," by Mr. T. D. Williams being among the songs. Mr. Jock Lockhart's contributions to the programme will, of course, have much in the nature of humour—"The Waggle o' the Kilt," "My Bonnie Jean," and "Just a Wee Deoch and Doris." The bagpipe music to be played by Pipe-Major J. A. Paterson will comprise two marches, reels, a hornpipe, and a jig.

Return of "Southern Cross"

THE most recent Australian wireless magazines to hand describe the return trip of the Southern Cross. Following is an extract from an article headed WZGY by the technical editor of "Wireless Weekly":—

"Earlier in the evening of October 12, whilst in communication with an experimental station in Wellington, New Zealand, we were informed that the Southern Cross would leave for Australia at 5 a.m., New Zealand time, and that 2YA, Wellington, would broadcast the start from the Blenheim aerodrome.

Accordingly, at 3 a.m., Sydney time, a screened five was used for this reception, which was obtained with excellent volume and clarity. At this time—static was very slight, and the whole of the proceedings on the Blenheim aerodrome were heard through-

out with uncanny realism. Kingsford Smith's brief "Cheerio, New Zealand"—the droning of the famous "Whirlwind" engines, the cheers of the crowd, and the final sounds as the Southern Cross took off the runway and after climbing, passed back over the hangar in which the announcer was speaking. The sounds died away as the great machine headed out for the open sea and in the direction of Australia. The thought "so near and yet so far" flashed across my mind.

Almost immediately after the machine had taken the air, the short-wave transmitter operated by Mr. McWilliams, was heard very strongly, bidding "good morning" to the coastal station at Wellington."

Throughout the trip reception was good, except for unsteadiness of signals. One message indicated how Mr. McWilliams was faring.

At 9 p.m. Mr. McWilliams has just stated that if he does not "hold on to everything with both hands, the gear will soon be out of the bus!"

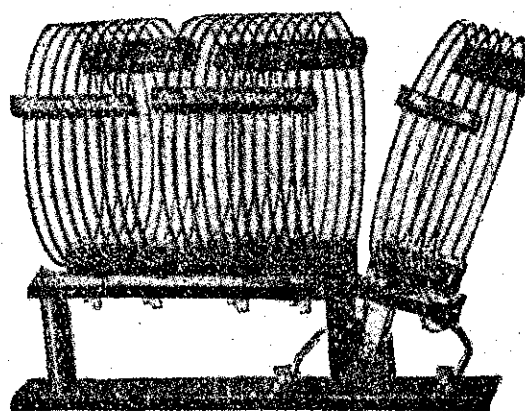
The Peace Mission of Radio

IN an outstanding address the Prime Minister of England, Mr. Stanley Baldwin, said of radio (after describing how he himself heard all Europe at times): "When the mass of the people realise that in whatever country in Europe there lives a human being like himself with a family and family life, with a wireless set like himself, with his services on Sunday, his dancing in the evening, and his lectures, war presents a very different aspect. I believe that wireless is going to be one of the greatest bonds between the common people of the whole world, and it is the common people who, in the long run, will decide whether there will be war or not."

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Full Programmes for Next

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Sunday, November 25

1YA, AUCKLAND (333 METRES)—SUNDAY, NOVEMBER 25.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Leo.
 6.55: Relay of service from St. David's Church—Preacher, Professor Hewitson, Moderator of Presbyterian General Assembly; organist, Mr. E. C. Craston.
 8.30: Studio recital of selected gramophone items.
 9.30: Close down.

2YA, WELLINGTON (420 METRES)—SUNDAY, NOVEMBER 25.

- 3.0 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Ernest.
 7.0: Relay of service from St. Thomas's Anglican Church, Newtown—Preacher: Rev. C. V. Rooke, M.A.; Organist and choirmaster: Mr. Wenzel Collie, L.L.C.M.
 8.15 (approx.): Studio concert.
 Overture—Berlin State Opera Orchestra, "Don Giovanni" (Mozart) (H.M.V. Record 463).
 Soprano solo—Miss Myra Sawyer, "Soft as the Zephyr" (Liszt).
 Duo for two pianos—Miss Nora Gray and Miss Lalla Vondersloot, "La Sevillane" (Chaminade).
 Tenor solo—Tom Burke, "O Vision Entrancing" from "Esmeralda" (Goring-Thomas) (Columbia Record 02552).
 Orchestral—National Symphony Orchestra, "Aida" (Verdi) (Zonophone Record A340).
 Duet—Miss Myra Sawyer and Mr. Wm. Boardman, "Give Me Thy Hand, O Fairest" (from "Don Giovanni") (Mozart).
 Instrumental—Victor Olaf Sextette, (a) "Cherry Ripe" (Scott); (b) "Minuet" (Boccherini) (H.M.V. Record 2697).
 Bass solo—Mr. Wm. Boardman, "Within These Sacred Bowers" (from "The Magic Flute") (Mozart).
 Violin solo—Toscha Seidel, "Meditation" (Thais) (Massenet) (Columbia 09506).
 Chorus—La Scala Chorus, "Anvil Chorus" from "Il Trovatore" (Verdi) (Columbia 09506).
 Band—H.M. Grenadier Guards, "A Midsummer Night's Dream" (Mendelssohn) (Columbia 02678).

- Soprano solo—Miss Myra Sawyer, "Solveig's Song" (Grieg).
 Duo for two pianos—Misses Nora Gray and Lalla Vondersloot, "Spanish Rhapsody" (Chabrier).
 Bass solo—Mr. Wm. Boardman, "My Last Abode" (Schubert).
 Organ solos—Arnold Grier F.R.C.O., (a) "Love's Old Sweet Song" (Molloy); (b) "The Blind Ploughman" (Clarke) (Zonophone Record 5078).
 Tenor solo—Derek Oldham, "Absent" (Metcalf) (H.M.V. Record B2660).
 Chorus—La Scala Chorus, "Soldiers' Chorus" (from "Faust") (Gounod) (Columbia 01032).
 Cymbalom, 'cello and harp, The Romany Trio, "Drink to Me Only With Thine Eyes" (Trdtl.) (Regal Record G20277).
 Duet—Miss Myra Sawyer and Mr. Wm. Boardman, "Come, Sing to Me" (Thompson).
 Orchestral—Columbia Symphony Orchestra, "Grand March" from "Aida" (Columbia Record 2557).
 Close down.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, NOVEMBER 25.

- 3.0 p.m.: Afternoon session—Gramophone recital.
 4.30: Close down.
 5.30: Children's song service conducted by Uncle David.
 6.30: Studio recital.
 7.0: Relay of service from St. James's Anglican Church, Riccarton. Preacher: Rev. R. de Lambert; Choirmaster: Mr. Maddren; Organist: Miss B. A. Bailey.
 8.15: After-church studio programme.
 Orchestral—London Symphony Orchestra, "1st Movement from the Jupiter Symphony" (Mozart) (H.M.V. Record D1359).
 8.23: Contralto solo—Mrs. E. H. Davies, "Teach Me To Pray" (Williams).
 8.27: Orchestral—London Symphony Orchestra, "2nd Movement from 'The Jupiter Symphony'" (Mozart) (H.M.V. Record D1360).
 8.35: Contralto and baritone duet—Mrs. E. H. Davies and Mr. John Worgan, "O Wert Thou In the Cauld Blast" (Mendelssohn).
 8.39: Grand organ solo—Marcel Dupre, "Prelude and Fugue in G Major" (Bach) (H.M.V. Record D1402).
 8.48: Baritone solo—Mr. John Worgan, "One Sweetly Solemn Thought" (Ambrose).
 8.51: Male quartet with orchestra, Peerless Quartet, "The Home Over There" (Kane) (Zonophone Record 5076).
 8.55: Contralto solo—Mrs. E. H. Davies, "Danny Boy" (Irish Air).
 8.59: 'Cello solo—Guilhermina Suggia, "Kol Nidrei" (Bruch), (H.M.V. Record DB1083).
 9.7: Contralto and baritone duet—Mrs. E. H. Davies and Mr. John Worgan, "I'll Sing to You" (Thompson).
 9.11: Grand organ solo—Edwin H. Lemare, "Traumerei" (Schumann) (H.M.V. Record C1455).
 9.15: Baritone solo—Mr. John Worgan, "They Say" (Warwick Evans).
 9.19: Orchestral—London Symphony Orchestra, "4th Movement from the Jupiter Symphony" (Mozart) (H.M.V. Record D1362).
 9.27: Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, NOVEMBER 25.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from St. Andrew's Street Church of Christ.
 8.0: Relay of St. Kilda Band Concert, under the conductorship of Mr. James Dixon.
 9.15: Close down.

Monday, November 26

1YA, AUCKLAND (333 METRES)—MONDAY, NOVEMBER 26.

SILENT DAY.

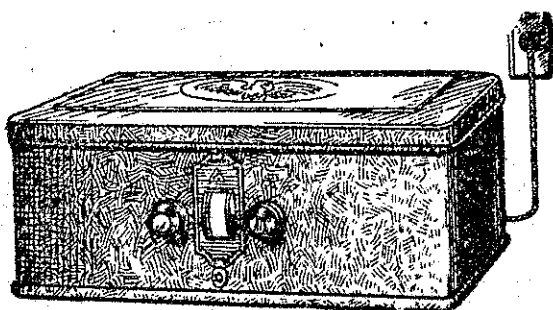
2YA, WELLINGTON (420 METRES)—MONDAY, NOVEMBER 26.

- 3.0 p.m.: Chimes of the G.P.O. Clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session, conducted by Uncle Jeff and Aunt Gwen.
 7.0: News session, market reports and sports results.
 7.40: Lurette—Mr. T. Bryce Wilson, "Care of the Feet."
 8.0: Chimes of the G.P.O. Clock.
 8.1: Overture—Orchestra, "Athalia" (Mendelssohn).

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- 8.9: Soprano solo—Miss Nita Hopkins, "The Almighty" (Schubert).
 8.13: Pianoforte solos—Miss Gwen Upham, (a) "Mazurka" (Chopin); (b) "Two Preludes" (Scriabine); (c) "Jardins Sous La Pluie" (Debussy).
 8.20: Baritone solo—Mr. L. M. Assheton Harbord, "No Piu Andrai" (from "The Marriage of Figaro") (Mozart).
 8.24: Violin solos—Fritz Kreisler, (a) "Liebeslied" (Love's Sorrow); (b) "Liebesfreud" (Love's Joy) (Kreisler), (H.M.V. Record B985).
 8.32: Contralto solo—Miss Edith Buckmaster, "Like to the Damask Rose" (Elgar).
 8.36: Recital—Mr. Cedric Gardiner, "Rhyme of the Restless Ones" (Service).
 8.41: Wurlitzer organ solo—Reginald Foort, "Schon Rosmarin" (Kreisler) (H.M.V. Record B2664).
 8.45: Tenor solos—Mr. E. Seon-Brown, (a) "Entre Nous" (Wingate); (b) "The Star" (Rogers).
 8.50: Suite—Orchestra, "Cobweb Castle" (Lehmann).
 1. In the Owls' Turret;
 2. Fly Away, Ladybird;
 3. By the Sundial;
 4. A Legend;
 5. Evensong;
 6. My Lady's Jester.
 9.7: Weather forecast.
 9.8: Male chorus with orchestra, "War Songs" (H.M.V. Record EB25).
 9.12: Soprano solo—Miss Nita Hopkins, "Waltz Song," from "Coppelia" (Delibes).
 9.16: Baritone solos—Mr. L. M. Assheton Harbord, (a) "Parted" (Tosti), (by special request); (b) "O Beautiful and Gracious Queen" (Brahms).
 9.23: Selections—Orchestra, (a) "Melodie Arabe" (Glazounov) (soloist, Mr. Geo. Ellwood); (b) "Village Dance" (Glazounov).
 9.31: Contralto solo—Miss Edith Buckmaster, "Christina's Lament" (Dvorak).
 9.35: Instrumental—Orchestra, repeat number.
 9.43: Tenor solo—Mr. E. Seon-Brown, "A Retreat" (Loughborough).
 9.47: Recitals—Mr. Cedric Gardiner, (a) "The New Moon" (Ogilvie); (b) "Dr. Dan's Secret" (Langbridge).
 9.54: Concerted with orchestra—Light Opera Co, "Gems from 'The Desert Song'" (Harbach) (H.M.V. Record EB7).
 Concerted with orchestra—Zonophone with Light Opera Co, "Gems from 'Sunny'" (Kern) (H.M.V. Record C1293).
 10.2: Rhapsody—Orchestra, "Slavonic Rhapsody No. 1" (Dvorak).
 Close down.
 The above programme will be interrupted at 9 o'clock to relay the boxing contest between Tommy Fairhall and Reg. Trowern.

3YA, CHRISTCHURCH (306 METRES)—MONDAY, NOVEMBER 26

- 3.0 p.m.: Afternoon session, selected studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's session, conducted by Scatterjoy.
 7.15: News session.
 7.30: Talk on "Books" by Mr. E. J. Bell, City Librarian.
 8.0: Chimes.
 Studio concert by Christchurch Municipal Band, under the conductorship of Mr. A. Schnack, and assisting artists.
 8.1: March—Band, "Ravenswood" (Rimmer).
 8.9: Soprano solo—Miss Violet Lapslie, "Who?" (from "Sunny"), (Kern).
 8.13: Humour—Flotsam and Jetsam, "Optimist and Pessimist" (Hilliam) (Columbia Record 0995).
 Solo and chorus with orchestra—Zonophone Light Opera Co., "Gems from 'Patience'" (Sullivan) (Zonophone Record A336).
 8.21: Tenor solo—Mr. Bradleigh Crowhurst, "Come Sing to Me" (Thompson).
 8.25: Air and variations—Band, "John Peel" (Rimmer).
 8.37: Humorous song—Mr. Jock Lockhart, "In the Land of Yamo Yamo" (Weston Lee).
 8.42: Mixed chorus with orchestra, "Sea Songs" (H.M.V. Record EB25).
 8.46: Mezzo-soprano solo, Miss Myra Edmonds, "What a Wonderful World it Would Be" (Lohr).
 8.50: Hymn—Band, "Rock of Ages" (Dykes).
 9.0: Weather forecast.
 9.1: Chorus with orchestra—Light Opera Company, "Gems from 'No, No, Nanette'" (Youmans) (H.M.V. Record C1205).
 9.5: Soprano solos—Miss Violet Lapslie, (a) "Love Sends a Little Gift of Roses" (Openshaw); (b) "Tell Me, Will My Dream Come True" (Bramhall).
 9.11: Violin with cinema organ—Elsie Southgate, "I Hear You Calling Me" (Marshall) (Zonophone Record 5109).
 9.15: Tenor solos—Mr. Bradleigh Crowhurst, (a) "Land of Long Ago" (Ray); (b) "My Dreams" (Tosti).
 9.22: Overture—Band, "Gems of Welsh Melody" (Ord. Hume).

- 9.34: Humorous songs—Mr. Jock Lockhart, (a) "Heather Dew" (M.S.); (b) "Stray Bits" (Story) (M.S.).
 9.42: Tenor solo—John McCormack, "Mother Machree" (Ball), (H.M.V. Record DA958).
 9.45: Mezzo-soprano solos—Miss Myra Edmonds, (a) "Change O' Mind" (Curran); (b) "Ho! Mr. Piper."
 9.50: Fantasia—Band, "Bridal March" (Dicker).
 March—Band, "Merry Monarch" (Stuart).
 God Save the King.

4YA, DUNEDIN (463 METRES)—MONDAY, NOVEMBER 26.

(SILENT DAY)

Tuesday, November 27

1YA, AUCKLAND (333 METRES)—TUESDAY, NOVEMBER 27.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session conducted by Uncle George.
 7.15: Talk—Mrs. Lowe King, "Esperanto."
 7.30: News and market reports; book review.
 8.0: Chimes.
 8.1: March—Orchestra, "Ole South" (Zamecnik).
 Waltz—Orchestra, "Skaters' Waltz" (Waldteufel).
 8.11: Baritone solo—Mr. Len Keven, "On the Road to Mandalay" (Speaks).
 8.15: Comedian with orchestra—Frank Crumit, "The Three Trees" (McNaughton) (H.M. Record EA387).
 8.19: Soprano solo—Miss Marjorie Fair, "The Kerry Dance" (Molloy).
 8.23: Novelty—Orchestra, "Musical Jigsaw" (Aston).
 8.33: Tenor solo—Mr. Ernest Snell, "Elegie" (Massenet).
 8.37: Relay of musical entr'acte from the Majestic Theatre Orchestra under the direction of Mr. J. Whiteford Waugh.
 8.44: Talk—Mr. A. B. Chappell, M.A., "Talks on the Maori—His Religion."
 8.59: Weather forecast.
 9.1: Male voices with piano—The Revellers, "Dream River" (Brown) (H.M.V. Record EA384).
 9.5: Mezzo-soprano solo—Miss Nance Macklow, "Open Thy Blue Eyes" (Massenet).
 9.9: Suite—Orchestra, "Schumann's Songs" (arr. Friml).

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9.20: Presentation of vocal excerpts from "Les Cloches de Corneville" (Planquette), produced under the direction of Madame Irene Ainsley.

Cast:

Germaine	Miss Marjorie Fair
Serpolette	Miss Nance Macklow
Jean	Mr. Ernest Snell
Marquis	Mr. Len Keven
"I May Be Princess"	Germaine
"On Billows Rocking"	Jean
"'Twas but an Impulse"	Jean and Germaine
"Legend of the Bells"	Germaine and chorus
"Entr'acte"	Orchestra
"With Joy in My Heart"	Marquis
"Such Conduct is Quite Sad"	Chorus
"'Tis She! O Happy Fate!"	Germaine and Marquis
"The Cider Song"	Germaine and chorus
"Waltz Song"	Jean
"Entr'acte"	Orchestra
"My Lord, My Lord!"	Germaine and Marquis
Finale	Chorus

God Save the King.

2YA, WELLINGTON (420 METRES)—TUESDAY, NOVEMBER 27.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session, conducted by Big Brother Jack.
 7.0: News session, market reports, and sports results.
 7.40: Lecturette—"For the Man on the Land," by a representative of the Agricultural Department.
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—Orchestra, "Pique Dame" (Suppe).
 8.11: Soprano with chorus and orchestra—Emmy Bettendorf and State Opera House Orchestra and chorus, "Easter Hymn" (from "Cavalleria Rusticana"), (Mascagni), (Parlophone record AR1005).
 8.19: Pianoforte solos—Miss Joyce Downing, (a) "Harlequinade" (Palgrem); (b) "Fireflies" (Bridge); (c) "Peter Piper" (Livens); (d) "The Fair" (Scott).
 8.27: Bass solo—Reginald Whitehead, "Father O'Flynn" (Parlophone record 10575).
 8.31: Orchestral—Dajos Bela Orchestra, (a) "Electric Girl"; (b) "Eldgapein" (Parlophone record 4009).
 8.38: Humorous sketch—The Two Boiled Owls, "Golf" (Clapham and Dwyer).
 8.44: Hawaiian selection—Queenie and David Kaili, "Hilo March" (Parlophone record A2372).
 8.47: Popular song—Mr. W. E. Elliott, "Girl of My Dreams" (Clapp).
 8.51: Wurlitzer organ solo—Neil Allen, "At Sundown" (Parlophone record 2274).
 8.54: Humorous song—Mr. Arthur Chalk, "The Good Little Boy and the Bad Little Boy" (Long).
 8.59: Selection—Orchestra, "Liebestraume" (Liszt).
 9.5: Weather forecast.
 9.6: Instrumental—Orchestra, repeat number.
 9.14: Soprano solos—Margharita Salvi, (a) "Una Voce Poco Fa" (from "The Barber of Seville"), (Rossini); (b) "Io Son Docile" (from "The Barber of Seville") (Rossini), (Parlophone record A5002).
 9.22: Orchestral—Dajos Bela Orchestra, (a) "The Swallows Waltz" (Strauss); (b) "Faust Waltz" (Gounod), (Parlophone record A4010).
 9.30: Novelties—The Two Boiled Owls—Vocal, (a) "Rosy Cheeks" (Squires); (b) "Can't You Hear Me Calling, Caroline?" (Roma); piano, (a) "Eskimo Shivers" (Mayerl); (b) "Breakin' the Piano" (Jones).
 9.40: Orchestral novelty—Orchestra, "In a Bird Store" (Lake).
 9.45: Popular song—Mr. W. E. Elliott, "Constantinople" (Carlton).
 9.49: Fox-trot—Royal Music Makers, "Last Night I Dreamed You Kissed Me" (Parlophone record A2520).

9.52: Humorous song—Mr. Arthur Chalk, "Don't Be Cruel to a Vegetabeul" (Sarony).

9.56: Musical comedy selection—Orchestra, "Wildflower" (Youmans).

10.6: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—TUESDAY, NOVEMBER 27.

SILENT DAY.

4YA, DUNEDIN (463 METRES)—TUESDAY, NOVEMBER 27.

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone concert.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Town Hall chimes.
 6.1: Children's session conducted by Big Brother Bill.
 7.15: News session.
 7.30: Talk on "Tourist Resorts" by Mr. R. W. Marshall of the Government Tourist Office.
 8.0: Town Hall chimes. Concert by the St. Kilda Band under the conductorship of Bandmaster James Dixon, and items by assisting artists.
 8.1: March—Band, "The Elephant" (Hurrie).
 8.5: Waltz—Band, "Toujours Tranquille" (Bordogni).
 8.15: Baritone solos—Mr. A. Bicknell, (a) "Eleanor" (Mallinson); (b) "Tally Ho!" (Leone).
 8.22: Violin, with cinema organ—Elsie Southgate, "Rose in the Bud" (Forster) (Zonophone Record 5109).
 8.26: Contralto solo—Miss Gwenda Burt, "When You Pass."
 8.29: Cornet solo, with band accompaniment—"Until" (Sanderson).
 8.34: Recital—Miss Roberta Williams, "In an Indian Garden."
 8.38: Soprano, with orchestra—Amelita Galli-Curci, "Last Rose of Summer" (Arrgd. Moore) (H.M.V. Record DB602).
 8.42: Bass solos—Mr. J. McNaughton, (a) "Shipmates o' Mine" (Sanderson); (b) "Down in the Deep" (Petrie).
 8.50: Mazurka—Band, "Coppelia" (Delibes).
 8.56: Weather forecast.
 8.58: Address—Pastor W. D. More, "Ghosts."
 9.13: Selection—Band, "Memories of the Opera" (Rimmer).
 9.25: March—Band, "St. Kilda" (Trussell).
 9.29: Baritone solo—Mr. A. Bicknell, "Sons of the Sea" (Coleridge-Taylor).
 9.32: Cinema organ solo—Chas. W. Saxby, "Classica" (Potpourri Selection) (Arrgd. Ewing) (Zonophone Record A334).
 9.36: Contralto solos—Miss Gwenda Burt, (a) "Like to the Damask Rose" (Elgar); (b) "O Night of Life" (Sanderson).
 9.42: Overture—Band, "Raymond" (Thomas).
 9.52: Recitals—Miss Roberta Williams, (a) Monologue, "Gentlemen of France"; (b) "After the Marriage."
 9.58: Bass solo—Mr. J. McNaughton, "When the Ebb Tide Flows" (Gordon).
 10.1: Chorus with orchestra—Light Opera Company, Gems from "Peggy Ann" (Rodgers) (H.M.V. Record C1399).
 10.5: March—Band, "Sons of the Brave" (Bidgood).
 10.9: Close down.

Wednesday, November 28

1YA, AUCKLAND (333 METRES)—WEDNESDAY, NOVEMBER 28.

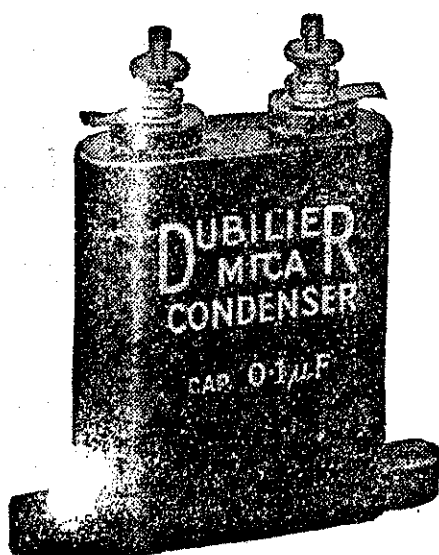
- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Tom.
 7.0: Close down.
 7.15: Talk by Gargoyle—"Road Wisdom."
 7.30: News and market reports.
 8.0: Chimes.
 Presentation of the three-act comedy, "The Importance of Being Earnest," produced by the Auckland Comedy Players under the direction of Mr. J. F. Montague.
 Close down.

2YA, WELLINGTON (420 METRES)—WEDNESDAY, NOVEMBER 28.

SILENT DAY.

3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, NOVEMBER 28.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Peter and Mother Hubbard.
 7.15: News session.
 7.30: Addington Stock Market reports.
 8.0: Chimes.



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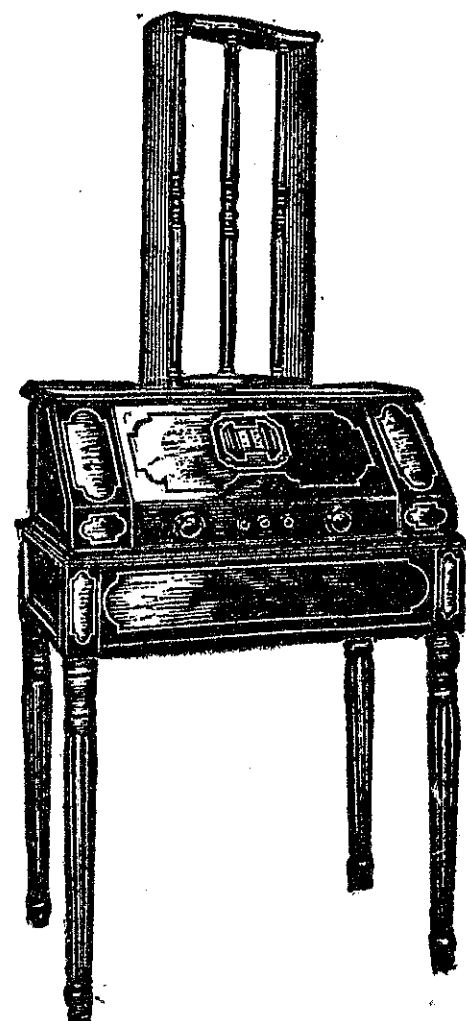
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Relay of Mendelssohn's Oratorio "St. Paul" from the Municipal Concert Hall by the Royal Christchurch Musical Society under the conductorship of Mr. A. G. Thompson, B.A.

Soloists.

Soprano Madame Winnie Fraser (Oamaru)
 Contralto Mrs. Anne Harper (Christchurch)
 Tenor Mr. J. Hadland (Greymouth)
 Bass Mr. Chas. Clarkson (Kaia Poi).
 Leader of Orchestra Mrs. Wilson.
 Full Chorus and Orchestra

Close down.

4YA, DUNEDIN (463 METRES), WEDNESDAY, NOVEMBER 23.

7 p.m.: Town Hall chimes.

7.1: Request gramophone concert.

7.40: News session—Burnside market report.

8.0: Town Hall chimes.

8.1: Overture—National Symphony Orchestra, "Light Cavalry" (Suppe).
 Zonophone record EE102).

8.9: Quartet—Serenaders' Quartet, (a) "De Ring-tail'd Coon" (Scott Gatty); (b) "The Ole Banjo" (Scott Gatty).

8.15: 'Cello solo—Mr. P. J. Palmer, "Chanson a' la Lune" (Novelli).

8.20: Tenor solo—Mr. W. Harrison, selected.

8.24: Orchestral Suite—Philadelphia Symphony Orchestra, "Cassenoisette" (Nutmacker) Suite; (a) "Arab Dances"; (b) "Chinese Dance"; (c) "Dance of the Flutes" (Tchaikowsky), (H.M.V. record D1215).

8.32: Soprano solo—Miss Mae Matheson, "I Heard You Go By" (Wood).

8.35: Instrumental trio—4YA Broadcasting Trio, "Andante" (Beethoven), (Kreisler).

8.40: Contralto solo—Miss Dorothy Allen, "Caro Mio Ben" (Giordani).

8.44: Recitals—Miss Madge Yates, (a) monologue, "Memories" (Anon.); (b) "Sea Fever" (Masefield).

8.52: Baritone solo—Mr. R. B. Macdonald, "Prince Ivan's Song" (Allitsen).

8.56: Male voices—The Revellers, "Dream River" (Brown), (H.M.V. record EA384).

9.0: Violin solo—Miss Eva Judd, "Serenade" (Widor).

9.4: Weather forecast.

9.6: Orchestral—National Symphony Orchestra, "Orpheus in Hades" (Zonophone record EF16).

9.14: Quartet—Serenaders' Quartet, "Good Night" (Scott Gatty).

9.17: Pianoforte solos—Mrs. Ernest Drake, (a) "To the Sea" (MacDowell); (b) "Song" (MacDowell).

9.23: Tenor solo—Mr. W. Harrison, selected.

9.30: Soprano solo—Miss Mae Matheson, "One Fine Day" (from "Madame Butterfly"), (Puccini).

9.34: Instrumental trio—4YA Broadcasting Trio, "Spanish Dances, Nos. 3 and 5", (Moszkowsky).

9.41: Contralto solo—Miss Dorothy Allen, "The Willow Song" (Sullivan).

9.44: Recital—Miss Madge Yates, "Marguerite" (Whitier).

9.50: Baritone solo—Mr. R. B. Macdonald, "Nita Gitana" (Newton).

9.53: Violin solo—Miss Eva Judd, "Le Cygne" (Saint-Saens).

9.56: Chorus with orchestra—D'Oyly Carte Opera Co., (a) "To Help Unhappy Commoners"; (b) "With Ducal Pomp"; (c) "On the Day when I was Wedded" (H.M.V. record D1344), "The Gondoliers" (Sullivan).

10.8: Close down.

Thursday, November 29

1YA, AUCKLAND (333 METRES)—THURSDAY, NOVEMBER 29.

3 p.m.: Afternoon session—Selected studio items.

4.0: Literary selection by the Announcq

4.8: Selected studio items.

4.25: Sports results to hand.

4.30: Close down.

8.0: Chimes.

8.1: Selection—National Symphony Orchestra, "The Bohemian Girl" (Balfe) (Zonophone Record A340).

Light orchestra—Salon Orchestra, "Nola" (Arndt) (H.M.V. Record B2169)

8.9: Vocal quartet—St. Andrew's Quartet, "A Lady Came to Our Town" (Lohr).

8.14: Instrumental trio—Auckland Trio, "Finale of Third Trio" (Beethoven).

8.22: Soprano solo—Miss Adelaide Taylor, "The Moon and I," from "The Mikado" (Sullivan).

8.26: Recital—Miss Gladys Gammon, "The Death of Minnehaha" (Long-fellow).

8.31: Banjo duets—Messrs. Higgott and Morrison, (a) "Beautiful" (Shay); (b) "Ice Cream" (Johnston).

8.39: Bass solo—Mr. Arthur Colledge, "Hybrias the Cretan" (Elliott).

8.43: Male voices with piano—The Revellers, "Mammy is Gone" (De Sylva, Brown, and Henderson) (H.M.V. Record EA384).

Violin with kinema organ—Elsie Southgate, "I Hear You Calling Me" (Marshall) (Zonophone Record 5109).

8.51: Baritone solo—Mr. Hartley Warburton, "Eri Tu" ("Un Ballo in Maschera") (Verdi).

8.56: Vocal duet—Misses Taylor and Gribben, "O Lovely Peace" (Handel).

9.0: Weather forecast.

9.2: Violin solo—Miss Ina Bosworth, "First Movement Concerto in A Minor" (Mendelssohn).

9.6: Tenor solo—Mr. Robert Peter, "Rose Marie" (Friml).

9.10: Recital—Miss G. Gammon, "My Only Pal" (Parsons).

9.15: Trio—Misses Taylor and Gribben and Mr. Colledge, "Ye Shepherds Tell" (Mazzeighi).

9.19: Instrumental trio—Auckland Trio, "Two Spanish Dances" (Moszkowski).

9.27: Baritone solos—Mr. H. Warburton, (a) "Bedouin Love Song" (Pinsuti); (b) "Young Tom o' Devon" (Russell).

9.35: Banjo duets—Messrs. Higgott and Morrison, (a) "Oh, Doris" (Kahn); (b) "Is She My Girl Friend" (Ager).

9.43: Contralto solos—Miss Phyllis Gribben, (a) "When All Is Still" (Wright); (b) "The Little Damsel" (Rees).

9.51: Vocal trio with violin, harmonica, guitar, and jew's harp, "Climbin' Up de Golden Stairs" (H.M.V. Record EA382).

Foxtrot novelty—Paul Whiteman's Orchestra, "It Was the Dawn of Love" (Davis, Coots) (H.M.V. Record EA381).

9.59: Vocal quartet—Clarion Quartet, "Thinking of You" (Parkes).

10.4: God Save the King.

2YA, WELLINGTON (420 METRES)—THURSDAY, NOVEMBER 29.

3 p.m.: Chimes of the G.P.O. clock.

3.1: Selected gramophone items.

4.30 and 4.55: Sports results to hand.

5.0: Close down.

6.0: Children's session conducted by Aunt Gwen.

7.0: News session, market reports and sports results.

7.40: Lecturette—Mr. Alfred Blaxall, "Keeping Cool in Summer and Warm in Winter."

8.0: Chimes of the G.P.O. clock.

8.1: Relay from Caledonian Hall, Wellington, of the Caledonian Society's concert in honour of St. Andrew, the Patron Saint of Scotland.

10.30: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—THURSDAY, NOVEMBER 29.

3 p.m.: Afternoon session—Selected studio items.

4.25: Sports results.

4.30: Close down.

6.0: Children's session conducted by Uncle Hal.

7.15: News session.

7.30: Talk—Mr. C. H. Reece (under the auspices of Canterbury Progress League), "Garden Design."

8.0: Chimes.

Miscellaneous programme featuring excerpts from the comic opera "Merrie England" (German), produced under the direction of Madame Gower-Burns.

8.1: Overture—"Merrie England" (German) (H.M.V. Record D18).

8.5: Opening chorus—Grand Opera Quartet, "Sing A Down, A Down, A Down" (German).

Contralto solo and chorus—Mrs. Anne Harper and chorus, "Oh, Where the Deer Do Lie" (German).

8.12: Piano soli—Miss Aileen Warren, (a) "Coronach" (Barratt); (b) "Humoresques 1 and 2, Op. 6" (Grieg).

8.20: Tenor solo with chorus, followed by quartet—Mr. Harold Prescott and Grand Opera Quartet, (a) "That Every Jack Should Have a Jill"; (b) "Love is Meant to Make Us Glad" (German).

8.25: Instrumental trio—Christchurch Broadcasting Trio, "First Movement from C Minor Trio" (Mendelssohn).

8.37: Soprano ballad, followed by soprano and tenor duet and baritone solo and chorus—Madame Gower-Burns, Madame Gower-Burns and Mr. H. Prescott, Mr. Olive Hindle—(a) "She Had a Letter from Her Love"; (b) "When True Love Hath Found a Man"; (c) "Who Were the Yeomen" (German).

8.46: Kinema organ solo—Chas. W. Saxby, "Classica" (Pot pourri selection, arr. Ewing) (Zonophone Record A384).

8.54: Contralto solo and chorus—Mrs. Anne Harper and chorus, (a) "O Peaceful England" (German); (b) "It is a Tale of Robin Hood" (German).

9.0: Weather forecast.

9.2: Military band selection—H.M. Coldstream Guards, "H.M.S. Pinafore" (Sullivan) (H.M.V. Record C1283).

Dreams Fulfilled

with the

Incomparably Faithful

FADA



- 9.10: Quartet, followed by tenor and contralto duet—Grand Opera Quartet and Grand Opera Duo, (a) "In England, Merrie England" (German); (b) "It is the Merry Month of May" (German).
- 9.15: 'Cello soli—Mr. Harold Beck, Negro Spirituals, (a) "I Am Travellin' to de Grave" (Benjamin); (b) "March On."
- 9.22: Tenor solo, followed by soprano solo—Mr. Harold Prescott and Madame Gower-Burns, (a) "Dame Cupid Hath a Garden"; (b) "O, Who Shall Say that Love is Cruel" (German).
- 9.27: Orchestral—Berlin Philharmonic Orchestra, "Carnaval Romain" (Berlioz) (H.M.V. Record D1365).
- 9.35: Baritone solo and finale—Mr. Clive Hindle, (a) "When Cupid First This Old World Trod" (German); (b) "Now, Who'll Come? said Robin Hood" (German).
- 9.40: Instrumental trios—Christchurch Broadcasting Trio, (a) "Song of the Mountains" (Grieg); (b) "Vivace" (Brahms).
- 9.48: Contralto solo—Mrs. Anne Harper, "Lie There, My Lute" (MacCunn).
- 9.52: Orchestral selection—National Symphony Orchestra, "Aida" (Verdi) (Zonophone Record A340).
- 9.56: Soprano solo followed by baritone solos—Madame Gower-Burns and Mr. Clive Hindle, (a) "Orpheus with His Lute" (Coates); (b) "Dear Heart of Mine" (Mattei); (c) "Blue Sky and White Road" (Coates).
- 10.6: Waltz—Marek Weber's Orchestra, "Moonlight on the Alster" (Fetras) (H.M.V. Record C1407).
- Close down.

4YA, DUNEDIN (463 METRES)—THURSDAY, NOVEMBER 29.

SILENT DAY.

Friday, November 30

1YA, AUCKLAND (333 METRES)—FRIDAY, NOVEMBER 30.

3 p.m.: Afternoon session—Selected studio items.

- 4.0: Literary selection by the announcer.
- 4.8: Studio items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 6.0: Children's session, conducted by Nod and Aunt Jean.
- 7.15: News and market reports; book review.
- 8.0: Chimes.

"MEMORIES OF OLD SCOTLAND" PROGRAMME.

- 8.1: March—Orchestra, "The London Scottish" (Haines).
- 8.7: Chorus—Savoy Octet, "Scots Wha Hae" (traditional).
- 8.11: Bass solo—"To Horse! To Horse!" (Deacon).
- 8.15: Soprano solo—"Caller Herrin'" (traditional).
- 8.19: Vocal duet—"O Wert Thou in the Cauld Blast" (Mendelssohn).
- 8.23: Bagpipes—Piper J. C. Cameron, "Scottish Melodies."
- 8.27: Baritone and chorus—"Green Grow the Rushes O" (traditional).
- 8.31: Selection—Orchestra and vocalists, "Highland Laddies" (arranged Seredy).
- 8.41: Contralto solo—"Douglas Gordon" (Scottish air).
- 8.45: Song and chorus—"Tobermory" (Lauder).
- 8.49: Chorus—Savoy Octet, "The Campbells are Coming" (Mansfield).
- 8.53: Bass and chorus—"Hail, Caledonia!" (Stroud).
- 8.58: Weather forecast.
- 8.55: Suite—Orchestra, "Keltic Suite" (Foulds).
1. The Clans.
 2. A Lament. Soloist, Miss Molly Wright.
 3. The Call.
- 9.7: Soprano solo—"An Eriskay Love Lilt" (Kennedy Fraser).
- 9.11: Chorus—"Bonnie Laddie, Highland Laddie" (arr. Phillpot).
- 9.15: Band—Coldstream Guards, "Scottish Patrol—Gathering of the Clans" (Williams), (H.M.V. Record C1234).
- 9.19: Vocal trio—"Ye Banks and Braes" (traditional).
- 9.23: Bagpipes—Piper J. C. Cameron, "Scottish Melodies."
- 9.27: Tenor and chorus—"Roamin' in the Gloamin'" (Lauder).
- 8.31: Baritone and chorus, "A Border Ballad" (Cowen).
- 9.35: Chorus—Savoy Octet, "Auld Scotch Songs."
- 9.39: Pipes and Drums—H.M. Scots Guards, "March Past of Royal Scots and Royal Highlanders" (medley march), (H.M.V. Record B122).
- Scottish comedian—Sir Harry Lauder, "Nanny" (Lauder), (Zonophone Record G078).
- 9.47: Selection—Orchestra, "The Thistle" (Myddleton).
- 9.55: Finale—"Auld Lang Syne" (traditional).
- 10.0: God Save the King.

2YA, WELLINGTON (420 METRES)—FRIDAY, NOVEMBER 30.

- 3 p.m.: Chimes of the G.P.O. Clock.
- 3.1: Selected gramophone items.
- 4.30 and 4.55: Sports results to hand.
- 5.0: Close down.
- 6.0: Children's session conducted by Uncle Ernest.
- 7.0: News session, market reports and sports results.
- 8.0: Chimes of the G.P.O. Clock.

- 8.1: Relay from the Grand Opera House of concert by the pupils of St. Mary's College, Hill Street. The 2YA Orchestra will assist with the programme.
- March—Orchestra, "No Surrender" (Morrison).
- Pianoforte duets—Misses Anita Aarons and Phyllis Bent, (a) "Country Dance" (German); (b) "Russian Dance" (Tchaikowsky).
- Recital—Miss Ismay McIlroy, "Neil Gwynn."
- March—Orchestra, "Festival March" (Zamecnik).
- Pianoforte duet—Messrs Mollie McCormick and Eileen Clarke, "2nd. Hungarian Rhapsody" (Liszt).
- Violin selection—St. Mary's College pupils, selected.
- Recital—Miss Sylvia Hishon, "The Bishop and the Caterpillar."
- Chorus with orchestral accompaniment—Senior pupils of St. Mary's College, "O' Sing to God" (Gounod); (soloists: Misses Vera McKenzie and Agnes McDavitt).
- ..
- Weather forecast.
- Cantata with orchestral accompaniment Pupils of St. Mary's College, "Laila" (Stratton), (Soloists: Laila, Zoe Millar; Fairy Queen, Elvera Meban; Beggar Mother, Agnes McDavitt).
- Chorus with orchestral accompaniment—Pupils of St. Mary's College, "Ave Maria" (Vincent).
- God Save the King.

3YA, CHRISTCHURCH (306 METRES), FRIDAY, NOVEMBER 30.

- 3 p.m.: Afternoon session—Selected studio items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 6.0: Children's session, conducted by Big Brother.
- 7.15: News session.
- 8.0: Chimes.
- 8.1: Overture—Rebroadcast of 2YA, Wellington, "No Surrender," March (Morrison).
- 8.5: The song cycle, "Wind Flowers" (Somervell), will be presented by the Melodious Four, with instrumental accompaniment by the Christchurch Broadcasting Trio.
- Quartet—Melodious Four, "Twist Me a Crown of Wind Flowers."
- Quartet—Melodious Four, "High Over the Breakers."
- Contralto solo—Miss Belle Renaut, "The Wind Has Such a Rainy Sound."
- Quartet—Melodious Four, "Hope is Like a Harebell."
- Duet—Melodious Duo, "Two Doves on the Self-same Branch."
- Quartet—Melodious Four, "Music When Soft Voices Die."
- Tenor Solo and Quartet—Mr. Russell Sumner, "When a Mounting Skylark Sings."
- Quartet—Melodious Four, "Going to Bed."
- Baritone and quartet, followed by finale—Mr. T. D. Williams and chorus, "Windy Nights" (Somervell).
- 8.27: Pianoforte solos—Miss Lucy Fullwood, (a) "Idyll" (Sibelius); (b) "Etude" (Glazanow).
- 8.35: Scottish comedian—Sir Harry Lauder, "The Boss of the Hoose" (Lauder), (Zonophone record G079).
- 8.39: Instrumental trio—Christchurch Broadcasting Trio, "Romance" (Glinka).
- 8.45: Soprano solos—Miss Frances Hamerton, (a) "'Twas Within a Mile of Edinburgh Town" (Rimbault); (b) "Comin' Thro' the Rye" (Rimbault).
- 8.52: Pianoforte solos—Miss Lucy Fullwood, (a) "Time" (Williams); (b) "Isle" (Williams).
- 8.59: Humorous song—Mr. Jock Lockhart, "The Waggle o' the Kilt" (Lauder).
- 9.4: Weather forecast.
- 9.6: Highland war pipes—Pipe-Major J. A. Patterson, (a) March, "Leaving Glen Urquhart" (traditional); (b) Strathspey, "Captain Jack Murray" (traditional); (c) Strathspey, Reel, "Reel o' Tulloch" (traditional).
- 9.12: Tenor solos—Mr. Russell Sumner, (a) "Annie Laurie" (traditional); (b) "Mary of Allandale" (Hook).
- 9.19: Scottish comedian with orchestra—Sir Harry Lauder, "I Like My Old Home Town" (Lauder), (Zonophone record G079).
- 9.23: Instrumental trio—Christchurch Broadcasting Trio, "Waltz" (Carrens).
- 9.27: Contralto solos—Miss Belle Renaut, (a) "The Land o' the Leal" (Rimbault); (b) "Down the Burn, Davie" (Rimbault).
- 9.33: Pipes and drums—His Majesty's Scots Guards, "March Past of the Cameron Highlanders and Gordon Highlanders" (H.M.V. record B122).
- 9.37: Scottish songs—Mr. Jock Lockhart, (a) "Ma Bonnie Jean" (Lauder); (b) "Just a Wee Deoch an' Doris" (Lauder).
- 9.43: Highland war pipes—Pipe-Major J. A. Patterson, (a) March, "Highland Rory" (traditional); (b) Hornpipe, "Harvest Home" (Macdonald); (c) Jig, "Jig" (traditional).
- 9.49: Baritone solos—Mr. T. D. Williams, (a) "The Border Ballad" (Cowan); (b) "The Bonnie Banks of Loch Lomond" (arr. Smith).
- 9.56: Band—H.M. Coldstream Guards, "Scottish Patrol: The Gathering of the Clans" (Williams), (H.M.V. record C1234).
- 10.0: Chorus—Melodious Four, "For Auld Lang Syne" (traditional)
- God Save the King.

4YA, DUNEDIN (463 METRES)—FRIDAY, NOVEMBER 30.

- 3 p.m.: Town Hall chimes.
- 3.1: Gramophone concert.
- 3.30: Relay of afternoon-tea music from the Savoy.

- 3.45: Studio items.
 4.0: Relay of music from the Savoy.
 4.15: Gramophone items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Town Hall chimes.
 6.1: Children's session conducted by Aunt Sheila and Big Brother Bill.
 7.15: News session.
 7.30: Book review by Mr. H. Greenwood of the Dunedin Athenaeum.
 8.1: Overture—Symphony Orchestra, "Oberon Overture" (Weber) (H.M.V. Record D1311).
 8.9: Contralto solos—Miss Dorothy Skinner, (a) "Break, Break, Break" (Carey); (b) "A Request" (Woodforde-Finden).
 8.15: Recital—Mr. Clarence Paine, "My Wireless Set."
 8.20: Bass solo—Mr. Neil Black, "Queen of Angels" (Piccolomini).
 8.24: Orchestral—Victor Symphony Orchestra, "Dance of the Hours" (from "La Gioconda") (Ponchielli) (Zonophone Record EF12).
 8.32: Mezzo-soprano solos—Miss Gwen Hislop, (a) "Mark Yonder Tomb" (Beethoven); (b) "Ships that Pass in the Night" (Stephenson).
 8.38: Piano solo—Mrs. Ernest Drake.
 8.43: Violin with cinema organ—Elsie Southgate, "I hear you Calling Me" (Marshall) (Zonophone Record 5109).
 8.47: Contralto solo—Miss Dorothy Skinner, "Home Song" (Liddle).
 8.51: Recitals—Mr. Clarence Paine, (a) "My Little Peach"; (b) "Song of the Market Place."
 9.0: Weather forecast.
 9.2: Bass solo—Mr. Neil Black, "Scotland Yet" (McLeod).
 9.6: Cinema organ solo—Chas W. Saxby, "Classica" (Potpourri selection) (arranged Ewing) (Zonophone Record A334).
 9.10: Mezzo-soprano solo—Miss Gwen Hislop, "Will he Come" (Sullivan).
 9.13: Concerted with orchestra, Light Opera Co., Gems from "Sunny" (Kern) (H.M.V. Record C1293).
 Comedian with orchestra, Leslie Sarony, "Don't be Cruel to a Vegetable" (Sarony).
 9.21: Waltz with vocal refrain—Goodrich Silvertown Cord Orchestra, "The Church Bells are Ringing for Mary" (Colby) (H.M.V. Record EA381).
 9.25: Relay of dance music from the Savoy.
 10.0: Close down.

Saturday, December 1

1YA, AUCKLAND (333 METRES)—SATURDAY, DECEMBER 1.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.8: Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Cinderella.
 7.15: News and market reports.
 8.0: Chimes.
 8.1: Orchestra—Philadelphia Symphony Orchestra, "Invitation to the Waltz" (Weber), (H.M.V. Record D1285).
 8.9: Baritone solo—Mr. Frank Sutherland, "Roadways" (Lohr).
 8.13: Instrumental trio—Auckland Trio, "Flying Dutchman" (Wagner).
 8.21: Vocal trios—Snappy Three, (a) "Anything to Make You Happy" (Valentine); (b) "Ramona" (Wayne).
 8.27: Comedian with orchestra—Leslie Sarony, "Don't be Cruel to a Vegetable" (Sarony), (H.M.V. Record B2714).
 8.31: Humorous monologue—Mr. F. W. Barker, "Greetings" (Parker).
 8.36: Cello solo—Miss Molly Wright, "Chanson Villageoise" (Popper).
 8.40: Duet with violin, banjo and guitar accompaniment—Vernon Dalhart and Carson Robison, "The Little Green Valley" (Robison), (H.M.V. Record EA382).
 8.44: Baritone solos—Mr. F. Sutherland, (a) "Chip of the Old Block" (Squire); (b) "Leavin'" (Bennett).
 8.52: Instrumental trio—Auckland Trio, "Hungarian Dances" (Brahms).
 9.0: Weather forecast.
 9.2: Humour—Mr. F. W. Barker, "The Social Scale."
 9.7: Mandolin quartet—Athenian Mandolin Quartet, "Aloha Land" (Ferera), (H.M.V. Record EA24).
 9.11: Vocal trios—Snappy Three, (a) "Side by Side" (Woods); (b) "Piano Jazz Solo"; (c) "My Heart Stood Still" (Rodgers).
 9.18: Concerted with orchestra—Light Opera Company, (a) "Vagabond King" Vocal Gems (Friml); (b) "Lady Luck Vocal Gems" (Hedley), (H.M.V. Record C1346).
 9.26: Programme of dance music.
 11.0: God Save the King.

2YA, WELLINGTON (420 METRES)—SATURDAY, DECEMBER 1.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session conducted by Uncle Toby and Aunt Gwen.
 7.0: News session—Market reports and sports results.
 7.40: Lecturette—Mr. P. M. Jackson, M.A., "Inevitable Changes in Education" (under the auspices of the Workers' Educational Association).

- 8.0: Chimes of the G.P.O. clock.
 8.1: March—Orchestra, "New Colonial March" (Hall).
 Dance—Orchestra, "Danse Orientale" (Lubonirsky).
 8.9: Quartet—Melodie Four, "The Glow-Worm" (Lincke).
 8.13: Tenor solo—Mr. F. Bryant, "A Song Remembered" (Coates).
 8.17: Humour—Leslie Sarony, "Don't Be Cruel to a Vegetable" (Sarony) (H.M.V. Record B2714).
 8.21: Baritone solo—Mr. R. S. Allwright, "Two Grenadiers" (Schumann).
 8.26: Serenade—Orchestra, "Serenade" (Schubert).
 Suite—Orchestra, "Two Light Syncopated Pieces" (Coates): (1) "Moon Magic"; (2) "Rose of Samarkand."
 8.38: Quartet—Melodie Four, "Song of Hawaii" (Bories, arr. Melodie Four).
 8.42: Hawaiian selections—Hilo Hawaiian Orchestra, (a) "Hawaiian Nights" (Roberts); (b) "Aloma" (Bowers) (H.M.V. Record EA310).
 8.48: Humour—Mr. Jack Wilkinson, "It Will Only Make Me Love You All the More" (Weston and Barnes).
 8.54: Instrumental—Orchestra, repeat number.
 9.2: Weather forecast.
 9.3: Kinema organ—Chas. W. Saxby, "Classica" (Pot pourri selection, arr. Ewing) (Zonophone Record A334).
 9.11: Tenor solo—Mr. Sam Duncan, "Somewhere a Voice is Calling" (Tate).
 9.15: Concerted with orchestra—D'Oyly Carte Opera Company, "List and Learn," from "The Gondoliers" (Sullivan) (H.M.V. Record D1334).
 9.19: Humour—Mr. Jack Wilkinson, "She's Only Been With Us a Week" (Weston and Barnes).
 9.24: Musical comedy selection—Orchestra, "Madame Pompadour" (Fall).
 9.34: Bass solo—Mr. W. W. Marshall, "The Cold North Sea" (Courtenay).
 9.39: Vocal trio with violin, harmonica, guitar, and jew's harp—"Climbin' Up de Golden Stairs" (H.M.V. Record EA382).
 9.43: Quartet—Melodie Four, "Piccaninny Lullaby" (Macy).
 9.47: Instrumental—Orchestra, Foxtrot Novelties.
 10.0: Dance programme.
 11.0: Close down.

3YA, CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 1.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session conducted by Chuckle and Aunt Pat.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington.
 10.0: Dance programme.
 11.0: Close down.

4YA, DUNEDIN (463 METRES)—SATURDAY, DECEMBER 1.

- 7.15 p.m.: News session.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral music from the Octagon Theatre Orchestra under the conductorship of Monsieur Henri de Rose (Mus.Bac.).
 8.11: Popular song hits—Miss Jacqueline Burke, (a) "I Don't Know What to Do" (Wood); (b) "Do It for Me" (Hirsch).
 8.18: Hawaiian selection—Honolulu Serenaders, "Honolulu Stomp" (Pilipo) (Zonophone Record EE92).
 8.22: Humorous song—Mr. Norman Scurr, "Cock-a-doodle, I'm Off My Noodle" (Sherman).
 8.26: Humorous sketch—Miss Anita Winkel and Major F. H. Lampen.
 8.36: Relay of orchestral music from the Octagon Theatre.
 8.50: Humorous Scottish song—Mr. J. Paterson, "Just Got Off the Chain" (Lauder).
 8.55: Bass-baritone solo—Peter Dawson, "The Floral Dance" (Moss) (H.M.V. Record C1313).
 8.59: Weather forecast.
 9.1: Military band selection—H.M. Grenadier Guards, "Wembley Military Tattoo" (Columbia Record 9074).
 9.9: Light songs at the piano—Miss Eileen Cooper.
 9.15: Popular song hit—Miss Jacqueline Burke, "Dream Kisses" (Jerome).
 9.19: Solo and chorus with orchestra—Zonophone Light Opera Company, "Gems from 'The Yeomen of the Guard'" (Sullivan) (Zonophone Record A321).
 9.23: Popular numbers—Mr. Norman Scurr, (a) "Ain't that a Grand and Glorious Feeling" (Ager); (b) "I'd Do It All Over Again" (Conrad).
 Foxtrot—Paul Whiteman's Orchestra, "Dixie Dawn" (Trent and Rose) (H.M.V. Record EA386).
 9.34: Humorous sketch—Miss Anita Winkel and Major F. H. Lampen.
 9.44: Humorous Scottish songs—Mr. J. Paterson, (a) "I'm Glad I'm Marritae the Wife" (Fyffe); (b) "I'm Tight, Too" (Fyffe).
 9.52: Foxtrot with vocal refrain—Nat Shilkret's Orchestra, "Dancing Shadows" (Golden) (H.M.V. Record A367).
 9.56: Light songs at the piano—Miss Eileen Cooper.
 10.0: Foxtrot novelty—Paul Whiteman's Orchestra, "It Was the Dawn of Love" (Davis, Coots) (H.M.V. Record EA381).
 10.4: Close down.

Sunday, December 2

1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 2.

3 p.m.: Afternoon session—Selected studio items.

4.0: Literary selection by the announcer.

4.8: Selected studio items.

4.30: Close down.

6.0: Children's session, conducted by Uncle Leo.

6.55: Relay of service from St. Mary's Cathedral. Preacher, Canon Percival James. Organist, Mr. Edgar Randall.

8.30: Selected studio items.

9.30: Close down.

2YA, WELLINGTON (420 METRES)—SUNDAY, DECEMBER 2.

3 p.m.: Chimes of the G.P.O. clock.

3.1: Relay from Basin Reserve of concert by Wellington Combined Bands' Association in aid of Queen Iphigenia (Entertainment and Music Queen of the Carnival being held in connection with the campaign to raise funds for the National Art Gallery and Dominion Museum).

6.0: Children's Sunday service, conducted by Uncle Ernest.

7.0: Relay of evening service from Church of Christ, Vivian Street. Preacher, Pastor W. G. Carpenter; organist, Miss Iris Mason; choir-master, Mr. W. J. Mason.

8.15 (approx.): Studio concert.

Orchestral—Symphony Orchestra, "Oberon" Overture (Weber) (H.M.V. Record D1311).

Contralto solo—Miss Hilda Chudley, "None but a Lonely Heart" (Tschalkowsky).

Pianoforte solo—Mark Hambourg, "Hungarian Rhapsody No. 8" (Liszt) (H.M.V. Record B2667).

Tenor solo—Mr. E. W. Robbins, "Crossing the Bar" (Willeby).

String quartet—London String Quartet, "Andante Cantabile Quartet in D," Op. 11 (Tschalkowsky) (Columbia Record 04146).

Duet—Miss Hilda Chudley and Mr. E. W. Robbins, "The Sabbath Morn" (Mendelssohn).

Orchestral—New Queen's Hall Light Orchestra, "Petite Suite de Concert" (Coleridge-Taylor) (Columbia Records 02588/9).

1. "La Caprice de Nanette."

2. "Demande et Response."

3. "Un Sonnet d'Amour."

4. "La Tarantelle Fretillante."

Bass, with orchestra—Theodore Chaliapin, "Song of the Viking Guest" (Rimsky-Korsakov) (H.M.V. Record DB1104).

Overture—Berlin Philharmonic Orchestra, "Carnaval Romain" (Berlioz) (H.M.V. Record D1365).

Tenor solos—Mr. E. W. Robbins, (a) "Until" (Sanderson); (b) "If I Might Come to You" (Squire).

Violin solo—Joseph Szigeti, "Slavonic Dance in G Minor No. 1" (Dvorak-Kreisler).

Contralto solo—Miss Hilda Chudley, "Through the Day" (Medley).

Organ solo—G. T. Pattman, "Liebestraume" (Liszt) (Columbia Record 01003).

Duet—Miss Hilda Chudley and Mr. E. W. Robbins, "Nightfall at Sea" (Goring Thomas).

Cello solo—Felix Salmond, "To a Wild Rose" (Macdowell) (Columbia Record 03591).

Baritone solos—John Brownlee, (a) "So, Sir Page!" (from "The Marriage of Figaro") (Mozart); (b) "Sirs! Your Toast" (from "Toreador's Song") (Bizet) (H.M.V. Record D1396).

Orchestral—Hall Orchestra, "Rakoczy March" (Berlioz) (Columbia Record 04155).

Close down.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 2.

3 p.m.: Afternoon session—Selected studio items.

4.30: Close down.

5.30: Children's song service conducted by Uncle David.

6.30: Relay of evening service from Oxford Terrace Baptist Church. Preacher, Rev. J. Robertson, M.A.; choir-master, Mr. Vic. Peters; organist, Mr. Melville Lawry.

A short after-church programme will be continued from the Church, followed by a programme from the studio.

8.0 (approx.): Orchestral—Philadelphia Symphony Orchestra, "Toccata and Fugue in D Minor" (Bach) (H.M.V. Record D1428).

8.8: Mezzo-contralto solos, Miss Kathleen Johns, (a) "Still as the Night" (Bohm); (b) "Smiling Through" (Penn).

8.14: Grand organ solo—Arthur Meale, "Cavatina" (Raff, arrgd. Meale) (H.M.V. Record B2695).

8.18: Baritone solo—Mr. Cyril Rishworth, "When God Gave You to Me" (Nicholls).

8.22: Choral, with organ—Choir of the Temple Church, London, "I Waited for the Lord" (H.M.V. Record C1398).

8.26: Mezzo-contralto solo—Miss Kathleen Johns, "My Dear Soul" (Sanderson).

8.30: Orchestral—(a) Chicago Symphony Orchestra, "Valse Triste" (Sibelius); (b) San Francisco Symphony Orchestra, "Funeral March of a Marionette" (Gounod) (H.M.V. Record ED5).

8.38: Baritone solos—Mr. Cyril Rishworth, (a) "Where the Abana Flows" (from "A Lover in Damascus"); (b) "Kashmiri Song" (from "Four Indian Love Lyrics"); (c) "The Garden of Kama" (Woodforde-Finden).

8.48: Violin solo—Isolde Menges, "Ave Maria" (Schubert, arrgd. Wilhelm) (H.M.V. Record D1313).

8.52: Orchestral—Victor Symphony Orchestra, "Dance of the Hours" (from "La Gioconda") (Ponchielli) (Zonophone Record EF12).

9.0: Bass-baritone solo—Peter Dawson, "Thou're Passing Hence" (Sullivan) (H.M.V. Record C1427).

9.4: Cello solos—Pablo Casals, (a) "Moment Musical" (Schubert); (b) "Le Cygne" (Saint-Saens) (H.M.V. Record DA776).

9.12: Tenor, with orchestra—Franklyn Baur, "Beloved" (Kahn) (H.M.V. Record EA392).

9.16: Orchestral—Symphony Orchestra, "Oberon Overture" (Weber) (H.M.V. Record D1311).

9.24: Selected items.

Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 2.

5.30 p.m.: Children's song service conducted by Big Brother Bill.

6.30: Relay of service from Moray Place Congregational Church. Preacher, Rev. Albert Meade, M.A.

8.0: Relay from St. Kilda of concert by the St. Kilda Band under the direction of Mr. James Dixon.

9.15: Close down.

Pictures by Radio

New Service for B.B.C.

THE 30th October marked the opening of a new wireless era in Great Britain. For the first time pictures were transmitted; henceforth a regular picture service is assured.

Picture transmission, that is, the transmission of still pictures as different from television, has passed the experimental stage, and has now proved itself a definite utility to man. It has been commercialised.

With regard to the first picture transmission in Great Britain two pictures, the first of which was that of the King, were transmitted from Daven-try. The result was truly gratifying. An admirable representation resembling an ordinary sepia photograph was reproduced in London and Manchester. Arrangements have been finalised for demonstrations to take place in all the big centres. Great interest is being centred on this new phase of radiology, and the fact that the conservative B.B.C. are to undertake the regular transmission of pictures clearly indicates that this branch of radio has come to stay, to prove itself as radio itself has done, a definite utility to man.

The Fultograph System.

THE system by which photos are to be transmitted was invented by Captain Fulton, and has already been described and contrasted with television in this paper, September 28, 1928.

Following is a brief summary of the principle:—

The apparatus is certainly simple. On the top of a box is clockwork which revolves slowly a cylinder like the cylinder of an old type phonograph cylinder. Semi-absorbent paper, dipped in chemical solution, is placed round the cylinder and a platinum needle traces out in 3½ minutes an easily-recognisable portrait. It is claimed that a one-valve set with a suitable arrangement to replace the loudspeaker can reproduce the pictures a distance of one mile from the transmitting station. Beyond this more valves are required.

When a photograph is to be transmitted a negative is printed on a sheet

of zinc or copper foil coated with sensitised fish glue. During the printing the glue exposed to the light becomes insoluble. Washing the glue removes the portion that has not been exposed to the light, leaving an insoluble image. This is hardened and impressed into tin.

The glue picture is wrapped round the cylinder and as the cylinder revolves a metal stylus moves over it. The glue acts as an insulator, but when the stylus touches it a current passes and is transmitted.

A somewhat similar arrangement at the receiving end causes an identical picture to be traced out.

Manufacturers are now busy preparing receiving apparatus which will go on the market at £23 each. This will put facilities to receive pictures in almost every home now possessing a radio.

Service for Australia.

THE antipodes are not long following in the footsteps of the cautious parent, and it has been announced that the Commonwealth Postal Department are making arrangements for the transmission of pictures by means of telephone wires. By this means it will be possible to publish the picture of an event happening half an hour earlier in another State.

This is to be utilised by the Australian police, whose enterprise in the use of radio has already been made the subject of an article.

NEW Zealand has already seen a demonstration of picture transmission, when Mr. Gibbs, of the Post and Telegraph Department, successfully demonstrated before a branch of the Philosophical Society. Mr. Morton Coutts, of 2AQ, is to take up experimental television in New Zealand.

Television proper is, however still an art of the future, although the Americans are busily occupying themselves with the study. Short-wave enthusiasts constantly report having heard the carrier note of an American television station now on the air. According to one short-wave expert, the television ripple from 2XAF was louder than the carrier wave of 2YA.

Picture transmission is advancing rapidly, and the next few years should see definite services established in many quarters of the globe.

Answers to Correspondents.

"Satisfied Listener."—The description of the indoor aerial to which you refer was taken from the "Radio News," a leading American publication.

"Tortured" (Roseneath) writes complaining of the "Bohemian Girl" broadcast in terms which we think would be prejudicial to the prospect of further relays of this nature and as such against the interests of listeners. Listeners, however, may note that this writer enters his "emphatic protest" against that entertainment and suggests that "2YA should have a stab at pleasing the other side of musical taste."

Northerner Wants Stronger 4YA.

WHAT are the Radio Broadcasting Company doing about the promised new 4YA station? Ever since 2YA came on the air, and the wavelengths were rearranged owners of 5 and 6-valve sets have difficulty in getting 4YA; so what chance have the smaller sets got? Would not the fact of an improved station increase the licenses? I think 2YA is sufficient proof of that. If one looks at a map of the South Island, they will see, the area of country to be served by 4YA, in comparison with 3YA and 1YA; therefore, why not have a more powerful station—say, 750 watts instead of 500.—A. D. Walker (Dargaville).

A Collection of Overseas Scalps.

SINCE writing last, my set has been out of commission, but I am back again into it now as deep as ever. This morning, Sunday November 10, I thought I would rise a little earlier to see what was on the air and found quite a lot to amuse me. 7LO was on the air till 7 a.m., but that brass pounder was in strong evidence as

Our Mail Bag

Will correspondents please practice brevity, as heavy demands are now made on space. All letters must be signed and address given as proof of genuineness; noms de plume for publication are permitted. Address correspondence Editor, "Radio Record," P.O. Box 1032, Wellington.

usual, although reception was quite good even through him, after listening to him a little I tuned my receiver to 45 metres, and a station was tuned in and after listening to a few vocal and musical items the station announcement was made, being IMI, Milan, Italy. Strength was about R7. This station I will look for again next Sunday morning to try and find out a little more about him. The reception from him was quite good, but was subject to a little fading.

The German station, RSR, came on the air about 6 a.m., with plenty of speech, but for once he gave us some music, which was quite good. I find now that this station has increased in strength somewhat and rates regarding volume with any other s.w. station.

On Wednesday, November 7, I listened to 2XAF sending out American election results. At 5.15 p.m. for a while, and then heard a station on 40 metres sending out the same results, but the call sign I could not get. But KGO, California, was mentioned, so think perhaps it was KGO, s.w. transmitter I heard. It seems strange to me that we do not hear some of the Californian s.w. stations, because I believe they have two or three stations working on high power, but to my knowledge one has not been logged here yet.

On Wednesday, November 7, I had quite a record of stations, namely:—PCJJ, Holland; 5SW, England; 7LO,

South Africa; RSR, Germany; 2XAF, 2XAD, Schenectady; 2ME, Sydney; 6AG, Perth; KFON, KGER, KNX, California; JOAK, JOBK, JOIK (JH BB s.w.), Japan; six Australian; three New Zealand; total, 24.

2XAF and 2ME testing duplex telephony, have been heard a number of times; and have been quite good. The Canadian as reported being heard, belongs to James Richardson and Sons, Ltd., Grain Exchange Buildings, Winnipeg, Manitoba, Canada, and is a Canadian Marconi Company outfit on the nineteenth floor of the building, 2000 watts, 27 metres, call-sign HT.

The Loveless aerial described in the "American Radio News" and also in the "Radio Record"—being always interested in something new, just for an experiment on s.w. I tried this aerial out and found it to be an absolute failure both for s.w. and also on its broadcast band. I could receive much better without an aerial at all. Like most of these wonder aeriels and such like, they usually turn out a frost, all the same, I bet there has been a few miles of Bell wire sold lately somewhere.

I have been much interested in the relays of s.w. stations by 2YA, and in my opinion, some have been successful and some not, and on two or three occasions when 2YA has been relaying PCJJ and 5SW, the reception has been subject to a lot of interference, probably from power lines and such like, but it was surprising to me to read in one of the daily papers that the relay by New Zealand stations of 5SW on the event of the Armistice Day celebration in London, was not successful. My reception of 5SW on Sunday night from 10.30 p.m. was the best I have ever heard from 5SW. In all probability my success was this, I have just erected a new aerial, the approximate height being when first erect 100 feet, and on receiving at that height I found reception was no better than received on my old aerial of 50 feet, but when the high winds were on last week, it brought the pole down where the far end of my aerial is attached. The pole was erected again, and I brought my aerial down about 10 feet, which gives me now 90 feet, and I find now signal strength has increased 50 per cent. to what it was

before. One could hardly credit it, that decreasing the height of the aerial should make that marked difference, but such was the case.—A. P. Morrison (Brooklyn).

A Voice from the Backblocks.

Dear Sir,—I take the pleasure of writing this letter to you ("Radio Record") and thanking you for the past week of enjoyment which I have received from my set, despite the racing ban. Being away in the hills and away from town life, I can assure you that the radio has brought town to us and made distance seem very small. I had the luck to get the Melbourne Cup description very well when it was finally relayed. I wonder how many New Zealand Racing Club people were turning the dials on that occasion. I hope they were few, when they ban the farmers and those in hospital from getting the running description. They say that broadcasting the races incline people to go for illegal betting. In my opinion—that is, if one can form one—as long as there are people on this earth and horses racing, illegal betting will go on, and, what is more, it went on before the radio came to us, and it will go on after it has gone. Let us hope in the future that the Broadcasting Company will be able to give us the full race meeting from the course. I much appreciate the goods we have been having from 3YA during race week. One good thing, there is not a ban on the election night. I will be up and at it from start to finish, as it would be a good week perhaps before we got the full details. Taking our programmes right through they are O.K. A mouth organ solo more often would be well in its place, as they come through as good as a band of mouth organs. There has of late been a good deal of background music from 1YA in their news and report hour. Could you let me know what that is, as it sounds as if they are getting ready for the concert at 8 p.m. at 1YA. All stations have been O.K. of late as regards programmes, and I hope you will continue to do the good work.—Backblocks.

P.S.—The Leckie and Radford bout was one of the finest boxing matches I have had the pleasure of tuning-in (thanks to the sports announcer).

Various Points.

IN the "Record" of November 9 you mention the tests carried out between 2ME and 2XAF. I picked up one of these tests on my six-valve receiver on the loudspeaker at about 280 metres. Would this be a harmonic? We heard the American announcer quite plainly, and also music from 2XAF, as well as the conversation between the two stations. The volume

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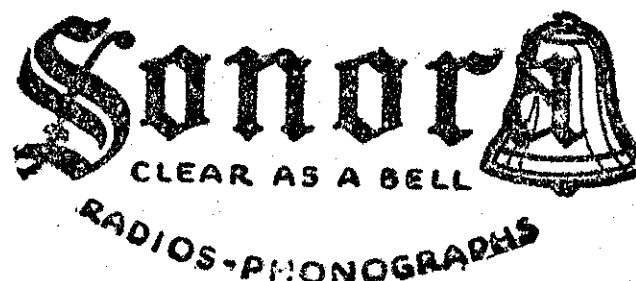
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Radio information ?

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was very good. [Yes, that would be a harmonic.] I also noticed a complaint regarding 4YA. It is certainly a hard station to pick up, and it is very seldom that we can hear any items on the speaker. On the other hand, I get very good volume from 2ZF Palmerston North, and 2ZM Gisborne. [Of course, they are a little closer than Dunedin.] Another point, that was stressed by one correspondent was the poor quality of the afternoon music. I cannot agree with him. Regarding 1YA, the selection is very varied, all tastes being catered for. As the announcer has a few thousand listeners to please, each with different likes and dislikes, he has his work cut out. Personally, I would like to hear a little less classical music, as I am like the man that preferred "music with tunes in it." How about a few more vocal duets? In conclusion, I would like to make two suggestions. Firstly, what about a midday session from the big stations? Whatever the farmer is doing he is usually handy to the house at dinner time, whereas 3 p.m. finds him at work. The other suggestion is that the racing authorities adopt "pro bono publico" as their motto, instead of "pro bono racing finance."—"Northlander" (Whangarei).

10-watt Aussie Heard.

HAS anyone else received this station. 3RI, Melbourne, wave-length 230.6 metres, power 10 watts? I received the station on September 7 at 1 a.m., N.Z.M.T., and this is the letter I received confirming my report: "I have much pleasure in confirming reception of this station on September 7. As a matter of fact, the voice you heard making the announcement was my own. I was testing with another experimenter for modulation of speech.

"Considering the power used at this end, it speaks volumes for your receiver and the efficiency of the aerial system of this station. Our schedule is as follows:—Sundays, 2 p.m. to 3 p.m., and 10 p.m. to 12 a.m., Melbourne time, and sometimes week nights from about 11 p.m. to 11.30 p.m. Thanking you for your report and wishing you further success.—Yours faithfully." The set I was using on this night was an ordinary three-valve neutrodyne, 1 radio detector, and 1 audio. My log totals 46 stations now.—A. E. Ireland (Taradale).

Method of Announcing.

WHILE appreciating the service of the Broadcasting Company, we were disappointed in the announcing of 2YA last night. The announcer, when giving out figures, should say, "Six-three-nine-five," instead of "Six thousand three hundred and ninety-five." As it was, there are some districts where we do not know yet which candidate is leading, as it was impossible to distinguish between "fifty" and "sixty," also between "thirty" and "forty." The regular announcer's voice is much clearer. We afterwards listened to 3YA, where we had no difficulty in distinguishing the figures, which were read as I suggest. Perhaps the announcer may take the hint in future. In news items we are not particular about precise English—we want clearness.

With regard to the programmes, the evening ones are all right except that all the items are "anonymous." I do not know why the name of the performer is omitted, but it certainly robs the programme of a good deal of interest. It cannot be to save time, as

there is usually about 15 to 30 seconds between the announcement and the beginning of the item. The afternoon sessions from 2YA are very enjoyable, though I always switch off when the dance items start. These, no doubt, are enjoyed by some, but I hope they do not adopt the suggestion of your contributor who wishes them sandwiched between the other items, as this would spoil the whole programme.—J.B. (Wakefield).

Tunes on the Dials.

I WISH to congratulate the Broadcasting Company on the most thorough manner they dealt with the broadcasting of the general election results last evening, and feel sure if there is any listener who was not satisfied then they must be very hard to please. Also, I am very pleased to see how the Broadcasting Company is dealing with racing and trotting by giving out the results irrespective of the ban placed on them by the narrow-minded members of the Racing and Trotting Conferences. Can you tell me if the radio inspector is still stationed in the Hawke's Bay district? If so, he is not dealing with the howling valve parasite that is prevalent here, as in absolute fairness to listeners whose sets are neutrodized we should not be annoyed by howlers, and if they are imagining they can play tunes on the dials of their sets, let them play with them when their aerials are disconnected, and so not interfere with others. Wishing the Broadcasting Company every success.—Oratrix (Napier).

[We are referring your letter to the authorities.—Ed.]

Two Elusive Americans.

ON several occasions lately I have logged two American stations which are new to me, both operating on the same wavelength, viz., approximately 265 metres. They both transmit early morning programmes, which means they are heard here till late in the evening, and on some evenings are on the air at the same time. Although sometimes I listened for over an hour, in neither case was I able to get the complete call (from each I made out some of the call letters), and I should be greatly obliged if some DX fan could tell me what stations these are. One gave the location as Birmingham, Alabama, and the other as Salt Lake City. From both stations items and speech have been heard on the speaker, and on 'phones quite a lot of speech could be made out clearly. I find station WENR Chicago has changed its wavelength, and is now on about 345 metres.—Guy C. Holmes (Masterton).

2YA'S Harmonic.

I TUNED it to 260 metres, shortly after 10 p.m., and was astonished to hear the Wellington announcer give the item, and on tuning in to 2YA's usual number I heard the item, a quartet, being given. My set is a five-valve neutrodyne. I should be obliged if you could explain what happened. Many thanks to Mr. Announcer for his unflagging efforts to make the relay as interesting as possible. His task is not an enviable one. I only hope he gets all possible consideration during these all-night sittings, as the work is hard, as anyone who has done night work knows well.—"Bush Listener."

[This would be a harmonic of 2YA.]

A Stranger Near 3YA.

CAN anyone tell me the station I got at about 10.45 p.m. on November

6? We have a six-valve set, and I got the stranger at 28. Christchurch with us is 30. He is also on again tonight (time, 11.15 p.m.), still very faint, but again on music.—"H." (Lumsden).

[From the data given it is difficult to say with any degree of certainty who the stranger was. It may have been KXDM Kirkwood (300 metres). or 4ZB Dunedin (295 metres).]

4YA'S Area.

I NOTICED a letter in the "Mail-bag" column signed "Equality," condemning station 4YA. He stated that the above station is not received in Central Otago or Southland. I cannot speak for Central Otago, but I can say, in this part of Southland 4YA comes in well with good volume and very little fading. I would also inform "Equality" that 4YA is our only reliable station in the day time. At one time 2YA and 3YA were received well in the afternoon, but of late they are conspicuous by their absence. Now for the Auckland Boxing Association. It appears to me that the above association are not altogether in favour of their fights being broadcast. Quite recently they staged two professional fights, both on a Monday night. I have also noticed the same thing on one or two other occasions. It certainly seems strange that their professional fights often take place on a Monday night, which, by the way, is 1YA's silent night. No doubt the association have their reasons, but at

the same time a lot of listeners are being disappointed.—"C.G." (Dipton).

The Auckland Band.

I NOTICED in to-day's "Herald" that the Auckland City Council intended to stick out for £750 a year for the right for the broadcasting of the Municipal Band's performance. I hope the company will not give it, as I think they could give us a much more varied entertainment for the same money. A few more instruments added to our studio orchestra would make it as good as the Wellington Studio Orchestra, which for real music beats all the brass bands in creation, and for those that like band music the Salvation Army Band would probably be willing to play for us again. I always enjoyed their music and would like to hear them again.—George Cole Baker (Port Waikato).

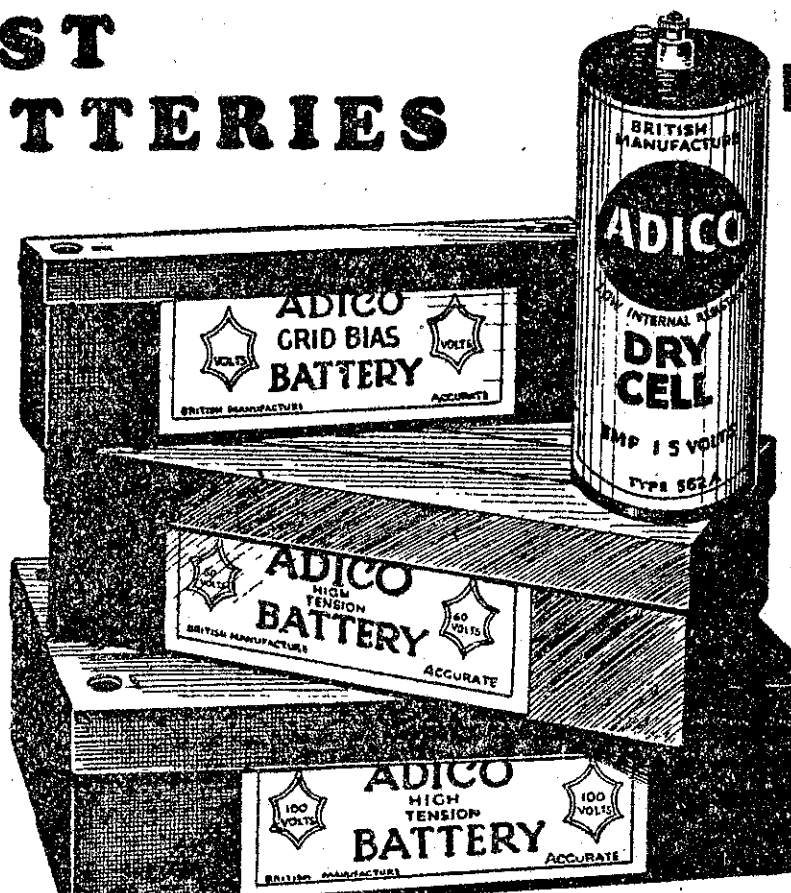
PROFESSOR Tchernysheff, a Soviet scientist, claims to have invented a rapid wireless picture transmission system, in which a picture of four square inches can be sent and received in less than 40 seconds. Official tests are to take place in October.

IT has been proposed to build a small-powered transmitting station at Rotorua, New Zealand. The Mayor of Rotorua is a very active member of the Radio Club, who says that in all probability the council will subsidise the effort.

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A Trickle Charger for both A and B Batteries



THE commercial tendency in the design of modern receiving seems to be for the operation from the electric mains, doing away entirely with all batteries.

The prices of these A.C. sets are being reduced and on inquiring from radio dealers, they are selling for little more than battery operated sets. But it will be a long time, if ever, before batteries are done away with entirely, and so for the present we must be content to heave half a hundredweight of lead, or so it seems after quarter-mile, down to the service station every fortnight, unless of course we charge them at home. To buy a five ampere charger costs anything from seven to ten pounds. The average man would sooner put this money in the other pocket and suffer a little inconvenience by taking his battery for its fortnightly walk. A trickle charger can be purchased for £3 or under, but even this price could charge the battery a few dozen times. No one, however, could say that to invest 15s. and an evening's labour in making a home charger is a bad way of saving money, after the price of one or two visits to the charging station.

The trickle charger to be described is one that will give years of satisfactory service providing it is given a little attention periodically. As it employs a chemical rectifier, water will have to be added every now and then, terminals will have to be kept clean, etc. When working efficiently it will charge at about $\frac{1}{2}$ ampere, so that with the average set using four or five low consumption valves, one or two nights per week, should keep the battery up to scratch.

Also, by the inclusion of a lamp in the circuit, this charger can be utilised to charge B accumulators at varying rates, depending on the resistance of the lamp used.

The Electrodes.

THE aluminium for the electrode should be as purely chemically pure as possible. Very often it is obtainable in rods $\frac{1}{4}$ -inch diameter while again, sheet metal is all that can be obtained. If in strips, a piece 6in. long and $\frac{1}{2}$ in. wide will be suitable. The disadvantage of the impure element is that it tends to be corroded in use and form a white deposit on its sides. This white deposit is not a rectifying medium, and must be scrap-

ed away periodically. It is advisable to fix the aluminium strip in such a way that it is easy to replace by a new one.

Owing to impurities in the commercial ammonium phosphate, the lead electrode assumes a brown appearance after a few weeks' use. This should also be wiped away periodically, as this brown deposit is a bad conductor of electricity.

the jar within about an inch of the bottom. Another bend is made in each strip, so that when two terminals are fastened at the top of each, connections can easily be made to the various parts inside the box. A small 3-8in. diameter vent-hole should be drilled in the centre of the lid to allow all gas to readily escape. The wooden top is now either painted or soaked in hot paraffin wax and allowed to cool. This prevents the wood from absorbing the

the slot so that the nuts at the back can be used to fasten the leads inside the box.

By glancing at the diagram it will be seen where the lamp holder and the tumbler switch are screwed. These are on the top and directly underneath is fastened the small bell-ringing transformer. One should be obtained with the primary windings to suit the supply and the secondary voltage about ten to twelve. These small transformers are quite inexpensive and will stand a load of about 20 watts without unduly heating.

Wiring Up.

EVERYTHING is now ready for wiring up. Insulated wire must be used and lengths of rubber-covered flex or single copper wire with an insulated sleeving will prove quite suitable. About 6 feet of twin flex should be allowed with a lamp adapter at one end. This flex should be passed through the small hole in the end opposite the slot for the terminal strip, and a knot tied so that no strain will be put on the terminals of the transformer, if the flex happens to be pulled. The circuit diagram shows all the connections, but each wire should be checked over as it is put on. One end of flex supply wire goes directly to the switch, while the other supply lead joins to one of the 230 v. terminals of the transformer and also to one side of the lamp socket. The other terminal on the 230 v. side of the transformer joins to three points, the lead electrode in the jar, the free side of the tumbler switch and also to one of the terminals on the low voltage side of the transformers. The terminal strip now requires joining up, and the connections run as follows: Terminal marked A goes to the free terminal or low voltage side of transformer; B terminal to free side of lamp socket; terminals A plus and B plus join together and also to the aluminium strip in the rectifying jar. Check over all connections carefully before turning on the power.

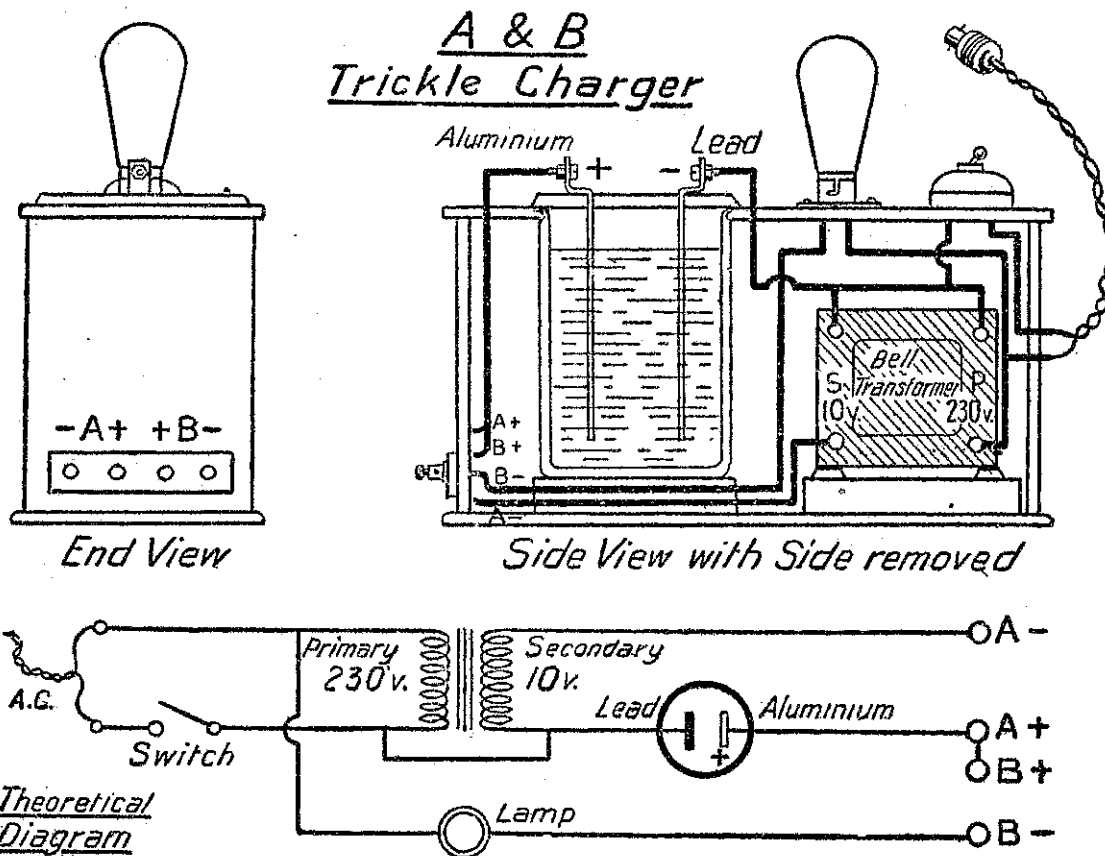
The end terminal strip should be distinctly marked on the outside so that no mistakes can occur when connecting up the batteries for charging.

The Solution.

NOW prepare the solution for the jar. This is a saturated solution of ammonium phosphate in distilled water. Put the $\frac{1}{2}$ lb. into a jug and pour on about 12 ounces (just over half a pint) of the distilled water and stir well. When the liquid has dissolved all it can of the salt, pour off the clear liquid into the rectifying jar. This should be filled to within one inch of the wooden cap. To keep this at the correct level it would be a good plan to drill two inch diameter holes on each side of the box on a level with the level of the liquid, and it can easily be seen if any water has evaporated off.

Forming the Electrodes.

THE charger is now complete and all that remains is to form the electrodes. This is done by putting a lamp, a 75-watt lamp is quite suitable, in the lampholder on the charger.



Assembly.

A POUND glass jam jar is quite suitable for this charger, and should measure about 5 to 6 inches high and 3 to 4 inches in diameter. A wooden cap must be made to fit in the top of this jar. This can be either turned in a lathe or made by fastening two wooden circles of wood together—one small enough to slide in the neck of the jar, the other large enough to form a shoulder, so that it will not slip right into the jar. Next, two slots are cut in the wooden lid, about 2 inches apart and parallel with each other. These slots need be just large enough to let the aluminium and the lead electrode slide through. An angle is made in both electrodes, so that they hang down into

moisture when thrown off as spray, and to a certain extent prevents creeping.

The dimensions of the wooden box depend on the size of the jar, assuming that the jar is 3 inches diameter and $4\frac{1}{2}$ inches high.

A BOX has to be constructed, with inside measurements 8 $\frac{1}{2}$ in. long, 4in. wide and $4\frac{1}{2}$ in. deep. This can be made out of half-inch timber and nailed together except one side, which has to be removable and is better screwed into place. In one end, an inch from the bottom is cut a slot 3 $\frac{1}{2}$ in. long by 1in. wide, on which is screwed the terminal block. In the top at this same end a circle is scribed, 1-8in. greater than the diameter of the jar. This hole is cut so that the jar slides into the box with the glass lip to prevent it from going right through. If the jar is higher, then the bottom will rest on the base of the box inside.

A 5-16 inch hole is drilled in the middle of the end opposite to the one in which a slot has been cut. The whole box can now be either painted or stained and varnished. While this is drying the terminal strip can be prepared.

A piece of ebonite, 4in. by 1 $\frac{1}{2}$ in. is filed square and four holes drilled to take the four terminals from the A and B batteries. If these terminals are placed in a row, an inch apart, the terminal strip can be screwed over

Complete Kit of Parts to make Crystal and Amplifier to operate from A.C. Mains

As described in last Issue of the "Radio Record."

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Including Transformer and Choke Material, Ebonite Panel, Valves, Condensers, and all parts necessary. Just assemble according to instructions.

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L. H. WRIGHT, 10 Manners St., Wellington

Short circuit the B plus and B minus terminals with a piece of wire and turn on the current. The lamp will be found to light up brightly at first, and gradually it will grow duller until it is just half brilliancy. In this condition the charger is rectifying properly and can be connected to the battery. When in use always remember to disconnect the battery unless the power is switched on. As a rectifier, the chemical type is not 100 per cent. efficient. It relies on its properties of being able to pass more current in one direction than in the other. A little current will, however, pass in the opposite direction and unless the power is turned on to more than counter-balance the flow in the charging direction, the accumulator will gradually discharge through the jar and the transformer windings. Another point worth noticing is the fact that both the A and B charger terminals are connected to the mains, and therefore both A and B batteries must be disconnected from the receiver, which is earthed, before they are connected up for charging. The operator must also stand on some insulating material, otherwise he is liable to get a shock when the terminals are touched. In connecting a battery up to be charged, remember the positive terminal of charger joins to positive of the accumulator—plus to plus, and negative to negative.

As a means to show whether the charger is functioning properly when in use, the following polarity tester will be a great help. Full constructional details appeared in the "Radio Record" of June 8: A small glass pot is fitted with two copper electrodes similar to the rectifying jar already described. These electrodes are brought out at the top and short lengths of wire fastened on. This pot is then filled about half-full of a saturated solution of common salt, with a pinch of phenolphthalein added. As much as will be on a threepenny piece is enough. It is only slightly soluble in water, so there is no point in using too much. This compound is used in chemistry to detect the presence of an alkali, and if a current is passed through a solution of common salt, caustic soda is formed on one of the electrodes, which immediately turns the phenolphthalein a deep, red colour. This property underlies the principle of this polarity indicator. On passing a current through this piece of apparatus, a deep red colouration will be formed on the negative electrode. To use it with this charger, break the negative lead from the battery to charger, and insert this indicator. If the accumulator is being charged, a bright red colouration will be seen on the electrode that is connected to the charger A terminal. If red is noticed on both the electrodes, no charging is taking place, and the rectifying cell must be formed again.

Tips and Jottings

Aerial Wire and Oxidisation.

MANY people are under the impression that a brand-new aerial wire is more efficient than one which has been in use for some time. This impression is the result of the popular belief that the coating of oxide which forms on copper or brass wires when exposed to the air increases the resistance of such tarnished wire to high-frequency currents. Exhaustive tests, however, have proved that the theory is to all intents and purposes a fallacy. It is perfectly true that aerials do sometimes lose their pristine efficiency, but this falling-off in energy can generally be traced to an accumulation of dirt on the insulators, corrosion of the connections between aerial and lead-in, dirty or loose connection at the

lead-in terminal. It is a good idea to overhaul the aerial at least once a year, but it is not at all necessary to emery paper the wire!

Grid Bias from the Mains.

ACCUMULATOR cells are sometimes thought to be a good solution of the grid biasing problem, but a small thermionic rectifier will be found cheaper and give less trouble. It is inadvisable to attempt to obtain grid biasing potentials by a potential divider associated with the H.T. battery eliminator, or to use the "free grid bias" system by causing the anode current to create a voltage drop across the grid biasing resistance. Use a small independent rectifier if a high grid biasing potential is required for the output stage. After smoothing, a shunt resistance should be floated across the leads. This need only pass a milli-ampere yet it will keep the voltage constant as well as protect the smoothing condensers.

List of Components

1 Bell-ringing Transformer 10-12 volt secondary.
Lead Strip, 1in. x 6in.
Aluminium Strip, or rod, 6in. long.
1 Tumbler Switch.
1 Lamp Adapter.
Glass Jar.
Half lb. Ammonium Phosphate.
Distilled Water.
Six Terminals.
Length of Insulated Connecting Wire.
Box Container (as specified).

STOP! Look out for

The unnecessary expense in feeding

HUNGRY VALVES

Valves which quickly run down your "B" Batteries. Use valves which give TONE and POWER, but are ECONOMICAL.

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For full particulars, write to—

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BECAUSE

Each Battery is carefully watched throughout the charges and tested thoroughly in three different ways before being passed for delivery by our Service Vans.

You get a Full Charge.

The Life of your Battery is increased.

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We Collect, and Deliver, City and Suburbs; including Hutt, Petone, Ngaio, Johnsonville, Seatoun, Wadestown, Vogeltown, Brooklyn.

Just Ring---

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Branches also at: AUCKLAND, WANGANUI

IRON-CORED or audio-frequency choke coils play an important part in radio apparatus such as eliminators, and filters of various kinds, either to prevent direct current flowing through the windings of the loud-speaker, or to smooth out the ripple in the rectified current of an eliminator.

In deciding upon the proportions for a choke coil, the purpose for which it is to be used must be carefully considered, so that the carrying capacity of the wire is sufficient, though not greatly in excess of requirements, and its direct current resistance kept down to permissible limits. The gauge of wire having been decided, the number of turns and cross-section of the core, which should be preferably of stalloy, must be decided so that the combination will give approximately the inductance required, which is stated in units known as "henrys."

Constructing Iron Cored Choke Coils

By "Megohm"

The chief trouble with the amateur constructor is to obtain particulars of a combination that will yield just about the required inductance for a particular purpose, and it is chiefly the object of this short article to give a few leading dimensions and particulars that will enable the constructor to make up a choke coil of given inductance.

Main Considerations.

IN designing a choke coil there are conflicting factors that must be taken into account. The smaller the cross-section of the core, the greater will be the number of turns required

to produce a given inductance. On the other hand, if the number of turns is too great, there will be magnetic saturation of the core, and even when this state is being approached, the inductive value of the coil begins to lower. This possibility of saturation is greater as the current traversing the windings increases, and is guarded against by providing one or more air-gaps across the section of the core, such air-gaps being usually filled with a piece of cardboard of suitable thickness.

The above shows how the number of turns must be balanced against the current to be carried and the liability of the core to saturation. Another governing factor is the direct-current resistance of the winding, which in many cases must be kept down in order not to unduly decrease the voltage of current passed through. This factor has to be balanced against the advisability of using a reasonably small gauge of wire in order to prevent the necessary turns from occupying too much space, as the average choke will contain 5000 or more turns, and for this reason enamelled wire is almost invariably used. Insulation is not usually an important item, because the voltage drop across the whole of the winding will be comparatively small, so that the difference of potential between layers is very slight.

Inductance varies about as the square of the number of turns. This means that if we have a given choke of say 20 henrys and take off half the number of turns, the inductance will then only be one quarter of the original; that is, 5 henrys. This shows that a high inductance value can only be obtained with a large number of turns, and by increasing the cross-section of the core, the inductance value of any given number of turns is proportionately increased. Thus if a one-inch square core carries turns giving a certain inductance, twice the inductance will be obtained theoretically if the section of the core is doubled by increasing it to just over 1 3/8 inch square.

Core Material.

STALLOY strips are the best and most convenient core material, and all specifications to follow are based upon it. The actual construction of the chokes will not be dealt with here.

The core material of burnt-out audio transformers is often used, and if the transformer is not of too small dimensions, a very good choke results when the windings are replaced by 36's s.w.g. enamelled wire, as many turns as possible being put on a spool constructed to fit. If the core of the audio transformer is less than 5-8 in. square, its inductance would be too low to be useful for ordinary purposes. If the laminations are in the form of E's they are all assembled in the same direction without staggering, and a pile of narrow stalloy strips is cut to equal the total thickness. These strips then butt across the ends of the three limbs of the E's with paper interposed to form the gaps, and are clamped by four strips of wood, secured by brass bolts through the ends. This arrangement allows the new spool to occupy the full length of the

central bar of the E, thus giving room for the necessary number of turns. If 6000 turns of 36's wire are wound upon a core 5-8 in. square, a choke of not more than 10 henrys will result. A 1 in. square core will give a higher inductance proportionately, and a further increase on account of probably giving space to accommodate a greater number of turns, and such a choke coil would be suitable for an output filter.

B Eliminator Chokes.

IN this type of choke the direct-current resistance must be taken into account, and this is easily ascertained from a table giving "ohms per pound." A suitable gauge of wire would be 32's s.w.g., which has a d.c. resistance of 247 ohms per pound, or 262 ohms per 1000 yards, this latter quantity weighing a little over one pound. The usual inductance is 20 henrys, and if a 1 x 1 core of stalloy is used, 6250 turns should be put on a spool 1 1/2 to 1 3/4 in. long. The gap of a choke is determined by measuring round the centre of one layer of laminations and allowing 0.005 in. for each inch measurement. The correct gap for the above choke would be 3-128, or, if there are two gaps, half this in each.

General Design.

AS the turns of wire are most effective when near the core, the spool should not be made too short with increased depth, giving a pancake formation. The shape to aim at for the coil is a cylinder with the length equal to or slightly greater than the diameter.

Increasing the gauge of wire greatly reduces the inductance, all other factors remaining the same.

Particulars of Chokes.

THE following particulars will be a guide to obtaining given inductances. The length of spool must be proportioned as above. Where the maximum current that the wire will carry is to flow through the winding, the gap can be increased to prevent saturation. The amount of magnetisation of the core may be tested by holding a piece of iron near the gap.

36's S.W.G. Enamelled Wire.

Henrys.	1/4-core turns.	1 in. core turns.
5	3500	—
10	5000	3800
15	6300	4800
20	7600	5700
50	14000	11000
100	—	18000

32's Enamelled Wire.

Henrys.	1 in. core turns.	2 in. core turns.
5	2600	—
10	3800	1900
15	4800	2400
20	6250	2900
50	—	5300

Current-carrying Capacity of Wire.

The current-carrying capacity of wire should be taken as follows:—

30's s.w.g. carries 150 milliamperes.
32's s.w.g. carries 120 milliamperes.
34's s.w.g. carries 90 milliamperes.
36's s.w.g. carries 56 milliamperes.
38's s.w.g. carries 38 milliamperes.
40's s.w.g. carries 24 milliamperes.

THE position in which the loud-speaker stands in the room very often makes a great deal of difference to the reception.

RADIO DIRECTORY

What to Buy and Where

AUCKLAND

- ALTONA & HAMMARLUND,** Johns, Ltd.
ROBERTS SETS. Chancery Street, Auckland.
- ATWATER-KENT RADIO** Frank Wiseman, Ltd.
170-172 Queen Street, Auckland.
- BREMER-TULLY RADIO** Superadio, Ltd.,
147 Queen Street, Auckland.
- BURGESS RADIO BATTERIES,** All Radio Dealers.
- FERRANTI RADIO COMPONENTS** A. D. Riley and Co., Ltd. Anzac Ave., Auckland, and all leading dealers.
- GREBE RADIO** Howie's,
Dilworth Building, Custom st., Auckland.
- MULLARD VALVES** All Radio Dealers.
- PREST-O-LITE. Car and Radio Battery Service** L. J. Purdie & Co., Ltd.
97 Dixon Street, Wellington.
- RADIOLA RECEIVERS and Expert Radiola Service.** Farmers' Trading Co., Ltd.,
Hobson Street, Auckland.
- T.C.C. CONDENSERS** A. D. Riley and Co., Ltd. Anzac Ave., Auckland, and all leading dealers.

COUNTRY TOWNS

- ANCHORADIO, BREMER-TULLY, RADIOLA, BROWNING-DRAKE, AND ATWATER-KENT RADIO** Radio House,
Hamilton. G. S. Anchor, Manager.
- BROWNING-DRAKE SALES AND SERVICE** J. H. Sinclair,
Otane, H.B.
- CROSLEY ELECTRICAL AND BATTERY MODELS** The Forrest-Crosley Radio Co., Ltd. Cuba Street, Palmerston North.
- GREBE, CROSLEY AND RADIOLA SERVICE** E. Dixon and Co., Ltd.,
Hawera.
- RADIOLA DEALER AND SERVICE** G. C. Carrad.
140 The Avenue, Wanganui.
- PHILIPS VALVES AND APPARATUS** All Good Radio Dealers.

R.C.A. Accused

Alleged Restraint of Trade.

Big Corporation's Reply.

THE recent litigation against the Radio Corporation of America instituted by a number of American radio manufacturers, alleging a monopoly which restrains industry and trade, has an important bearing on the radio trade in New Zealand, which is greatly dependent upon American radio set manufacturers for its stocks.

Admitting the "cross-licensing" of radio transmission and reception patents, but contending that it was necessary to the progress of wireless communication, the Radio Corporation of America and seven other corporations have filed with the United States Federal Trade Commission a brief renewing their motion for dismissal of the charge of creating a monopoly in restraint of trade.

The brief was signed by John W. Davis, for the American Telephone and Telegraph Company and the Western Electric Company; J. P. Cotton, Thurlow M. Gordon, and I. E. Lambert, for the Radio Corporation of America; Darius E. Peck, for the General Electric Company; Frederick H. Wood, for the Westinghouse Electric and Manufacturing Company, and J. Harry Covington, for the United Fruit Company and Wireless Specialty Apparatus Company.

Contending that Edward L. Smith, attorney for the commission, had failed to furnish proof of his charges, the reply stated that the cross-licensing charge and the allegation that the companies were working in conjunction with each other were not denied.

Declares Action Would End Broadcasting.

"THE brief filed by counsel for the commission apparently asks for cancellation of the cross-licenses," the reply stated. "If that is a serious request this is the gravest case that ever came before the commission.

"It would close every broadcasting station in the country. It would make it impossible to build another.

"It would stop the sale of every broadcast receiving set and of every tube for such a set now made by these respondents.

"It would stop the sale of every set manufactured by their twenty-five licensees under the patents of the respondents—and these constitute the bulk of all the receiving sets that are made to-day.

Radio and Religion

Breaking Down Barriers of Intolerance

RADIO, it is claimed, is one of the greatest forces for breaking down the barriers of intolerance, and of bringing one person to see the views of another. In this respect, the opin-

"It would paralyse the whole world-wide system of radio communication that centres in this country.

"It would paralyse the whole ship-to-shore communication system of the Radio Corporation.

"It would wipe out an investment of hundreds of millions of dollars.

"It would tear apart and destroy the whole basis of modern radio communication."

Only proof as convincing as the proof submitted by the officers of the respondent companies, the brief stated, "could justify a step which would disrupt one of the major industries of the country."

Efficiency is Vital Question.

THE "vital question" in the proceedings, the brief declared, is one asked by the commission, which was characterised as going "straight to the heart of the entire case." The question was:—

"Could the respondent have operated with anything like the degree of efficiency with which they now operate in the absence of cross-licensing?"

The respondent companies denied that communication "even approaching the present standard of efficiency was possible with any apparatus lawfully available prior to cross-licensing, or would be possible to-day without it."

Assailing Mr. Smith's brief as "not meeting the issue," the respondents said that the commission's counsel "assumes that because a patent is described in some such general terms as a 'radio receiving device' or a 'radio signalling device' it covers a complete system of radio transmission or reception, and that a complete receiving or transmitting set of modern type could be manufactured by means of that patent."

No such omnibus patents exist in the whole art, the reply stated, adding that every radio receiving set and every radio transmission set contains a large number of devices, each having a wholly separate function, and that "even a single one of these numerous devices may contain a dozen or more wholly different patented inventions which supplement each other."

The apparatus made by the eight companies—or those of them manufacturing—"is the best the world knows how to build," the respondents concluded.

ion of two well-known American authorities are of considerable value. Dr. Ralph W. Sockman, in praising the work of radio in sending the fundamentals of religion to the ends of the earth, represents the views of progressive clergymen who see in broadcasting a useful instrument.

"The voices of Protestants, Catholics, and Jews are mingled on the air to-day, and the receiving set is no respecter of narrowing labels. Some of the most appreciative communications have come to me from Jewish listeners," he says.

To this, Mr. M. H. Aylesworth, president of the National Broadcasting Company, adds: "There are many who contend, and with no small measure of justice, that radio's most praiseworthy service has been in the field of religion.

"In this sphere, we aim always to sow the seeds of tolerance, for radio knows no caste, no creed, no sect.

"If we can inculcate in the minds of men of different creeds a better understanding of each other's religious beliefs, we may truly face the future quite unafraid.

"Much as I would like to shun the mantle of prophet, I cannot refrain from expressing the belief that the day is near when we shall have what I am pleased to term a 'radio clergyman.' His creed is of no import; but his views shall be of the broad views of tolerance, and he shall represent the best of religious thought which the experience of 20 centuries has to offer.

"This 'radio clergyman' will devote his entire time and efforts to ministering to the spiritual needs of the vast radio family, and his shall be the greatest congregation the world has ever known.

"There is but one thing that we demand of the religious message that goes on the air, and that is that it be non-denominational and non-sectarian in appeal." Mr. Aylesworth continued, "Be our broadcaster rabbi, priest, or minister, we ask him only that he in-

Senator Marconi Astonished At Rapid Progress of Radio

FIVE years had elapsed since Senator Guglielmo Marconi faced a microphone. This long period was recently broken when he gave a brief message through WRC at Washington during his hurried visit to the United States to address the International Radio Conference.

Marconi had no time to visit the station, so wires were strung through his hotel corridors and a microphone installed in his room. He spoke, in shirt sleeves, neck-tie in hand, whilst dressing to attend a farewell dinner in his honour at the Italian Embassy, after which he was to catch a midnight train to New York to catch his boat which sailed on the following morning.

The amazement of the world, twenty years ago, at the invention of the young Italian genius, seemingly was equalled by Marconi's amazement at the extent to which radio has developed.

interpret the religious experience in broadest terms so that the individual listener, whoever he may be, may be brought to a fuller and finer realisation of his duty to his own church and to his fellow men."

Insist on the Best for Your Set . . .

HELLESEN'S RADIO BATTERIES

The Best in the World

Made Under Scientific Control

Always EFFICIENT
RELIABLE
DURABLE
FAULTLESS

"A," "B" and "C" Batteries carried in Stock by Radio Dealers; and also
SOLE N.Z. DISTRIBUTORS—

JOHN CHAMBERS & SON Ltd.

AUCKLAND, WELLINGTON, CHRISTCHURCH,
DUNEDIN and INVERCARGILL.

MR. PRESTON B. BILLING'S lecture and demonstration of an a.c. receiving set at the recent meeting of the Wellington Radio Society proved a revelation to the majority of those present. It is generally conceded that the radio set which requires no batteries, but merely plugs into the electric lighting mains, is the set which will replace all others except in rural districts where there is no electric lighting supply.

ALL American a.c. sets have to be specially constructed for the New Zealand market, as the standard electrical supply in this country is 230 volts 50 cycles, whereas in the United States the standard is 110 volts 60 cycles. A makeshift expedient in the shape of an exterior transformer to adapt the New Zealand supply to that of the American standard is not satisfactory.

CAREFUL importers are inducing American a.c. set manufacturers to make their sets suitable for New Zealand conditions. Some manufacturers will not undertake to do this unless a guaranteed demand is forthcoming, as the cost of deviating from their standard is not worth while without a guaranteed demand.

THOSE private individuals who think they can do better by importing their own a.c. sets should be careful to have these sets with the

transformers specially wound for the New Zealand voltage. The writer has seen one set imported by a private individual, which, being wound for the American voltage, required the addition of an exterior transformer. Although the latter was specially built by an expert, it created an obtrusive hum which mars reception to some extent.

THERE are still one or two Wellington amateur transmitters who persist in operating during broadcasting hours and creating interference. At the recent meeting of the Wellington Radio Society a member mentioned that he was experiencing a good deal of interference from some nearby transmitter during broadcasting hours. Of course the said transmitter may not be licensed, and as a complaint is being lodged with the P. and T. Department, this matter should be cleared up at an early date.

A STRIKING effect of the recent broadcasting on election night was observed as late as midnight when, viewed from any eminence around Wellington hundreds of houses which are usually in darkness were seen to be lighted up. This was con-

vincing evidence of the popularity of broadcast listening.

IT is understood that at the next meeting of the Wellington Radio Society a lecture on crystal sets, aerials and earths will be included in the schedule. This should prove popular not only among juniors but also with grown-ups, for it is remarkable how many crystal sets are in use around Wellington. Unfortunately the majority of aerials used with crystal sets are crudely installed and some "earths" are not worthy of that name. Many beginners believe any old thing will do quite well as an aerial for a crystal set, while, on the contrary a first-class aerial is more necessary for that type of receiver than for a valve set for local reception.

PERFECT arrangements were made for the broadcasting of the election results by 2YA, Wellington, and listeners are loud in their praises of the efforts of the Broadcasting Company on that occasion. The writer was privileged to be present for a while in the improvised studio installed for the occasion in the "Radio Record" office. Mr. Bingham, chief radio engineer, was continually on watch insuring perfect transmission and prepared for any unforeseen eventuality which might have caused a hitch. Thanks to the elaborate preparations and thorough workmanlike installation everything passed off without the trace of a hitch. It was a fine exposition of "thoroughness."

A PROPOSAL has been submitted to "Switch" that shortly after the New Year the Wellington Society should hold a "social" evening to which all listeners in and around the city should be invited. Tickets could be sold to defray expenses, and no doubt, it is urged, there would be a liberal response. The evening could be conducted on informal lines, and as several of the leading radio experts could be invited to attend many problems which are perplexing listeners could be solved. A few musical items by radio, a few informal, and, above all, brief speeches would combine to make the evening most enjoyable.

THE portable receiving set is again attracting attention now that the summer has arrived, and Wellington dealers report an increasing interest in this handy type of receiver. The majority of "prospects" state that they

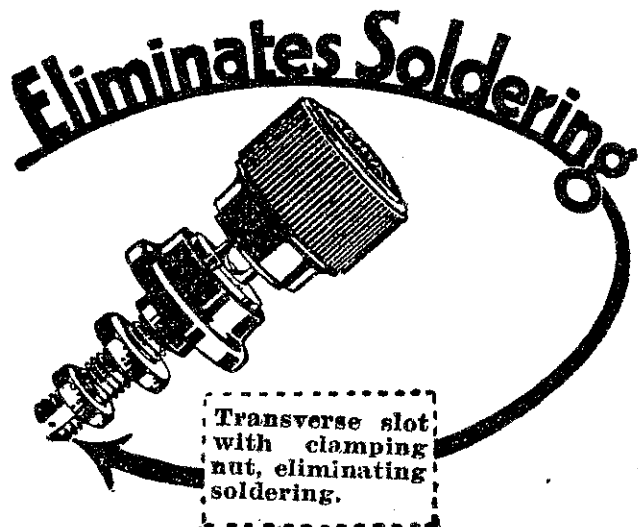
require a portable merely for their sea-side "baches" and for local reception only. Some state that they feel cut off from the outside world when they go for the week-end to the sea-side, after being accustomed to listening-in at home.

One big importing concern in Wellington is finding a regular demand for portable receiving sets for use by power board electrical engineers to locate power-line leakages. These portables have loop aerials concealed in the hinged door of the sets, and, as is well-known, a loop aerial being directional in effect by carrying the portable set from one point to another, it is not a difficult matter in many instances to take bearings which will point to the exact spot where the power-line leakages occur.

LISTENERS on Wednesday evening, November 7, who tuned in 3YA, Christchurch, were treated to probably the finest ringside broadcast of a boxing contest yet heard in New Zealand. "Switch," who did a good deal of boxing in other days, has specialised in checking up ringside descriptions of fights, and without hesitation he declares that the description of the Johnny Leckie—Norman Radford contest at Christchurch was easily the best he has heard from a New Zealand station.

"SWITCH," at the moment of writing, is unaware of the identity of the gentleman who gave the ringside description of the Leckie-Radford fight. The describer gave practically a "verbatim" report; that is to say, virtually every blow was described, and there were no dull moments in the contest. The describer rattled out his words in almost breathless succession, but his enunciation was clear and his phrases were succinct—no superfluous remarks. He told us with extraordinary celerity the type of blow, where it landed and the visible results, if any. His description was not marred with such fatuous exclamations as "Ah, Ah!" which convey nothing to the listeners.

THEN, also, the describer of the contest did not display the slightest prejudice, nor let his personal inclinations influence his enthusiasm in mentioning the success or failure of any of the blows by either Leckie or Radford. His description ran steadily throughout like a cinematograph film, giving credit where it was due with unfailing impartiality. Witnesses of the fight endorse the ringside describer's account of the contest in the minutest particular. All this goes to show that this sort of thing can be done as well in New Zealand as in Australia. It is only a matter of obtaining the services of the right man.



The Top does not rotate.
The Head does not come off.
The Smooth Stem ensures that strands of wire will not bind up with thread.
The Finish is perfect throughout.

The Belling-Lee Terminal, made with 20 different engravings, is used by the manufacturers of all the best battery eliminators. PRICES:

Type "B"—Standard large insulated model. Polished black bakelite. 1/- each.

Type "M"—As type "B," but smaller and wit' only the engraved top insulated. 9d. each.

Type "R"—Cheap competitive insulated model with rotating name. 6d. each.

Obtainable from all Radio Dealers.

Wholesale Stocks held by:
Johns, Ltd., Johns Building, Chancery St., Auckland.

Manufacturers and Patentees:
Belling and Lee, Ltd., Ponders End, Middlesex, England.

Patent applied for.

**BELLING-LEE
TERMINALS**

THIS IS TO ANNOUNCE TO OUR CUSTOMERS WHO ARE
AWAITING THE ARRIVAL OF THE ELECTRIC MODELS

5-VALVE CROSLEY "CEMBOX"

7-VALVE CROSLEY "SHOWBOX"

That we have just landed a Limited Shipment. ASK FOR A DEMONSTRATION.

G. G. MACQUARRIE LTD.

CROSLEY RADIO SALES AND SERVICE,

95 WILLIS STREET Phone 45-865 WELLINGTON.

WE DO ALL RADIO AND ELECTRICAL REPAIRS.

Children's Sessions

AT 1YA.

TUESDAY, NOVEMBER 27.—Uncle George, with Aerial at the piano and cousins reciting and giving sketches, will provide a happy hour.

WEDNESDAY—Uncle Tom in a cheery mood, and cousins assisting to make the evening bright.

THURSDAY—Peter Pan has good news—the Farmers' Boy will be present with his humorous songs, and the Gramophone Man will have some interesting records, and a little talk about them.

FRIDAY—We are to have the pupils of Mrs. Bartley-Baxter entertaining us this evening, with sketches, recitations and a playette. Nod and Aunt Jean will have stories and birthday greetings.

SATURDAY—Here's Cinderella, accompanied by a clever little band of cousins who will provide music and elocutionary items. Birthday greetings for the birthday children, and Radio Postman busy as usual.

SUNDAY—Children's Song Service conducted by Uncle Leo, assisted by cousins from Beresford Street Sunday School.

AT 2YA.

MONDAY, NOVEMBER 26—Uncle Jeff will be here at six o'clock—when the clock strikes—with birthday greetings from the fairies. There will be puzzles and stories and a happy little programme of music by pupils of Miss Edna Sneddon, and by Cousins Gerda and Phyllis.

TUESDAY—Brother Jack and Robinson, the cock, will greet you with a song and a crow. Birthday wishes and story. A jolly programme has been arranged by Cousin Eva, who sings, and by Phyllis and Ruby who play pianoforte duets, by Joyce and Dulcie who recite, and by Cousin Zac, who plays the steel guitar.

THURSDAY—Thursday night, and Aunt Gwen will be with you. Cousin Claude will be there, too, with more legends of Maoriland, and Cousins Dora, Marjorie and Gwenda have some lovely 'cello and pianoforte solos and songs for you to enjoy.

On Short Wave

(Continued from page 32).

with a fair amount of static. Strength reduced to R5-6 by 7.30 a.m.

2XAD at 6.30 a.m. was R4 with organ music. Just before 7 a.m. a long whistle was heard on 5SW's carrier, probably for tuning purposes. Big Ben and the singing that followed was R5 with rapid fading.

2YA, with the election results, was the only station tried for during the evening.

FRIDAY—Uncle Ernest will have some more of his wonder stories to-night. Birthday wishes and poems, and the musical pupils of Miss Agnes Wright are coming once again to help give you a cheery hour.

SATURDAY—Uncle Toby and Aunt Gwen, with Cousin Zena and pupils of Mrs. Martyn Williams, will entertain with songs, recitations, stories and cheery birthday greetings.

SUNDAY—The Children's Song Service will be conducted by Uncle Ernest assisted by the Brooklyn Presbyterian Sunday School Choir under Mr. J. K. Purdie.

AT 3YA.

MONDAY, NOVEMBER 26—Tonight Scatterjoy will tell you of the primitive ways of fishing, and of quaint customs of the Swiss people. Cousins Phyl, Pat and Jean will cheer you with jolly songs and recitations—and the verse for the best writer will be ready for the winner.

WEDNESDAY—Mother Hubbard and Uncle Peter with their songs and stories, and little jokes. Cousin Ken in banjo form, and Cousin Edith in good reciting form, will help the bedtime hour along.

THURSDAY—Just listen to what we have on the air to-night—a lively Coon evening!! Choruses, songs, and stories all about the little Nigger-coon. Scouts in attendance also—so hurrah for some enjoyment.

FRIDAY—To-night is St. Andrew's night, and the boys from St. Andrew's College are coming along to make you happy, with pipe music, part singing, and Big Brother with his stories for young and old.

SATURDAY—Chuckle and Aunt Pat calling to-night!! So listen in little ones. A lot of little pupils of Miss Hooper's to gladden your hearts with merry songs and stories, and we hope to have the blind boys' band (from Auckland) to charm us with their music.

SUNDAY—Uncle David conducting the Song Service, with the scholars from the Linwood Baptist Sunday School assisting.

Thursday, November 15.

THE carrier only of 7LO was audible. PCLL on about 38 metres, was very good at R8-9. Gramophone items were heard, with "Hullo. Here PCLL, Kootwijk." As the talk was in Dutch, it was not understood, except the call.

5SW at 7 a.m. was very poor. Strength R4 and very unsteady.

Static spoilt RFM during the evening. 2HC, N.S.W., was also heard.

Friday, November 16.

FROM 5.15 a.m. till 6.10 a.m. 5SW and 2XAD were heard swap-

ping news, etc. 5SW was R8 and 100 per cent. readable, while 2XAD was R4, and readability very poor at first, but rapidly improved.

Among the items of interest heard were: New York have just had their first snowstorm. The weather in England is wet, but very mild. 5SW, in talking of further tests with 2XAD, said that these tests are invaluable to them.

At 6.30 a.m. 2XAD came on the air again, giving days and hours of television tests. They then commenced one.

7LO Nairobi was just audible at 6.30 a.m. Again PCJJ did not start till 6 a.m. Strength R8-9, static very bad. English announcements were not heard, but several times "Hullo. Holland, India," was heard, probably calling up the Dutch East Indies.

Big Ben at 7 a.m., through 5SW, was heard at R5. A talk about the latest novels followed.

At 12.25 a.m. Friday midnight, 5SW was R8, very clear and fairly steady. An organ recital followed Big Ben without announcement.

Note from 5SW.

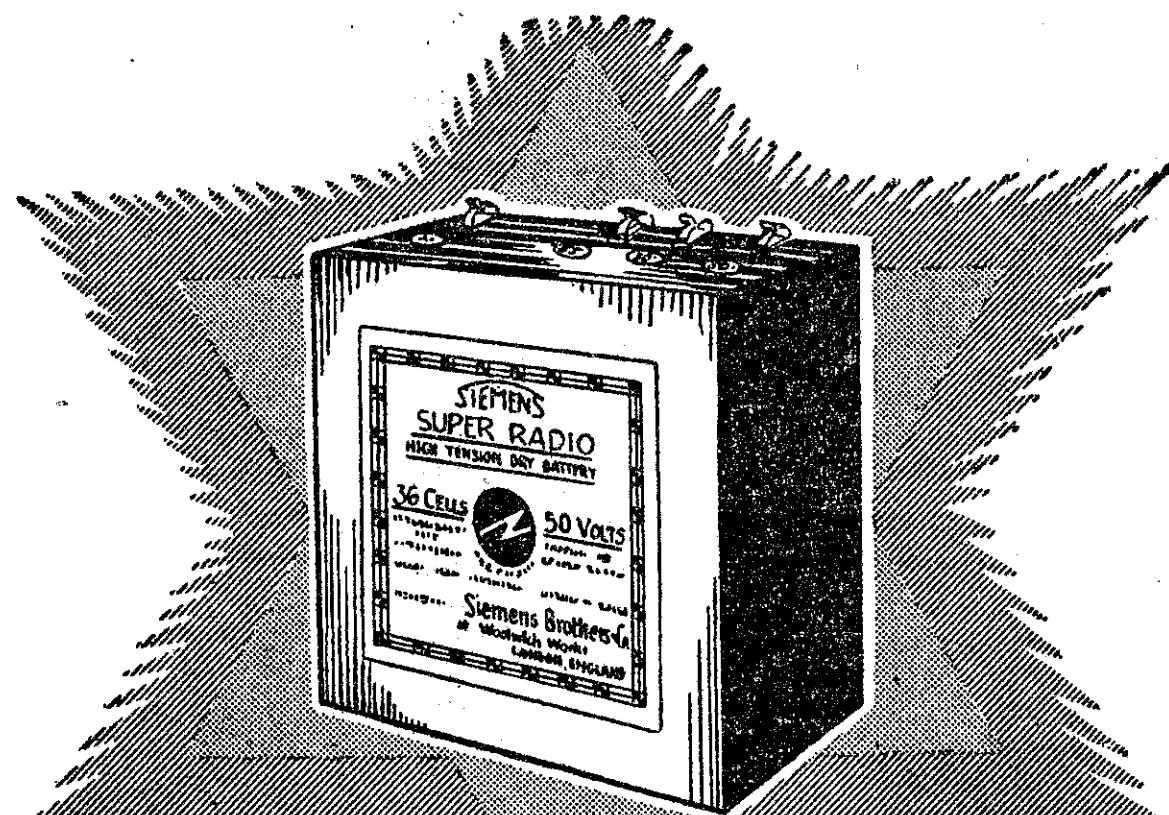
IN reply to Mr. T. A. Dobson (Denniston), re a high-toned note beat about six times from 5SW before changing over to London. I do not remember hearing this. Often, just before "going over," a high-pitched whistle is heard for about 30 seconds: this, I suppose, is to enable the listen-

er to tune-in properly. Some time back, when Britain was observing summer time, and we New Zealand mean time, at 7.30 a.m., the Greenwich time signal was heard which consisted of six dots, the last being the exact hour.

Other Receptions.

Mr. J. D. O'Loughlin (Masterton), writes:—On Friday, October 26, at 12 p.m., I picked up a station on 19.3 metres. It came over well, playing Hawaiian records. After six records were put over it closed down. No announcement was made while I was listening to it. It may have been PCLL, but it was over a metre above his usual wave. A Jap. has been heard several times on 28.5 metres. I could not catch the call, however. On Monday, October 29, 3LO said they were transmitting for one hour only after this, viz., 5-6 a.m., Melbourne time. 2XAF and 2XAD have been rather weak lately. Amateurs heard include oa 2HC, oa 4NW, oa 6AG, oa 2JQ, oa 2GQ, oz 3CM, 2AB, 2GA, 3AR, and 2CK? Wellington, who came up at R8. On Thursday at 1.30 a.m. 2ME was calling PCLL and playing records.

ONE-EIGHTH of the 8,000,000 persons in Hungary live in the capital city, Budapest. Despite this urban population, more than one-half of the 95,000 registered radio fans in that country are rural listeners.



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MR. F. W. SELLENS (Northland) writes:

A SHORT-WAVE station is to be erected at Leopoldville, in the Belgian Congo, for direct communication with Belgium. Telegraphy will be used first, but a telephony installation will follow.

Multi-Wave Relays.

BEFORE the end of the year it is likely we shall have had some interesting relays of the American broadcasting concerts (writes "Modern Wireless"). It is likely that the short-wave transmissions from America will be picked up in Britain on five different receivers.

The transmissions will also be made on five different wave-lengths from five different stations. St. Kerston, the five receivers, each tuned to one of the five transmitting wave-lengths, will be able to make up for any losses in fading, etc., which might occur on one specific wave-length.

The united production of the reception by the five receivers will be fed into amplifiers, passed on to Savoy Hill, and then rebroadcast to British listeners. Technically, this method is considered the best way to avoid the fading of signals, which have marred many long-distance relay broadcasts.

Waistcoat Pocket Sets.

WIRELESS in a waistcoat pocket is the latest news from Berlin. This claim has been made by a professor of Jena University, as the results of experiments he has carried out during the last twelve months.

According to the professor, he uses ultra-short waves, three metres and less, and he believes that also his discoveries will be of invaluable service to medicine.

He has succeeded, he says, with a fraction of a watt, using ordinary valves, without aerials, in covering distances of nearly sixteen miles, and with higher energy he has covered two hundred and fifty miles. The professor also says he has succeeded in telephoning by use of these short waves.

Round the World on Short Wave

Notes of special value to short-wave enthusiasts are contributed weekly to the "Radio Record" by Mr. F. W. Sellens, Northland, Wellington. Observations from others are welcomed.

The transmitter is stated to be no larger than a cigar box, and he has constructed a receiver which solves with amazing simplicity the problem of detecting the ultra-short waves.

The most interesting short-wave reception during the past week was the Armistice Day services from London, through 5SW, Chelmsford, and a special programme from 2ME, Sydney for reception in England, at which some of the visiting cricketers spoke.

Saturday, November 10.

RSR was at its best with musical items, strength R8.

7LO, Nairobi, was stronger than usual, being R6, morse QRM spoilt reception. The clock was heard striking 10 p.m. (7 a.m. here). Morse spoilt any chance of reading the closing announcement.

5SW was late in opening, after an apology they switched over to London, where a talk was on. R7, rapid fading.

Both 2XAD and KDKA were late in reaching readable strength.

PCJJ were only R2-3 at 4.5 p.m., when their weekly special New Zealand-Australian transmission commenced. They improved later, but morse interference was too bad to listen for long.

2HC, New South Wales, and 4NW, Queensland, calling 3CM, Christchurch, were both well received during the evening at R8-9.

Sunday, November 11.

2ME, Sydney, was tuned-in at 7.10 a.m., when they were testing prior to their special transmission. 7.18 a.m. the National Anthem was sung by the party. "Hullo, British Isles; Hullo, British Broadcasting Corporation. This is an early morning transmission for

reception in the British Isles," was heard. It was stated that the programme was being broadcast on 28.5 metres for distant reception and 442 metres for Australian reception. It was to be picked up by the B.B.C. and put through all their stations, including 5SW, and rebroadcast. 2BL were to pick up 5SW and rebroadcast the speech and music after it had travelled to England and back.

7.22 a.m.: An organ recital from the Pitt Street Congregational Church by Miss Lilian Frost. This included national airs. This was followed by a talk by Mr. McDonald, manager of A.W.A. He read a cable, stating that 5SW, for technical reasons, was not rebroadcasting 2ME.

Miss Frost then played Handel's "Largo" on the organ.

The latest news of the Spirit of Australia, en route to England from Australia, was given. "March Militaire," by Miss Frost, was heard next. Mr. Rodie Pope introduced Mr. Fred Toons, manager of the M.C.C., from England, touring Australia.

Mr. Toons, after calling "Hullo, hullo, dear old England," sent greetings and messages to the people "over there." He then introduced the following players, who each said a few words, greetings to personal friends in England mostly: Messrs. Tyldesley, Freeman, Mead, Geary, Larwood, Tate, Duckworth, Ames, and Leyland. Mr. Summerton, of Reuters, the Press representative travelling with the team, also spoke.

At 8.10 a.m. the Armistice Hymn was played on the War Memorial Carillon.

Because 5SW was not rebroadcasting this programme, thus enabling listeners to hear signals after they had encircled the world. 2ME picked up 2XAD, who were describing a football match between the American Army and Notre Dame, being played in New York City, and rebroadcast it. This allowed listeners in Britain to hear these signals after having travelled nearly round the world.

The proceedings concluded with cheers for the English team, the Australian team, and the team that wins the Tests.

Reception was excellent all through at strength R9.

2XAD through 2ME was poor. Direct, strength was R5, and about 50 per cent. readable.

3AU Rangiora and 3CM Christchurch were heard.

Both 2XAF and KDKA were about R4 at 3 p.m., transmitting dance music.

After 3.30 p.m. KDKA gave the football results, including the match heard earlier in the day through 2XAD. Weather prediction and messages to the Arctic and Byrd's expedition to the Antarctic were read.

It was announced that KYW and KFKX (both Westinghouse Company's stations) would broadcast the first regular programme for the Far North next Saturday. Signed off at 4.25 p.m.

2XAF put on dance music from the Rainbow Room of the New Kenmore Hotel, Albany, for the last hour till

they closed down at 1½ minutes after midnight (5.1½ p.m. here).

The latter part of the programme was well received at R8.

2BQ and 2HC, both of New South Wales, were testing.

Cenotaph Service.

Tuning in to 5SW Chelmsford, just before 10.30 p.m., the preliminary announcement was heard re the Cenotaph service.

At 10.30 p.m., Big Ben struck the half-hour.

Handel's "Celebrated Largo" was heard first; band and organ items followed.

11 p.m.: The order, "Company—Shun!" was distinctly heard. At 11.2 p.m. the "Last Post" came through well. Another military order was heard; then the hymn, "O God, Our Help in Ages Past," sung by the whole gathering. The prayer that followed was 100 per cent. readable, as was the Lord's Prayer. More military orders and another bugle call. 11.10 p.m.: National Anthem. 5SW closed down till 2.30 p.m.

The reception, though not perfect, was very good; rapid fading was noticed. Strength was R8 all through, but more clear toward the end of the service. Was too lazy to get up for the next service, which, according to other reports, was better received here.

At 11.15 p.m. RFM was R9, with some excellent music, spoilt by static.

Monday, November 12.

7LO, Nairobi, tuned in at 7 a.m. The clock could be heard through static, but talk not readable. 3LO at R8 was very good. Slight fading was the only fault.

During the evening there was plenty of talk from RFM at R8. Slight static.

Tuesday, November 13.

5SW was having a yarn to 2XAD till just before 6 a.m. The English station was R8 and fairly free from fading. Strength R8.

The American could not be heard direct. 5SW is apparently in the country, as during the talk it was stated that "we are three miles from anywhere here."

7LO R4-5. Morse QRM very bad. At about 6.30 a.m. the Morse ceased for a few moments, when a choir was heard very well.

ANE, 15.93 metres, was R5 with duplex telephony. A talk was on at 5SW, R7-8, at 7 a.m. At 7.30 a.m. what appeared to be a lesson in French was heard.

At 10 p.m. a Japanese station on about 28.5 metres was received at good strength—R8.

An Aussie amateur giving the latest cricket scores was welcome. RFM was spoilt by static.

Wednesday, November 14.

7LO was there, but the Morse, if possible, was worse than ever.

There was not any sign of PCJJ till 6 a.m., when they commenced with the Dutch National Anthem. RF-8

(Concluded on page 31.)

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